

**The Collaborative Demonstration-Based Review
of
Physician Practice Expense Geographic Adjustment Data
Required Under
Section 605 of the Medicare Prescription Drug, Improvement,
and Modernization Act (MMA) of 2003**

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Executive Summary

When the Medicare physician fee schedule (PFS) was implemented in 1992, the statute required that payments be adjusted across payment localities based on area variation in payment for physicians' work, practice expenses, and malpractice insurance costs. These geographic variations in the costs of performing physicians' services were reflected in indices derived in research performed by Welch, et al., 1989, under funding from the Health Care Financing Administration, now the Centers for Medicare & Medicaid Services (CMS). The indices created under the original research have been revised many times, with the most recent revision occurring in 2004 and implemented in 2005. A value of the index is assigned to geographic areas termed "localities," which may be as large as a state or as small as a county.

Payment for a service under the PFS is based on the relative values of three component cost measures for physician work, practice expenses and malpractice expense. The relative value units (RVUs) for each of these components are adjusted by a Geographic Practice Cost Index (GPCI) based on the location where the service is provided. The adjusted RVUs are multiplied by a conversion factor to transform them into dollar amounts, and then the three component amounts are summed to calculate the payment for a particular service in a particular locality. The GPCIs are applied to the PFS payments to compensate for input price variability for the following categories of inputs.

- Physician work;
- Non-physician employee wages;
- Office rents;
- Supplies and equipment, and other practice expenses; and
- Liability insurance.

The geographic variation in the first category is measured in the Work GPCI; the variation in the next three categories is measured in the practice expenses (PE) GPCI; and variation in the last category is measured in the Malpractice GPCI.

Presently, work represents slightly more than 52 percent of the average fee; practice expense represents approximately 44 percent; and liability insurance represents almost 4 percent. Given the statutory requirement that the GPCI for work reflect only one-quarter of the variation and the fact that there is no variation in the geographic costs of supplies and equipment and other practice expenses, more than half of each fee paid under the PFS is not adjusted for geographic cost differences.

Concerns about both the adequacy of the data used in the construction of GPCI for PE and the appropriateness of the resulting index, led Congress, in Section 605 of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (P.L. 108-173) (the MMA), to address the issue:

SEC. 605. COLLABORATIVE DEMONSTRATION-BASED REVIEW OF
PHYSICIAN PRACTICE EXPENSE GEOGRAPHIC ADJUSTMENT
DATA

(a) IN GENERAL.--Not later than January 1, 2005, the Secretary shall, in collaboration with State and other appropriate organizations representing physicians, and other appropriate persons, review and consider alternative data sources than those currently used in establishing the geographic index for the practice expense component under the Medicare physician fee schedule under section 1848(e)(1)(A)(i) of the Social Security Act (42 U.S.C. 1395w-4(e)(1)(A)(i)).

(b) SITES.-- The Secretary shall select two physician payment localities in which to carry out subsection (a). One locality shall include rural areas and at least one locality shall be a statewide locality that includes both urban and rural areas.

(c) REPORT AND RECOMMENDATIONS.--

(1) REPORT.--Not later than January 1, 2006, the Secretary shall submit to Congress a report on the review and consideration conducted under subsection (a). Such report shall include information on the alternative developed data sources considered by the Secretary under subsection (a) including the accuracy and validity of the data as measures of the elements of the geographic index for practice expenses under the Medicare physician fee schedule as well as the feasibility of such alternative data nationwide in lieu of current proxy data used in such index, and the estimated impacts of using such alternative data.

(2) RECOMMENDATIONS.--The report submitted under paragraph (1) shall contain recommendations on which data sources reviewed and considered under subsection (a) are appropriate for use in calculating the geographic index for practice expenses under the Medicare physician fee schedule.

This report describes the demonstration-based review of the PE GPCI and issues related to alternative data sources that could be considered in a revision of that index.

The candidate States for the study included those with extensive rural areas that have PE GPCI values that were low relative to the national average. We chose Iowa as one of the sites for meetings. Iowa is a statewide locality that fits both the first and second criteria under MMA section 605 for selecting localities and has a 2005 PE GPCI of 0.872. In addition, Iowa is centrally located and is the home of the Geographic Equity in Medicare Coalition (GEM). GEM is an interest group that primarily represents medical societies from a large number of

predominantly rural States. In its statement of purpose, GEM claims that the PE GPCIs are inappropriate and lead to inappropriate and inequitable reimbursements to physicians. We chose Maine as the second locality in this study. In addition to Maine meeting the required statutory selection criteria, the Maine Medical Association and its staff were enthusiastic about coordinating a meeting and offered to convene physicians from a wide range of communities in the Rest of Maine locality as well as from the Southern Maine locality.

The Meetings

Most of the physicians and physician representatives who attended the two meetings were from rural areas. Their position was that either the PE GPCI should be eliminated or a floor of 1.000 should be established for the PE GPCI as was done with the work GPCI. The rural physicians asserted that the PE GPCI should be eliminated or modified because:

1. Data do not exist to accurately measure all the variation in input prices across the different payment localities; and
2. Expenses for rural practices are near the national average.

The underlying premise was that practice expenses did not differ among urban and rural areas. Therefore, because of the perceived cost equality, the overwhelming majority of the physician and physician representatives (who were from rural areas) proposed that the PE GPCI could be eliminated. A physician who attended from an urban location did not agree.

The attendees had three specific comments that pertained directly to the PE GPCI and its data. The first had to do with practice cost shares. In calculating the PE GPCI, it is necessary to measure locality-specific variation in each of the three practice expense categories: non-physician employee wages; office rent; and supplies and equipment and other practice expenses. The values for each locality are combined based upon the percent of aggregate practice costs or cost shares allocated to each of the three categories. Because the variation in the geographic cost can vary across categories, these practice cost shares are critical to the construction of the PE GPCI.

Anecdotal evidence from several meeting participants and some survey data indicate that the practice cost shares may have changed over time. Data from the American Medical Association's (AMA) Socioeconomic Monitoring System (SMS) survey are used to develop practice cost shares for the PE GPCI. The last AMA SMS survey was done in 1998. Some participants at the meetings indicated that cost shares for non-physician employee wages and equipment and supplies might need to be increased in the PE GPCI, and the cost share for office rent could be decreased. In addition, the AMA survey is no longer being conducted and an alternative will have to be found.

For calculation of the practice cost shares, the Medical Group Management Association (MGMA) survey was proposed as an alternative data source to the discontinued AMA SMS survey.

The meeting participants' second comment pertained to the variation in non-physician employee wages. Most meeting participants agreed that the PE GPCI measure for non-physician employee wages does not accurately represent several categories of non-physician workers at physician practices. Physicians indicated that they hire employees beyond the nurses, health technicians, and administrative staff reflected in the current PE GPCI wage adjustment. These additional categories of labor include information technology professionals, regulatory compliance staff, billing staff, and accountants. The meeting participants indicated that these non-medical staff are hired from a national labor market and, as such, should not be subject to the same locality wage adjustment as other employees. They reasoned that this would make the variation in the PE GPCI across localities smaller. As the PE GPCI is currently constructed, these non-medical labor categories are not included.

The meeting participants suggested that the Medicare Hospital Wage Index (HWI) could be used as an alternative data source to measure non-physician employee wages. In this report, we also investigate data from the Bureau of Labor Statistics Occupational Employment Statistics (BLS-OES) and consider whether data from Bureau of the Census' American Community Survey that will replace data from the Decennial Census Long form data will be appropriate once the data become available sometime after 2010.

The third comment made by the rural physicians and their representatives was that there is less variation in physician office rents between urban and rural areas than that shown in the Housing and Urban Development (HUD) fair market rent index. Rural physicians asserted that office rent variation between rural and urban areas is smaller than is reflected in the HUD index because rural practices need to be located in high-value properties near hospitals, preventing them from taking advantage of lower rural rental costs. To assess this issue, we performed analyses using United States Postal Service data to produce a rental index for a limited number of areas. This analysis should be considered to be a pilot study.

The participants also raised issues at the meetings that were related to physician payment under Medicare but were not necessarily related to the PE GPCI.

Data Analyses

Our analysis of the MGMA data suggests that, if used, these data need to be used cautiously. The sample sizes are small; we are unable to control for specialty differences across communities and the MGMA data contain no information on small, non-group practices. Our analysis shows the sizes of the component shares computed from MGMA differ from those in the AMA data. The share of total expenses related to practice costs is similar to that reported in the AMA survey, but the individual component cost shares differ. To the extent that these data appear credible and are viewed favorably within the physician community, the MGMA data might be considered as a source for practice cost shares. But, given the sample design and the low overall response rate, it is not clear how much faith one can have in the actual precision of the estimates derived from this source. This could seriously impact any decision to make any use of the MGMA data.

The decision on the source of expense share data is related to the same decision for the computation of the Medicare Economic Index (MEI). The GPCI cost shares are the same cost

shares used in the MEI because the MEI is used to update the PFS. CMS routinely refines the MEI and, by extension, the practice expense shares for the PE GPCI. As part of the refinement process, CMS investigates existing data to determine what sources of data would be most useful and accurate for this process. At that time, CMS will evaluate the existing data sources. It is possible that the MGMA data will be among the data sources that will be evaluated. At this time, there is no data source that CMS would recommend as a source for the next MEI refinement.

To assess the non-physician wage issue, for illustrative purposes, we compared the non-physician employee component of the PE GPCI to an index derived from data used in the construction of the Medicare HWI, and to an index constructed from the BLS-OES data. The illustrative analysis suggests that the differences among the three indices are small for most payment localities. The important issue, however, is the impact of any changes of overall payment. When the localities are aggregated to the State level, the estimated effect on payments is usually less than 1 percent. At the locality level, the majority of changes are also less than 1 percent. Overall, there are not large differences in index values whichever data source is used for calculation of the non-physician employee wage index. These results are not qualitatively different from those derived from the Decennial Census data. Rural physicians are concerned about the levels of payment in their payment localities. Use of these alternative data sources would result in increases in payments for some rural areas, but also decreases in payments in other rural areas. This analysis used hospital wage data used to construct the Fiscal Year (FY) 2005 HWI. The hospital wage data for the FY 2005 HWI is 10 percent adjusted and 90 percent unadjusted for occupational mix based on information collected in 2003. Beginning with the FY 2007 wage index, CMS will apply a 100 percent occupational adjustment to hospital wage data using occupational mix survey data collected in 2006. As such, the analysis presented here is preliminary and illustrative and should not be taken to be representative of impacts using occupationally adjusted hospital wage data, were such an option to be adopted in the future.

The objection to “proxy” data in the GPCI has been raised most strongly with regard to the PE GPCI’s measure of relative office rents. Many physicians and other observers may not find the current PE GPCI’s measure of relative residential apartment rents to have good face validity. Prior analyses by CMS of alternative data sources, including U.S. Postal Service (USPS) data, have not found any that are superior to the proxy data that is currently used. Here, we have presented results from a new approach using USPS data that creates a postal rental index using lease costs of postal buildings for a limited number of cities. These data also have the limitation that they are proxy data. For the 22 cities analyzed, the correlations between the index based on HUD’s Fair Market Apartment Rents (FMR) data that are currently used and the index based on the Postal Service data is high. But we do not have enough data yet to analyze the results for all payment localities. At this time, these analyses should be considered exploratory and cannot be considered as a method for revising the rent component of the PE GPCI in the immediate future.

In addition to these PE GPCI issues, the physicians in the rural areas expressed frustration with the level of payments that they receive for their provision of Medicare services. Based upon the evidence presented here, however, revision of the PE GPCI based on the use of alternative data sources will not be sufficient to address these concerns. Since the scope of this report is on revision of the PE GPCI, it does not address other concerns.

Recommendations

CMS routinely refines the MEI and the GPCIs. Consequently, CMS is continually looking for data sources that can be used for these purposes. As part of the refinement process, CMS investigates both the applicability of the datasets that are in existence at the time of the refinement and how the considered datasets should be used to yield valid and reliable results. It is possible that the datasets discussed here may prove to be useful in further revisions. CMS will continue to perform analyses of extant data. At this time, we do not endorse any of the datasets discussed here.

SECTION 1: BACKGROUND AND LEGISLATIVE MANDATE

When the Medicare physician fee schedule (PFS) was implemented in 1992, the statute required that payments be adjusted across payment localities based on area variation in payment for physicians' work, practice expenses, and malpractice insurance costs. These geographic variations in the costs of performing physicians' services were reflected in indices derived in research performed by Welch, et al., 1989 under funding from the Health Care Financing Administration, now the Centers for Medicare & Medicaid Services (CMS). The indices created under the original research have been revised numerous times, with the most recent revision occurring in 2004 and implemented in 2005. A value of the index is assigned to geographic areas termed "localities," which may be as large as a state or as small as a county.

Payment for a service under the PFS is based on the relative values of three component cost measures for physician work, practice expense, and malpractice expense. The relative value units (RVUs) for each of these components are adjusted by a Geographic Practice Cost Index (GPCI) based on the location where a service is provided. The adjusted RVUs are multiplied by a conversion factor to transform them into dollars amounts, and the three component amounts are summed to calculate the payment for a particular service for a particular locality.

The purpose of the GPCIs in the PFS is to pay physicians appropriately for differences in the costs of providing the same service in different payment localities. Thus, if it costs more to provide a service in one locality than a second locality, the physician would receive a greater payment in the first locality than in the second locality. Currently, there are 92 payment localities; the majority is statewide localities.

The GPCIs are applied to the PFS payments to compensate for input price variability for the following categories of physician practice expenses:

- Physician time costs;
- Non-physician employee wages;
- Office rents;
- Supplies and equipment and other; and
- Liability insurance.

The geographic variation in the first category is measured in the Work GPCI; the variation in the next three categories is measured in the practice expense (PE) GPCI; and variation in the last category is measured in the Malpractice GPCI.

Presently, work represents slightly more than 52 percent of the average fee; practice expense represents approximately 44 percent; and liability insurance represents almost 4 percent. Given the statutory requirement that the GPCI for work reflect only one quarter of the actual variation and the fact that there is no variation in the geographic costs of supplies and equipment and other practice expenses, more than half of the average fee paid under the PFS is not adjusted for geographic cost differences.

Concerns about both the adequacy of the data used in the construction of Geographic Practice Cost Index (GPCI) for PE and the appropriateness of the resulting index, led Congress, in Section 605 of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (P.L. 108-173) (the MMA), to address the issue:

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(b) SITES.-- The Secretary shall select two physician payment localities in which to carry out subsection (a). One locality shall include rural areas and at least one locality shall be a statewide locality that includes both urban and rural areas.

(c) REPORT AND RECOMMENDATIONS.--

(1) REPORT.---Not later than January 1, 2006, the Secretary shall submit to Congress a report on the review and consideration conducted under subsection (a). Such report shall include information on the alternative developed data sources considered by the Secretary under subsection (a) including the accuracy and validity of the data as measures of the elements of the geographic index for practice expenses under the Medicare physician fee schedule as well as the feasibility of such alternative data nationwide in lieu of current proxy data used in such index, and the estimated impacts of using such alternative data.

(2) RECOMMENDATIONS.--The report submitted under paragraph (1) shall contain recommendations on which data sources reviewed and considered under subsection (a) are appropriate for use in calculating the geographic index for practice expenses under the Medicare physician fee schedule.

This report describes the demonstration-based review of the PE GPCI and issues related to alternative data sources that could be considered in a revision of that index. For the most part, this report is based on work performed by RTI International¹ and the Urban Institute under

¹ Pope, GC, E Olmsted, D Healy, S Zuckerman, J McFeeters, 2005, Review of Physician Practice Expense Geographic Adjustment Data. Final Report to the Centers for Medicare & Medicaid Services under Contract No. 500-00-0024, Waltham, MA, RTI International

contract to the Centers for Medicare & Medicaid Services (CMS). The report is available from CMS.

The report includes the following:

1. A description of the organization and outcome of two meetings held in Iowa and Maine with local physician organizations and other stakeholders to review the PE GPCI;
2. Critiques made by meeting participants of the current PE GPCI;
3. Enumeration of alternative data sources proposed by the meeting participants; and
4. Presentation and evaluation of alternative data sources for each cost component of the PE GPCI, including the shares of various categories in total physician practice expenses, the index of wages of non-physician occupations employed by physicians' practices, the index of relative office rental costs paid by physicians' practices, and other expenses.
5. Recommendations for further analysis.

SECTION 2: PAYMENT LOCALITY PRACTICE EXPENSE MEETINGS

Choice of meeting sites

The candidate States for the study included those with extensive rural areas that have PE GPCI values that were low relative to the national average. For these purposes, we defined "low" as a 2005 PE GPCI value of below 0.90, 10 percent lower than the national mean of 1.0. The group includes 18 Statewide localities (Alabama, Arkansas, Idaho, Iowa, Kansas, Kentucky, Mississippi, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, Puerto Rico, South Carolina, South Dakota, Tennessee, West Virginia, and Wyoming) and 6 rest-of-State localities (Georgia, Illinois, Louisiana, Maine, Missouri, and Texas). The rest-of-State localities are the areas in a State that are not in that State's Metropolitan Statistical Area (MSA) designated localities. We chose Iowa as one of the sites for meetings. Iowa is a Statewide locality that fits both the first and second criteria for selecting localities under MMA section 605 and has a 2005 PE GPCI of 0.872. In addition, Iowa is centrally located and is the home of the Geographic Equity in Medicare Coalition (GEM). GEM is an interest group that primarily represents medical societies from a large number of predominantly rural States. In its statement of purpose, GEM claims that the PE GPCIs are inappropriate and lead to inappropriate and inequitable reimbursements to physicians. As a legislative goal, "GEM would like to incrementally increase both the practice expense GPCI and the professional liability insurance GPCI to 1.00 over the next 10 years."²

For the purposes of selecting a second locality, we tried to identify another locality from the set of rest-of-State localities with low PE GPCIs. We were looking for a rest-of-State locality because those always include rural areas. In addition, to have some geographic diversity relative to Iowa, we concluded that the other locality should not be the rest-of-State in Illinois or

² GEM Statement of Purpose, www.iowamedical.org/legis/GEM_update/GEM_Statement_9-13-04.pdf, September 13, 2004.

Missouri. We chose Maine as the second locality in this study.³ In addition to Maine meeting the required statutory selection criteria, the Maine Medical Association and its staff were enthusiastic about coordinating a meeting and offered to convene physicians from a wide range of communities within the Rest of Maine locality as well as from the Southern Maine locality.

In addition to having low PE GPCIs, the Iowa and Rest of Maine localities also have below average physician-to-population ratios and an above average share of their populations covered by Medicare. Relative to the national average of 14 percent, 19 percent of the people in the Rest of Maine are covered by Medicare, as are 17 percent in Iowa. Perhaps the most striking characteristic of these localities is the share of the population that lives in non-metropolitan counties. In Iowa, 55 percent of the people live in non-metropolitan counties; in the Rest of Maine, 65 percent of the people live in non-metropolitan counties. In comparison, only 19 percent of the U.S. population resides in a non-metropolitan county. Although the overall poverty rates in these two localities are at or below the national rate, per capita incomes are below average. The economic circumstances of the elderly differ between Iowa and the Rest of Maine. Poverty rates for the elderly are lower in Iowa (7.3 percent) and higher in the Rest of Maine (11.3 percent) than they are nationally (9.5 percent).

The meeting in Iowa was set up with the help of the Iowa Medical Society and the Iowa Academy of Family Physicians. Dr. David Carlyle, a family practitioner at McFarland Clinic in Ames, Iowa, agreed to chair the meeting. Presentations by Susan Kell, RN, BSN, Program Director for the Iowa Academy of Family Physicians; Michael Kitchell, MD, President of McFarland Clinic; and James Palazzo, Chief Executive Officer of the Iowa Heart Center in Des Moines, were arranged.

The Maine meeting was set up with the help of the Maine Medical Association. Presentations were made by Glenn Beaulieu, Augusta Family Physicians; Cindy Cormier, Waterville OB-Gyn; Kevin Flanagan, M.D., Sebasticook Valley Primary Care; Sandy Grant, Medical Rehabilitation Associates, Lewiston; Jane Ham, Maine Recruitment Center, Augusta; James Harrison, PrimeCare Physician Associates, Biddeford; and Mike Hendrix, Mayo Regional Hospital Dover-Foxcroft.

Meeting structure

These meetings were attended by physicians and other interested parties. In addition to physicians, other attendees included representatives of State medical societies, non-physician representatives of practices and clinics and a representative of the American Medical Association (AMA). To the extent that any changes in the Medicare physician payment methodology is viewed as a zero-sum process affecting all physicians, parties in addition to rural physicians were invited. For example, Dr. Frank Opelka from Boston, and a Fellow of the American College of Surgeons, attended the Iowa meeting.

³ We contacted the medical societies in the States with the remaining two rest-of-State localities with low PE GPCIs – Georgia and Maine – and concluded that Maine offered the best option for the second locality in this study. We were concerned that the fact that some counties in the Atlanta Metropolitan Statistical Area were included in the rest-of-State locality might make it difficult to discuss practice costs purely from the perspective of rural practices.

The goal for both meetings was to review the PE GPCI with the participants and to engage in a productive exchange of information about alternative data sources as well as a discussion of issues related to rural practices. The first 30 minutes of each 1-day meeting were devoted to introductions, the statement of purpose, and CMS perspective. We then reviewed the background of the GPCI, including its history and previous studies of alternative data sources. The next several hours were devoted to presentations on the PE GPCI from physicians or their representatives. This was followed by a structured discussion of each component of the PE GPCI. Both meetings concluded with a summary of the discussion, next steps, and closing remarks.

Background information on PE GPCIs presented at meetings

As an introduction to the meetings, we presented a discussion of the derivation and purpose of the PE GPCI. There are a number of issues that are important to rural physicians. The goal of this introduction was to focus the meeting on the issues that were relevant to PE GPCI issues. A summary of the introduction follows.

As currently configured, the PE GPCI is developed from a variety of data sources. Non-physician employee wages are calculated from Census wage data for Registered Nurses (RNs), licensed practical nurses (LPNs), health technicians, and clerical workers. Office rents are calculated using the Department of Housing and Urban Development's (HUD) FMR rate index as a proxy for the relative difference in rents between payment localities. There are no PE GPCI adjustments for supplies and equipment costs or other/miscellaneous costs because in the original research that led to the GPCI, it was determined that a national market existed for these items.

For a data source to be used to construct a component of the PE GPCI, it must meet the following criteria:

- The data source accurately measures variation in a component category of physician practice expense.
- Data are available for all areas.
- The data source is updated frequently.
- The data source has a sufficient sample size.
- The data source has a transparent data collection methodology that can be reviewed or audited.
- The cost of obtaining the data is affordable.

The background section of the meetings concluded with a review of previous research into data sources considered but rejected for inclusion in the PE GPCI when the GPCIs were first created. For non-physician employee wages, Bureau of Labor Statistics (BLS) ES-202 data and Internal Revenue Service (IRS) Federal Insurance Contributions Act data were considered for the PE GPCI but were rejected because these data did not distinguish between physician and non-physician wages, and did not adjust for occupation mix. The Medicare Hospital Wage Index was also considered; it is highly correlated with Census data although it tends to be lower in rural areas than the Census data. In the construction of the GPCI, commercial rental data from the Building Owners and Managers Association was reviewed and rejected. These data were found to have several problems: (1) data were lacking for many areas of the country, (2) sample sizes

were small, and (3) data were not representative of the commercial spaces physicians rent. Data on deductible business rental expenses from the IRS were reviewed and rejected because equipment lease costs were mixed with office rental costs, office sizes could not be standardized, and some of the data are confidential. Original GPCI research comparing PE cost shares in rural and urban areas revealed that cost shares were similar in urban and rural areas.

Maine and Iowa Participants' Views Pertaining to the PE GPCI and Medicare Physician Reimbursement

Most of the physicians and physician representatives were from rural areas. Their position was that either the PE GPCI should be eliminated or a floor of 1.000 should be established for the PE GPCI as was done with the work GPCI. The rural physicians asserted that the PE GPCI should be eliminated or modified because:

1. Data do not exist to accurately measure all the variation in input prices across the different payment localities.
2. Expenses for rural practices were near the national average.

The underlying premise was that practice expenses did not differ among urban and rural areas. Therefore, because of the perceived cost equality, the overwhelming majority of the physician and physician representatives proposed that the PE GPCI could be eliminated.

The physician attending the Iowa meeting from an urban area, Boston, had a different view. He believed that the Medicare physician fee schedule system is the problem for physicians and not the GPCIs alone. He believed physicians should be more concerned with overall reductions in Medicare physician reimbursement instead of changing the GPCIs. He stated that the PE GPCI should not be changed, because modifying the PE GPCI will widen the gap between service cost and reimbursement in urban areas.

Attendee's specific critiques of the PE GPCI

1. Practice Cost Shares

In calculating the PE GPCI, it is necessary to measure locality-specific variation in each of the three practice expense categories: non-physician employee wages; supplies and equipment; office rent; and other. The values for each category in a locality are combined based upon the percent of aggregate practice costs or cost shares allocated to each of the three cost categories. Because the variation in the geographic cost can vary across categories, it is important that the practice cost shares be correct.

Anecdotal evidence from several meeting participants and some survey data indicate that the practice cost shares may have changed over time. Data from the AMA Socioeconomic Monitoring System (SMS) survey are used to develop practice cost shares for the PE GPCI. The last AMA SMS survey was done in 1998. Some participants at the meetings indicated that cost shares for non-physician employee wages and equipment and supplies may need to be increased in the PE GPCI, and the cost share for office rent could be decreased.

For calculation of the practice cost shares, the Medical Group Management Association (MGMA) survey was proposed as an alternative data source to the discontinued AMA SMS survey. The MGMA survey is a national survey of physician practice managers on practice revenues and expenses. Some meeting participants declared the MGMA survey to be the best currently available source of data on physician practice expenses. However, other participants believed the low response rate to the survey (15 to 20 percent of practices surveyed) meant there was a high probability that the data sample may be skewed. The MGMA survey combines data from many different kinds of physician practices, making comparisons among different types of practices in the data difficult.

There were brief discussions about the feasibility of performing primary data collection to obtain new data on physician practice cost shares. Methods of data collection mentioned included performing a national survey of physicians or developing a survey that could be administered by each State medical society. The consensus among meeting participants was that primary data collection was very expensive, and any survey would likely have a low response rate.

2. Non-Physician Employee Wages

Most meeting participants agreed that the PE GPCI measure for non-physician employee wages does not accurately represent several categories of non-physician workers employed by physicians' practices. Physicians indicated that they hire employees beyond the nurses, health technicians, and administrative staff reflected in the current PE GPCI wage adjustment. These additional categories of labor include information technology professionals, regulatory compliance staff, billing staff, and accountants. The meeting participants' position was that these non-medical staff are hired from a national labor market and, as such, should not be subject to the same locality wage adjustment as other employees. It was reasoned that this would make the variation in the PE GPCI across localities smaller. As the PE GPCI is currently constructed, these non-medical labor categories are not included.

The validity of the claim that the variation in the PE GPCI should be smaller could not be addressed at the meetings, however, because sufficient data were not provided. It is noteworthy that the Work GPCI, which is supposed to measure locality differences in pay for physician work, shows locality differences. This index was constructed using locality differences in wages for college-educated professionals. The variation is contrary to the claim that non-medical personnel are recruited in a national market.

Because of these asserted limitations in the index for non-physician employees, meeting participants suggested that the Medicare Hospital Wage Index (HWI) could be used as an alternative data source to measure non-employee physician wages.

3. Office Rents

Rural physicians and their representatives believe there is less variation in physician office rents between urban and rural areas than that shown in the HUD fair market rent index. Rural physicians asserted that office rent variation between rural and urban areas is smaller than is reflected in the HUD index because rural practices need to be located in high-value properties near hospitals, preventing them from taking advantage of lower rural rental costs. In addition,

because there are fewer physicians in rural areas, physicians have fewer opportunities than urban physicians to share office space to reduce rental costs. The Boston physician who attended the Iowa meeting disputed the assertion that the differential between rural and urban physician office rents was smaller than the variation measured in the fair market rent index.

Clearly, this is an empirical issue. Unfortunately, none of the meeting participants suggested any rent data sources that meet the criteria for inclusion in the PE GPCI. In consideration of the critiques about office rent and the HUD data, we analyzed United States Postal Service (USPS) post office rent data to determine whether it could be useful in determining the office rent component of the PE GPCI.

4. Equipment and Supplies

Meeting participants agreed that supplies and equipment were purchased in a national market. To assess this, we contacted representatives of equipment manufacturers and medical supply trade associations. While they confirmed the lack of data on this issue, they endorsed the plausibility of the assumption of national uniformity of prices for these inputs. Some rural physicians and their representatives believe that they may have higher equipment maintenance costs because of travel surcharges for technicians to service equipment at their rural practices. They also believe they may face higher supply costs because of lack of volume discounts for small, rural practices. No data source was suggested that could measure these perceived additional costs. Most meeting participants were satisfied with not having a PE GPCI adjustment for equipment and supplies.

5. Other Expenses

During the presentations, other/miscellaneous expenses were mentioned only briefly. Topics mentioned included information technology costs in rural areas, costs of converting paper records to electronic records, and educational and consultant travel expenses. No detailed discussions occurred on other/miscellaneous expenses nor were any data sources mentioned to measure these expenses. It appeared from the meetings that the current system of no PE GPCI adjustment for other/miscellaneous expenses was working well.

Other Rural Physician Payment Issues

It was clear that the issues raised at the meetings often related to physician payment under Medicare but were not necessarily related to the PE GPCI. The overriding concern in rural areas is that the purported low supply of physicians relative to urban areas could result in health care access problems for rural residents. Moreover, if there were evidence that Medicare payment systems (e.g., the PE GPCI) exacerbated these problems and contributed to physician incomes being lower in rural areas, then arguments for altering the PE GPCI or other parts of the payment system could be strengthened.

The underlying issue in the rural areas was the absolute level of payment. To the extent that any changes to the PE GPCI would result in only relatively small changes in payment to these rural localities, it is not obvious that changes to the PE GPCI alone would be satisfactory to the

meeting participants. Below is a discussion of these issues. Some are more closely related to the PE GPCI than others.

6. Transportation

Rural physicians suggested that the PE GPCI be modified to compensate them for what they claim are systematically higher travel costs or “windshield time” needed to visit outreach clinics or perform home visits. It was mentioned by other participants in the meetings that urban physicians also have significant travel costs. Currently, Medicare does not reimburse physicians for the travel time required to perform services.

During meeting discussions, the participants ultimately agreed that the PE GPCI would not be the appropriate method to compensate physicians for travel time. Ideas suggested for providing compensation to physicians for travel time included creating a new travel current procedural terminology (billing) code or having a modifier to indicate increased travel expense to perform a procedure.

7. “On-Call” Time

Rural physicians stated that they spend many hours “on-call,” and they do not receive compensation for this time. Rural physicians believe they have a high on-call burden relative to urban physicians because there are fewer physicians in rural areas, requiring them to cover more shifts. However, an urban physician stated that urban physicians also have a high on-call burden because of physician specialization. The urban physician posited that there are relatively few specialists who can perform certain procedures, which could cause urban physicians to have high on-call burdens. No data sources were suggested that could measure on-call time for physicians.

8. Ancillary Income

One rural physician stated that volume drives up ancillary profits, which, in turn, impacts physician income. As sources of ancillary income, he included X-ray services, services of therapists, and lab tests. He conjectured that oncologists derive 70 percent of their income from ancillary profits but did not provide evidence to substantiate this claim. Rural physicians believe they receive less income from ancillary services than urban physicians because rural physicians have less patient volume than urban practices. More profit is generated from equipment with higher utilization. A rural physician made a suggestion that a new payment adjuster should be created to distribute ancillary profits more fairly among all physicians. Based upon a concern that the rural physician was asking for a budget-neutral redistribution of ancillary income, an urban physician countered that payments to physicians in areas with high utilization of ancillary services should not be lowered.

9. Recruiting Physicians to Rural Areas

Rural physicians and their representatives claimed that low Medicare reimbursement for physicians and limited Health Professional Shortage Area (HPSA) payments make it difficult to recruit physicians to rural areas. A representative from an organization in Maine that recruits physicians stated that there are 168 open positions for physicians in Maine. A rural physician from Maine estimated it took 4 years to recruit a second physician to join his practice. No

evidence was presented to substantiate the implicit claim that increased payments that would result from increases in the PE GPCI would increase the supply of physicians in rural areas. In addition, a recent study showed that physician incomes were quite similar in urban and rural areas.⁴

10. Payer Mix

Rural physicians claim they face financial stress because of the high concentration of Medicare and Medicaid patients they serve compared to urban physicians. Rural physicians claim even if they had the identical volume and service mix as the urban physicians, they would receive lower total payment because they have relatively few patients from payers with higher rates.

11. Effectiveness of Health Professional Shortage Area Payments

The meeting participants expressed concerns about the effectiveness of HPSA payments. The purpose of HPSA payments is to encourage physicians to practice in rural areas with few physicians by increasing the Medicare reimbursement a physician receives. Rural physicians claim they cannot receive HPSA payments even though their patients live in medically underserved areas, because they claim that most rural physician practices cluster in a few areas. These areas then have too high a concentration of physicians, so rural physicians do not qualify for HPSA payments. The implication was that HPSA was constructed in such a way that it was not an effective tool for attracting physicians to underserved areas.

12. Facility-Based Physician Practices

In rural areas of Maine it was claimed that many physicians are having their practices taken over by hospitals and are becoming hospital employees.⁵ Other physicians are converting their practices into rural health clinics (RHCs) or Federally Qualified Health Centers (FQHCs). These practices are called facility-based physician practices. Physicians are converting their practices to receive higher reimbursement than under the physician PFS.⁶ It was not asserted, however, that this negatively impacted beneficiaries' access to physicians' services. But it did cost the physicians some of their independence.

13. Physician Outreach

A related issue for rural physicians is their cost to provide outreach services. Rural physicians claim that their practices need to maintain outreach offices in multiple locations to generate the patient volume they need for their practices. These offices are staffed by physician assistants and

⁴ See Reschovsky, James D. and Andrea Staiti, 2005. "Physician Incomes in Rural and Urban America." *Center for Studying Health System Change Issue Brief*, Number 92.

⁵ In this case the physician is paid a salary. The service is performed as an outpatient procedure. As such, the hospital is paid under the Ambulatory Payment Classification system and the practice is paid by the PFS, albeit with a reduced Practice Expense Relative Value. Under this scenario, the physician's net payment may be greater than it would be under the PFS.

⁶ RHCs and FQHCs are paid on a cost basis per visit (including services and procedures provided during the visit) up to a ceiling value. Presumably, physicians have found this to be more lucrative. In order to qualify as an RHC or a FQHC, stringent requirements must be met. Some physicians operate both an RHC and a private office from the same geographic location.

other non-physician employees. Rural physicians assert that their practice expenses are higher because they are required to hire more staff and rent more office space to service the same number of patients as urban physicians whose practices are centralized in one office.

Most of the above-listed topics were beyond the scope of the mandate in Section 605 of the 2003 MMA. In general, because these were not PE GPCI issues, the validity of these claims was not assessed. They were not studied further for this report.

Meeting Conclusions

At the end of each meeting we reviewed the major findings. The physicians agreed that rural physicians face a unique situation, and adjustments to the PE GPICs alone cannot fix their perceived problem. Even if the GPICs were eliminated entirely, the participants said that it would still be a financial challenge to be a rural physician.

Suggestions were made during the meetings to modify the structure of the PE GPCI. One possible change would be to revise the distribution of physician practice cost shares to reflect the perceived current distribution of physician practice expenses. The MGMA survey of physician practice expenses, a physician practice expense survey presented in *Medical Economics*, and anecdotal evidence from both meetings indicated that the share of total practice expenses for non-physician employee wages is too low and the share of total practice expenses for office rents is too high in the PE GPCI. In addition, there is less variation in non-physician employee wages than office rents among payment localities. Increasing the cost share of non-physician employee wages could help to reduce the variation in the GPCI between rural and urban areas.

A related possible change to go along with changing the cost shares is to expand the types of occupations considered for the wage proxy for non-physician employees. Data provided at the meetings indicated that many categories of non-physician employees in physician practices are not being considered in the current PE GPCI wage proxy. These employees include information technology staff, attorneys, compliance staff, and some billing staff. Expanding the types of non-physician employees whose wages are reflected in the PE GPCI could reduce the variation in non-physician wages used in the index.

The primary objective of the meetings was to consider alternative data sources that could be used to construct the PE GPCI. No data were presented that existed for all localities that would facilitate a wholesale revision of the PE GPCI. Two data sources, the Medical Group Management Association Survey and the Hospital Wage Index, were proposed and met the criteria to be considered for further study. These two sources are potential sources for some minor revisions of the PE GPCI. The former could be considered for use in revising the practice cost shares and the latter could be considered for use in revising the non-physician wage component of the PE GPCI.

The rest of this report explains the analyses and implications of the use these alternative sources of data and describes other datasets that could be useful in addressing other issues relevant to the PE GPICs.

SECTION 3: REVIEW OF ALTERNATIVE PRACTICE EXPENSE DATA SOURCES FOR PRACTICE COST SHARES CALCULATIONS

Physicians in Iowa and Maine felt that the PE GPCIs did not adequately reflect the types of expenses they incurred in running their practices. Although the basic categories of expenses in the PE GPCI—non-physician employee wages, office rents, medical equipment, supplies, and miscellaneous expenses—seemed reasonable, two specific issues were raised that could potentially require a reassessment of the cost shares used to weight the input price data.

First, physicians indicated that they hire employees beyond the nurses, health technicians, and administrative staff reflected in the current PE GPCI wage adjustment. In particular, they suggested that the complexity of their practices required greater employment of information technology staff and lawyers hired from a national labor market and, as such, should not be subject to the same locality wage adjustment as other employees.

Second, many of the physicians in both localities felt that they paid a lower share of their practice revenues to rent and to operate their offices than is reflected in the current PE GPCI. Given that the price proxy used to adjust for office rents has greater dispersion than the other components of the PE GPCI, a lower cost share for office rents would reduce the extent of geographic differences in Medicare fees.

To examine either of these issues, we reevaluated the data used to develop the cost shares in the current PE GPCI and the Medicare Economic Index (MEI)⁷ and investigated alternative data sources. As suggested, we analyzed the MGMA survey as a source of data on cost shares instead of AMA physician survey data.

We review the AMA data because that is the current source for cost share percentages. Next, we discuss the MGMA data as a potential alternative source of information on cost shares, discussing their strengths and weaknesses. In addition to exploring the specific issues raised in the physician meetings, we also investigate, to the extent possible, metropolitan/non-metropolitan differences in the cost shares suggested by these data sources.

AMA Physician Survey Data

From 1982 to 1999, the SMS was the AMA's major survey designed to collect data on the socioeconomic aspects of physicians' practices. The survey was conducted by telephone with a random sample of non-Federal patient care physicians stratified by specialty and geographic region. The physician was the unit of observation, and sample sizes were near 4,000 for the major annual SMS survey (there were also smaller quarterly surveys, but these collected a more limited set of data). In the early years, the SMS was able to achieve response rates of slightly over 60 percent, but response rates gradually drifted down to the mid-50 percent range. For the PE GPCI, the key strength of the SMS was that it provided data on detailed practice expenses

⁷ The MEI is a weighted measure of average national prices for inputs needed to produce physicians' services. Among other uses, the MEI is used in the calculations to determine the update to the conversion factor of the PFS.

and physician incomes. Together, these data elements allowed for the computation of the cost shares required in the PE GPCI.⁸

The SMS data on practice expenses covered non-physician payroll expenses, including fringe benefits, professional liability insurance premiums, medical equipment, office expenses (rent or mortgage, utilities, and telephone), medical materials and supplies, and other professional expenses (e.g., professional care, association memberships, and continuing medical education). Despite the value of these data, over time there were growing problems related to item non-response across these expense categories. As a result, complete data were often not available for many physicians who otherwise responded to the survey. This made the data somewhat difficult to analyze. These concerns, combined with the costs of the survey to the AMA, led to the termination of the SMS survey before it was fielded in 2000.

The AMA tried to resume the collection of socioeconomic data on physicians in 2001 with the Patient Care Physician Survey. This was a mixed-mode survey (mail and telephone) that collected data from 3,592 physicians. It was also designed to yield a representative sample of all non-Federal physicians who spend most of their time in patient care activities. Although this new survey collected many of the same data items as SMS, it attempted to collect significantly less detailed practice expense information. It was limited to questions on total practice expenses, employee (non-owner) physician expenses, and professional liability insurance premiums. This makes it impossible to use these data to compute costs shares for each of the expense categories in the current PE GPCI.

The AMA data from the SMS and its replacement do not provide enough detail to allow us to consider how the share of expenses going to wages for information technology (IT) workers differs between urban and rural practices. However, if IT workers are becoming more important to all practices and no other changes in staffing are occurring, the share of expenses associated with employee wages could be increasing. Based on the methods used by CMS to derive weights for the 2004 GPCI, non-physician employee wages do represent a somewhat larger share of practice expenses now than when the PE GPICs were initially developed. Current estimates suggest that non-physician employee wages account for 42.8 percent of practice expenses in the 2004 PE GPCI as opposed to 39.1 percent in the 1992 PE GPCI (Table 3-1).

⁸ Welch, WP, S Zuckerman, G Pope, 1989, The Geographic Medicare Economic Index: Alternative Approaches. Report to the Health Care Financing Administration under Grants Nos. 18-C-98326/1-01, 17-C-99222/3-01, and 17-C-98758/1-03. Washington, DC: the Urban Institute.

Table 3-1
Historical view of PE GPCI cost shares (%)

| | 1992 | 1995 | 2001 | 2004- 2006 |
|---|-----------|-----------|-----------|---------------|
| Practice cost as a share of practice revenue | 40.2 | 41.0 | 42.3 | 43.7 |
| Component share of Practice Cost: | | | | |
| Non-physician employee wages | 39.1 | 39.8 | 39.7 | 42.8 |
| Rent | 27.6 | 25.1 | 27.4 | 27.9 |
| Miscellaneous (equipment supplies and other expenses) | 33.3 | 35.1 | 32.9 | 29.3 |
| Sum of shares | 100.0 | 100.0 | 100.0 | 100.0 |

SOURCE: Derived from Table 5 in Medicare Program; Revisions to payment policies under the Physician Fee Schedule for Calendar Year 2005; *Federal Register*, Vol. 69, No. 150, August 5, 2004, Part 2, p. 47502.

Medical Group Management Association Cost Survey

The MGMA Cost Survey⁹ is an annual survey of medical groups sampled from the membership of MGMA, the American Urological Association, and the American Academy of Pediatrics. The frame does not include practices that have from one to three physicians. As such, this sample is not designed to reflect the population of either all physicians or all medical practices. In fact, the sample is not necessarily representative of all medical groups, given that it is drawn from membership lists. In discussions, the MGMA staff made it clear that this was not viewed as a limitation of the survey for their purposes. The view is that the primary mission of the MGMA Cost Survey is to provide management decision support to practice administrators. For example, MGMA staff indicated that published reports allow practices to benchmark themselves against their peers with respect to staffing patterns.

Based on the input we received from physicians in Iowa and Maine, it seemed that one of the major strengths of the MGMA survey was the detail that it provided on medical groups. By definition, groups have three or more full-time equivalent physicians. Data are collected on revenue, staffing, costs, outputs, charges, and basic practice characteristics. To facilitate comparisons across practices, MGMA publishes reports that present their data on, for example, costs and staffing for different types of groups. At the most aggregate split, data are shown separately for multi-specialty and single-specialty groups. Within multi-specialty groups, data are displayed by ownership type (owned by a hospital or integrated delivery system versus other), whether or not the group provides only primary care, geographic region, group size, and share of revenue from capitation. For single-specialty groups, the primary focus is on presenting data for major specialties, with additional focus on ownership as the data permit.

⁹ The MGMA data were from the 2003 Practice Cost Survey, published in 2004.

In reviewing MGMA publications, it became clear that sample sizes are not large. This results from a combination of low survey response rates and the need to disaggregate the data to allow practice managers of specific types of groups to make meaningful comparisons. The response rate for the survey fielded in January 2004 to collect data from 2003 is fairly typical of MGMA surveys. MGMA mailed surveys to 12,419 medical groups (an additional 195 were mailed but were undeliverable). There were 1,608 respondents, yielding a 12.9 percent response rate as computed by MGMA. However, 366 of these were deemed ineligible or incomplete and were excluded from MGMA reporting. It is possible that the response rate may vary slightly from that reported by MGMA, depending on how many ineligible respondents there were and how they are treated in the response rate calculation. The bottom line is that there were only 1,242 respondents available for analysis. This included only 299 multi-specialty groups that provided some data on practice costs. The largest of the single-specialty categories was orthopedics (100 respondents).

The membership-based sampling frame, the low response rates, and the small sample sizes may be prima facie reasons for concluding that the MGMA data are not an appropriate alternative source of data on PE weights. In addition, the data are not available for analysis in public use files. All of the publicly available information is in the form of tabulated statistics presented in the published reports or on CDs. This constrains outside analysts' ability to analyze the data in ways that differ from what MGMA has presented. However, discussions with MGMA staff indicated that they do work with outside analysts on special data requests and would be willing to work with CMS in the future.

Despite the questionable properties of the survey and the analytic constraints imposed by the lack of a public use file, it is possible that the survey could provide some useful information that could be used to assess the claims made by physicians in Iowa and Maine. First, the published MGMA data can be compared to the AMA data published in 2003 to determine if the overall share of practice revenues going to expenses is comparable. Second, the MGMA data on the shares of expenses associated with various components of expenses can be compared to the shares CMS recently reported (see Table 3-1). While results of any analysis using MGMA data may be used to indicate that shares may have changed, it is not clear, however, how much faith one can have in the actual precision of the estimates derived from this source.

Use of MGMA Data to Compute Overall and Component Practice Cost Shares

In the 2003 AMA publication *Physician Socioeconomic Statistics*¹⁰, the ratio of median expenses per self-employed physician to the sum of median expenses plus median net income after expenses but before taxes is approximately 48 percent across all types of physician practices. For solo practitioners, this ratio is also 48 percent. In two- and three-physician practices, the ratio is 51 percent and 57 percent, respectively. Since the MGMA data based on the largest sample of practices are for multi-specialty groups, we also computed the AMA expense ratio for groups with four to eight physicians – this ratio is 47 percent.¹¹

¹⁰ These data are based on the 2001 Patient Care Physician Survey.

¹¹ The AMA data on larger groups (eight or more physicians) do not appear to be credible. Median expenses per self-employed physician drop from \$200,000 in groups with four to eight physicians to \$80,000 in the larger group

The data from AMA are not directly comparable to the MGMA data. First, the AMA data are reported per self-employed physician as opposed to the practice level. Second, AMA's classification of groups includes both single-specialty and multi-specialty groups. Third, the AMA data do not have samples that are large enough to support tabulations that cross-classify by specialty and practice size. MGMA reports that expenses represent 60 percent of medical revenues for the median multi-specialty group. MGMA has a smaller sample of single-specialty groups.

Obviously, it is difficult to make a rigorous comparison between the AMA and MGMA data on cost shares. However, the data presented here suggest that the MGMA overall cost shares are only slightly higher than the AMA shares and appear to be not unreasonable. As such, MGMA may be valid as a source for further consideration as a source for calculating cost shares.

There are noticeable differences in the recently updated cost shares of the components within the PE GPCI based on AMA and other data,¹² compared to those derived from the published MGMA report, however. One difference is that the updated PE GPCI cost share for office rent is about 28 percent (See Table 3-1), while the MGMA estimate based on multi-specialty groups is about 11 percent. Interestingly, the 11 percent estimate seems closer to the anecdotal information provided by physicians during our meetings. While office expenses are higher in the PE GPCI, the share for non-physician employee wages is higher in the MGMA data. The current PE GPCI weight for non-physician employees is about 43 percent, while the MGMA estimate using multi-specialty groups is 69 percent. The remainder of the difference in the non-physician employee share, by definition, results from a lower share of expenses being associated with equipment, supplies, and other expenses in the MGMA data than in the updated PE GPCI cost shares.

Use of MGMA Data to Compare Metropolitan and Non-Metropolitan Practice Cost Shares

During the development of the PE GPCI prior to its use in the PFS, analysts compared cost shares between urban and rural areas. These comparisons were based on data from the AMA surveys and showed small differences between metropolitan and non-metropolitan areas. Physicians in non-metropolitan areas spent 3.5 percentage points more on practice expenses as a share of revenues than other physicians, largely because they spent more on employees, supplies and equipment. That earlier analysis concluded that the impact of this difference on Medicare fees in non-metropolitan areas would be small.

The MGMA data that were provided to us to assess differences between practices in metropolitan and non-metropolitan areas also suggest that the differences are quite small. Table 3-2 shows that the share of medical revenues going to overall practice expenses among multi-specialty groups not owned by a hospital or integrated delivery system is almost identical across types of communities. In fact, even looking at the component cost shares, the differences are not large. The biggest differences related to non-metropolitan practices are in equipment, supplies,

category. Given that physician net incomes do not drop by that much, the ratio of expenses to total revenues seems to be an extreme outlier and is, therefore, not reported.

¹² These data were derived from the 2003 AMA Physician Socioeconomic Characteristics that used the 2003 Patient Care Physician Survey data. See *Federal Register*, August 5, 2004. Medicare Program; Revisions to Payment Policies Under the Physician Fee Schedule for Calendar Year 2005; Proposed Rule. Vol. 69, No. 150. Washington, DC: GPO

Table 3-2
Analysis of MGMA Median Cost Shares by Community Type

| | Non-Metropolitan Area | Metropolitan 50k – 250k | Metropolitan 250K - 1 million | Metropolitan Over 1 million |
|---|-----------------------|-------------------------|-------------------------------|-----------------------------|
| Number of practices | 66 | 69 | 44 | 14 |
| Percent: | | | | |
| Non-physician employee costs | 53 | 47 | 49 | 55 |
| Office rent | 10 | 11 | 11 | 12 |
| Equipment, supplies, and other expenses | 37 | 42 | 40 | 33 |

SOURCE: Derived from special tabulations of 2003 MGMA cost survey.

and other expenses. Based on what we were told at the Iowa and Maine meetings, we would have expected this cost share to be greater in rural areas if they pay a premium for such services. The results are mixed, suggesting that non-metropolitan practices spend more than practices in large metropolitan communities but less than practices in small and medium metropolitan communities. This result is somewhat contrary to the claim that rural physicians pay a larger percent of their practice costs for equipment, supplies, and other expenses.

Conclusions

As noted above, the participants in the Iowa and Maine meetings did think the MGMA data could be useful to calculate practice expense shares. However, the MGMA data do have serious limitations.

CMS routinely refines the MEI and by extension the practice expense shares for the PE GPCI. As part of the refinement process, CMS investigates existing data to determine what sources of data would be most useful and accurate for this process. At that time, CMS will evaluate the existing data sources. It is possible that the MGMA data will be among the data sources that will be evaluated. At this time, there is no data source that CMS would recommend as a source for the next MEI refinement.

SECTION 4: REVIEW OF ALTERNATIVE PRACTICE EXPENSE DATA SOURCES FOR CALCULATING THE EMPLOYEE WAGE INDEX

The non-physician employee wage index is the largest component of the PE GPCI, and its share of the PE GPCI has increased. As discussed above, one concern that was raised by Iowa and Maine physicians is that the current employee wage index measures only four occupations: clerical and administrative support personnel, RNs, LPNs, and medical technicians and aides. They provided some evidence that at least some of their practices employ a wider range of occupations, especially higher-skilled occupations such as information technology workers, lawyers, and specialized medical personnel. The physicians claimed that the labor market for these professionals is more national in character with less local wage variation, and they

provided some anecdotal evidence (e.g., from recruiting agencies) to this effect. Since the current PE GPCI employee wage index omits these occupations, it might overstate the urban-rural difference in labor costs.

To address this concern, and to validate the PE GPCI employee wage index, this section reviews alternative sources of data to measure area differences in compensation costs of physician practices for non-physician employees. Our baseline is the current PE GPCI employee wage index, which is based on a special tabulation of median hourly earnings from the 2000 Decennial Census.

Unfortunately, the Census “long form” data on which the PE GPCI wage index has been based will not be available in the future. The Census Bureau is discontinuing the Decennial Census long form and replacing it with the similar American Community Survey (ACS). Sufficient ACS data to compute the employee wage index are not yet available. We use the current PE GPCI wage index for empirical comparisons, but review the methodology of the ACS, which will be the source for similar data in the future.

Two other sources of wage data are evaluated. The Medicare HWI was mentioned in the Iowa and Maine meetings as a source for relative wages by area. It is used in the Medicare program to adjust payments to hospitals and certain other providers for area wage differences. Although reflecting the occupational mix of hospitals, not physicians' offices, many more occupations are captured in the hospital wage index than in the current PE GPCI.

Another source for wage data that we identified is the BLS Occupational Employment Statistics (OES). The OES collects wage and employment data on over 700 occupations nationwide for all industries, including offices of physicians. The national employment and wage bill shares of occupations employed in offices of physicians can be computed. Moreover, a geographic index of wages of more than 150 occupations employed in physicians' offices can be constructed from the OES data.

In this section, we describe, compare, and contrast these three potential sources for the PE GPCI wage index: the ACS/Census data, the Medicare HWI data, and the BLS-OES data. We present illustrative comparisons of wage indexes derived from the Medicare HWI data and BLS-OES data to the current PE GPCI wage index.

U.S. Census Bureau American Community Survey

The ACS is a new nationwide survey that replaces the long form of the Decennial Census. It will be used for purposes similar to those of the long form, providing demographic and socioeconomic data for a wide range of government, commercial, and research purposes. Under current plans, the ACS will be conducted annually, and data will be available on a timelier basis than from the Decennial Census long form, especially for more populous areas.

Because the ACS is the successor to the Census long form, it will be the most comparable and consistent data source for the PE GPCI employee wage index in the future. Because the Census long form data have also been used to calculate the physician work GPCI, the ACS may be the natural successor data source for the physician work GPCI. A major advantage of the ACS for

the GPCI is that it represents the closest continuation of the current data source and can be used for both the PE and work GPCIs.

The ACS sample size is 3 million addresses per year, or 15 million over 5 years. On average there are about 2.6 individuals per address. Therefore, the ACS sample size is approximately 7.8 million individuals per year or 39 million per 5 years. This sample includes people of all ages and individuals who are employed, self-employed, and not in the labor force. The Census Bureau ramped up to the full 3 million addresses per year sample size in January 2005. The single year 2005 data will be enough to provide estimates of selected characteristics for places with 65,000 or more individuals (including States and MSAs). With 3 years of data accumulation, estimates can be produced for places of 20,000 or more inhabitants. After 5 years, ACS estimates will achieve accuracy comparable to, but not quite as good as, the long form of the Decennial Census. The long form was mailed to 19 million addresses, although not all responded. The ACS is mailed to 15 million addresses over 5 years; not all respond. Data/estimates from the full 5-year ACS sample of 15 million addresses will be available starting in 2010. Consequently, the ACS data will not be useful for these purposes of constructing the PE GPCI until 2010.

The ACS is a nationwide survey, and with 5 years of data accumulation, it will produce estimates of similar geographic detail and accuracy to the Decennial Census long form data. The full sample size of the ACS is attained in a 5-year cycle. Thus, ACS wage estimates can certainly be revised every 5 years. Data for more populous areas such as States and large metropolitan areas may be available at a sufficient level of sample size and accuracy more frequently than every 5 years. In addition, after the ACS startup period, a rolling average can be calculated for any number of years. Updates of the PE GPCI could be based on 5-year accumulations of the ACS wage data. The ACS data is expected have good occupational and geographic detail. They are expected to remain available indefinitely. They are routinely produced by a U.S. government agency, are documented well, and are available for relatively low cost. Another advantage of the ACS data is that the earnings measures necessary to construct the physician work GPCI are also available from the ACS. Thus, the work GPCI and non-physician wage component of the PE GPCI can be produced from the same source.

There are some disadvantages of the ACS data. The data are self-reported by individuals and thus are arguably of lower quality than establishment-reported data; they comprise hourly earnings only, not total compensation; they are fully updated only every 5 years; and they are all-industry data, probably with insufficient sample size to restrict the data to physicians' offices only. Additionally, earnings data from older annual survey panels will have to be updated to be consistent with newer panels. For example, wage data from 2005 would need to be inflated to 2009 levels before they could be combined with 2009 data.

Currently, data from the ACS are not available in sufficient volume to simulate the PE GPCI employee wage index. In our illustrative comparisons in the next two sections, we used the actual 2006 PE GPCI employee wage index, which is based on 2000 Decennial Census data, as the benchmark for the Census data. Given the similarities between the ACS and the Census long form, an index built from ACS data might look very similar to an index built from the Census long form.

Medicare Hospital Wage Data

In this section, we assess whether the data used in Medicare HWI is appropriate for the PE GPCI. First, we describe the characteristics of the HWI. Second, we discuss the advantages and disadvantages of using the data collected to construct the HWI or the HWI directly as a proxy for physician office employee wages as well as the tradeoffs relative to the Census wage data. Third, we compare wage index values derived from the HWI data and Census wage data across States and physician payment localities. Finally, we analyze the ultimate impact on the PE GPCI if the HWI data were used in place of the Census wage data to proxy non-physician employee compensation.

CMS began computing the HWI (also referred to as the Hospital Inpatient Prospective Payment System [IPPS] Area wage index) more than two decades ago.¹³ The HWI is used to adjust hospital payments for geographic variation in labor market costs, as required under section 1886(d)(3)(E) of the Act. The HWI, or variations of the HWI, are also used to make similar adjustments in payment systems for other services such as skilled nursing facilities, home health care services, and hospice services, rehabilitation, psychiatric, and long-term hospital services and hospital outpatient services.¹⁴ CMS currently defines hospital geographic (labor market) areas based on the definitions of Core-Based Statistical Areas (CBSAs) established by the Office of Management and Budget (OMB). Hospitals located outside of CBSAs are in rural areas of the State. Each rural area is treated as its own labor market area.

CMS constructs the HWI using wages, wage-related costs such as fringe benefits, and paid hours for hospital employees (and certain contractor labor) at non-Federal, short-term acute care hospitals using data reported on the Medicare Hospital Cost Reports (MCR, Form CMS-2552-96) and other wage-related documentation. In computing the HWI, CMS derives an average hourly wage for each labor market area (total wage costs divided by total hours for all hospitals in the geographic area) and a national average hourly wage (total wage costs divided by total hours for all hospitals surveyed in the nation). A labor market area's wage index value is the ratio of the area's average hourly wage to the national average hourly wage. If a labor market area's average hourly wage is greater than the national average, the area's wage index value will be greater than 1.0000. If an area's average hourly wage is less than the national average, the area's wage index value will be less than 1.0000. Section 4410 of Public Law 105-33 provides that, for discharges on or after October 1, 1997, the area wage index value applicable to any hospital that is located in an urban area may not be less than the area wage index value applicable to hospitals located in rural areas in that State. This provision is also referred to as the rural floor.

The HWI also reflects the geographic reclassification of hospitals to another labor market area in accordance with sections 1886(d)(8)(B) and 1886(d)(10) of the Act. Many hospitals are "reclassified" into areas other than their actual geographic locations. Hospitals can be reclassified to the nearest adjacent labor market area for which they can demonstrate similar wage levels or commuting patterns. Adjustments for reclassification are applied to the HWI at

¹³ Historical wage index data are available from 1983 to the present.

¹⁴ For an in-depth discussion of the hospital wage index, see *Federal Register*, August 11, 2004, Hospital inpatient prospective payment systems and FY 2005 rates; Rules and Regulations. Vol. 69, No. 154. Washington, DC: GPO.

the hospital geographic area level, not to the hospital-specific data. The post-reclassified wage index for an area cannot decline as a result of hospitals being reclassified into the area. CMS creates a special wage index for hospitals reclassified to an area if including a reclassified hospital were to result in the wage index for the area declining. However, if including the wage data for the reclassified hospitals would increase the area's wage index value, CMS assigns the area the higher wage index value that includes the reclassifying hospitals. In general, hospitals that reclassify are geographically located in an area with a lower wage index than the area where they are seeking reclassification. In most cases, the pre- and post- reclassified wage indices are the same.

Another feature of the HWI is the rural floor. Under the IPPS rural floor policy, no hospital in a metropolitan area of a State can have an HWI that is below the HWI for the non-metropolitan (or rural) area of the State. There is an imputed rural floor for states that do not have any hospitals in rural areas (69 FR 49109). In FY 2005, the wage index rural floor applied to 208 hospitals in 57 urban areas. The analysis for this report included neither the effect of reclassification nor the rural floor. Thus, for these reasons, the analysis of data used for this report would be different from the geographic adjustments applied to hospital payments using the HWI. These features of HWI could not be applied if data used for the HWI were mapped to physician localities for purposes of constructing a non-physician employee cost index in the GPCI.

Since FY 2005, an occupational mix adjustment according to section 1886(d)(3)(E) of the Act has been applied to the HWI data. The occupational mix adjustment is intended to adjust a hospital's average hourly wage to reflect a constant mix of labor and remove the effect of differences due to employing more or less of higher or lower paid staff. Further analysis of the applicability of the occupational mix data will be necessary to determine the impact of this issue on possible use of the HWI data for use in constructing the PE GPCI.

Data from the HWI may be appropriate for the PE GPCI, having many of the same desirable attributes of the Census wage data. Specifically, the HWI data have national coverage with data from virtually every Medicare participating acute care hospital and has a low marginal cost for use in the PE GPCI because the data are already collected, audited, edited, and compiled by CMS. However, there are tradeoffs that must be considered. Although the HWI data have several advantages relative to the Census wage data, they also have some disadvantages. One advantage of HWI data over the Census data is that the input data are updated annually. In theory, such data should track changes in wages more closely over the decade than the ACS data that will only be completed every 5 years. Another advantage is that it uses total compensation, which is employee salaries and fringe benefits (referred to as wage-related costs for purposes of the HWI). Fringe benefits are an important omitted variable in the Census wage data. We analyzed the MCR data used in the 2005 HWI and compared wage-related costs to employee salaries. We found that wage-related costs accounted for approximately 15 percent of employee total compensation.

Another advantage of the HWI data relative to Census and ACS data is its timeliness. While the wage data used in the HWI are 3 to 4 years old (because of the lag in cost reports, which depend on varying hospital fiscal years), the lag is shorter than the Decennial Census data compilation.

Wage data from the 2000 Census were not incorporated into the PE GPCI until 2005.¹⁵ It is not clear what the lag time will be for use of the ACS.

There are some potential disadvantages associated with the HWI data. As currently collected, the HWI data includes a number of occupations not typically found in a physician's office. Salaries for administrative service employees, nurses, and physical therapists should be similar for hospitals and physician practices that exist in the same labor market. Fringe benefits should also be similar. However, hospitals may employ a more expensive workforce than physician practices (e.g., hospitals tend to have more high level management positions, such as Chief Financial Officers (CFOs) and Chief Operating Officers, and nurses who work either the second or third shift in a hospital may receive a shift differential of 10 to 15 percent in some instances). This factor could inflate hospitals' average hourly wages. On the other hand, if hospitals employ a higher portion of low cost employees than physician practices (e.g., dietary, cafeteria, and housekeeping staff), hospital's average hourly wages could be deflated. But, if this inflation or deflation is uniform across localities, then it is only a scaling factor and should not affect the non-physician employee wage index, which measures relative wages across areas. Hospital workers also may be more likely to be unionized than physician office workers, and differentially across areas, which may raise the relative wage of hospital workers in highly unionized areas.

Appropriateness of HWI Data for the PE GPCIs

Using HWI data as the proxy for wages physician employees in the PE GPCI would require constructing a wage index using some or all the hospital-specific wage data collected for the HWI, and grouping that data according to where the hospitals are geographically located based on physician localities. While the HWI data could be considered for use in the PE GPCI, the actual HWI used for payment in the hospital payment system cannot be used; physician localities are not the same as hospital geographic areas, and reclassification is applied to the hospital geographic area index rather than to the hospital-specific data. Other Medicare services where the HWI data are used employ such data on a pre-reclassification and pre-rural floor basis.

Because hospital wage data are available at the hospital-specific level, CMS could construct an index using the hospitals actually located in each physician locality. One potential weakness to this approach is that, if the geographic unit is too small, there may be too few hospitals within the geographic area, thereby requiring wage data to be imputed. It is possible that there may only be one hospital in the market in small geographic units. Among physician localities, there are 13 localities with 10 or fewer hospitals and two localities with only two hospitals. As a result, it is possible that hospital wages in an area with few hospitals may be relatively low compared to other areas. This could occur because there could be fewer employment opportunities in these areas for occupations (e.g., specialized technicians) that are employed by hospitals but not typically employed by physicians' offices. However, there are mitigating factors. Occupations such as RNs that can also be employed in a physician's office could theoretically get a more competitive wage than those occupations that must be employed by the hospital. Most hospital employees would have employment opportunities outside the area; therefore, hospitals may have to pay wages sufficient to attract and retain their employees.

¹⁵ *Federal Register*, Vol. 69, No. 219, Monday, November 15, 2004, p. 66260-66261.

A proxy for the PE GPCI wage component using all the HWI data would include wages for certain categories of hospital employees that are not typically found in a physician's office. These include costs for non-teaching physician Part A services and some top management employees such as the hospital Chief Executive or Financial Officer (CEO or CFO). This problem is not easily or inexpensively overcome. Only a few wage categories such as physician Part A services (lines 4, 4.01 of worksheet S-3 Part II) are itemized on the MCR and can be deleted from the wage index. The vast majority of hospital employee wages including most nursing, physician assistant, and administrative staff salaries are aggregated into a hospital's total salaries. In the MCR, costs are reported by cost centers, not occupational categories. As a result, it is not possible, with currently available HWI data, to calculate wage indices that eliminate all or most of those occupations that are not found in physicians' offices. To do so would require a major revision to how hospitals report wage data and would be costly.

However, despite potential problems with the HWI data, there is precedent for using data from the HWI to adjust payment rates for other types of providers that may not use the same staff as IPPS hospitals. The HWI already is used to set payment rates for hospital outpatient services. A pre-reclassified, pre-rural floor, pre-occupational mix adjustment version of the HWI is used in payment systems for other types of providers including long term care hospitals, skilled nursing facilities, home health agencies, hospices, psychiatric hospitals, and rehabilitation hospitals. Further, including occupations in the HWI that are not employed in physicians' offices will only have an effect on the GPCI to the extent that it distorts the relative relationship among areas. If the geographic variation in average hourly wage among these occupations is the same as others included in the HWI, there would be no effect on final index value.

In the illustrative simulations presented below, we show the impact of using hospital wage index data based on the physician locality in which each hospital is physically located. Such simulations use data that are pre-reclassification, pre-rural floor and with the occupational adjustment used to calculate the FY 2005 wage index (i.e. 10 percent adjusted and 90 percent unadjusted for occupational mix based on the 2003 data collection). Further analysis is needed of the use of the occupational adjustment that will be used for the hospital payment system beginning in FY 2007.

BLS-OES Data

This section describes the BLS-OES data. We begin with a description of the OES data and an assessment of its appropriateness for the PE GPCI. Then we describe our methods of analyzing the data, including how we constructed a wage index for occupations employed in physicians' offices. In this subsection, we present data on the employment and wage bill shares of occupations employed in offices of physicians. In the next subsection, we present empirical comparisons for physician payment localities of the BLS-OES wage index and the current PE GPCI employee wage index. In the final subsection, we briefly discuss potential applications of the OES data to the physician work GPCI.

The BLS collects data on wages by area. The most promising source of BLS wage data for the PE GPCI is the OES series. This subsection describes the OES data and assesses its appropriateness for the PE GPCI.

BLS has been collecting employment data since the 1970s. In 1996, it began to collect wage data from each State. The OES series began in the mid-1990s with funding from the Employment Training Administration. The OES series is used in administration of the Foreign Labor Certification program. The OES program is now funded directly by Congress. The OES data in their current form are expected to be readily available into the future.

The sample frame for the OES survey is 6.5 million establishments, with one or more non-farm wage and salary workers, drawn from State unemployment insurance files. The total workforce covered by the sampling frame is approximately 130 million full-time or part-time wage and salary workers in nonfarm industries. The self-employed, owners and partners in unincorporated firms, household workers, and unpaid family workers are not included in the OES.

The actual sample surveyed consists of 1.2 million establishments over 3 years, which covers 70 percent of the employment in the sample frame. The number of individuals represented in the survey responses is approximately 90 million individuals. According to BLS, the OES has the largest sample size of any extant wage survey.

The OES survey collects straight-time, gross pay, exclusive of premium pay. Overtime and shift differentials are excluded. Estimates of mean and median wages and employment are reported. Fringe benefits are not collected, nor is total compensation.

OES data are collected and reported for over 700 occupational categories, categorized according to OMB's Standard Occupational Classification system. Occupational wage and employment estimates are produced by industry and area. Data for over 450 industry categories, including offices of physicians, are produced at the national level. Area wage and employment estimates are for all industries combined. BLS publishes area estimates for States and MSAs.

BLS does not publish separate estimates for the non-metropolitan parts of States. Wage estimates for State non-metropolitan areas are necessary to compute the PE GPCI for all payment localities. Therefore, we calculated indices only for payment localities that are either statewide or are contained within a single metropolitan area. One possibility to obtain these estimates is through special tabulations of the OES data conducted by BLS staff. A second possibility is to "back out," or infer, estimates for State non-metropolitan areas using BLS published mean wage and employment estimates for States and for within-State metropolitan areas.

BLS reports the OES data every 6 months based on the previous 3-year rolling survey cycle. It takes about 1 year for BLS to process the data. The most recent OES data available in May 2005 were the May 2004 estimates, which reflect data collected in 2002, 2003, and 2004. The earlier years' data are "aged" (updated) to the most recent year using Employment Cost Index wage inflation measures to put all the data in the same time frame. The OES data are completely updated every 3 years as BLS rotates through its entire sample of establishments.

BLS has the technical capability to report data specifically on wages of occupations employed in physicians' offices by area. But BLS does not routinely report, release, or even tabulate these data. In addition, BLS does not routinely tabulate and report data on a geographic basis--for example, MSAs and State non-metropolitan areas--that can be directly cross-walked to the

current physician payment localities. (BLS reports data by State and MSA, but not for State non-metropolitan areas.)

However, in their conversations with us, BLS staff indicated a willingness to discuss with CMS the possibility of providing special tabulations of the OES data that would be appropriate for the PE GPCI, for example, wages of employees in physicians' offices by occupation, by payment locality, or by State, MSA, and State non-metropolitan area. The cost of these special tabulations has not been estimated, but is not likely to be large because no additional primary data collection is required.

If the sample is restricted to offices of physicians, sample sizes will be much smaller than are available in the all-industry data. This will lead to larger random sampling error, especially in less populous payment localities. The greater industry specificity of physician office data must be balanced against the larger random error of a smaller sample size. It is possible that on balance all-industry wage estimates may be preferable to those for employees of physicians' offices alone.

Appropriateness for the PE GPCI

The BLS-OES data could be appropriate for the PE GPCI. They have good occupational and geographic detail and, through special tabulations, can be restricted to offices of physicians (although it may be preferable to use all-industry occupational wage estimates to obtain sufficient sample sizes by area for stable estimates). They have the largest sample size of any wage survey. They appear to be good quality data, reported by establishments, and are edited for validity. They are totally updated every 3 years, and are expected to remain available indefinitely. They are routinely produced by a U.S. government agency, are well-documented, and are available for no cost (data routinely posted on the BLS website) or low cost (special tabulations). The national occupational weights needed to produce an inter-area wage index are easily constructed and updated from this same data source and can be developed specifically for employees in physicians' offices.

However, identifying and implementing the most appropriate OES-based employee wage index will require further analysis. CMS would need to negotiate on an ongoing basis special tabulations of OES data with BLS because BLS does not make the entire OES dataset publicly available. Some critical data for the GPCI, e.g., for non-metropolitan areas and for offices of physicians by area, are not routinely published by BLS. Once these data were obtained, analysis would be necessary to determine the most appropriate components of the OES data to use for the employee wage index.

BLS also informed us about another major wage survey they conduct, the National Compensation Survey (NCS). The NCS has some advantages over the OES. It collects total compensation, not just wages. It also distinguishes level of work within an occupation, for example, supervisory versus nonsupervisory. NCS data are collected through personal interviewer visits, not mail/telephone. The disadvantages of NCS versus OES are that the NCS has less geographic and occupational detail and smaller sample sizes leading to greater random sampling error. OES produces estimates for more than 700 occupations across all States and 334 metropolitan areas, whereas NCS provides estimates for 450 occupations across

81 metropolitan areas and 73 non-metropolitan counties representing the United States and its nine Census Divisions. State estimates are not available from the NCS. Although we did not conduct a detailed analysis of the NCS, we believe that the OES is superior for the purposes of the PE GPCI, especially in its geographic detail and larger sample size. However, the NCS may be useful to validate the OES and to compare estimates of area variation based on total compensation and level of work versus those based on wages and occupation.

Analysis Methods and Shares of Occupations in Offices of Physicians

In order to analyze the implications of using BLS-OES data, we downloaded the November 2003 BLS-OES data available on the BLS website (www.bls.gov) and created an index of the wages of employees in physicians' offices. The index was created for States and metropolitan areas and for physician payment localities that are either statewide or contained within a single metropolitan area. We did not create index values for all payment localities because BLS does not routinely publish data for State non-metropolitan areas.

The first step in determining an office wage index is determining the occupational categories and their national wage bill share that should be included in the calculation. BLS publishes on its website national industry-specific employment and wage data. We accessed data for North American Industry Classification System code 621100 "Offices of Physicians." BLS publishes wage data both for broader, more aggregated occupational categories and for specific occupations within the broader categories.

Just three occupational categories – office and administrative support, healthcare practitioner and technical staff, and healthcare support – account for 93 percent of physician office employment. "Management" is the only other BLS category with more than 1 percent of physician office employment. "Business and Financial Operations," which includes accountants and auditors, accounts for only 0.9 percent of employment. "Computer and Mathematical Sciences," which includes computer programmers, network administrators, and computer support specialists, constitutes only 0.4 percent of employment. "Legal," which includes lawyers, accounts for only 0.02 percent of employment.

Some physician practices, especially large group practices, may employ larger proportions of employees outside of the administrative support and healthcare technical and support occupations. But taken as a whole, offices of physicians still overwhelmingly employ the occupations they traditionally have. The BLS-OES data do not support the argument that the current PE GPCI employee wage index seriously misrepresents the occupational mix employed by physician practices. Nevertheless, the BLS-OES data include a broader and more detailed set of occupations than has been used in the PE GPCI wage index.

The second step in constructing the BLS-OES physician office wage index is determining relative wages for each occupation by area. BLS reports only all-industry wages by area, not wages specifically for offices of physicians (although the latter may be available from BLS by special request).

The third step was multiplying the relative wage of each occupation by its national wage bill share and summing across occupations. This created a relative wage index value for each area. In some areas, BLS did not report the wages of all occupations due to insufficient sample sizes.

In these cases, we excluded that occupation from the wage index computation and renormalized the weights of the reported occupations so that they totaled 100 percent. In effect, this assumes that the relative wages of unreported occupations in an area equal the relative wages of reported occupations, probably a reasonable assumption since relative wages are highly correlated across areas.

As a final step, we normalized the BLS-OES wage index so that the national average weighted by practice expense relative value units was 1.00. Puerto Rico, the Virgin Islands and Guam were excluded from the national average. The PE GPCI employee wage index was normalized to the same national average for comparison.

Comparison of Indices Based on Hospital Wage Data and BLS OES Wage Data to PE GPCI Employee Wage Data

For the purposes of this comparison, we created, at the physician locality and state levels, an illustrative wage index based on hospital-specific wage and hours data that are used in constructing the HWI. The hospital wage data used for this analysis includes neither the geographic reclassification nor the rural floor. In making this comparison, methodologically, we first aggregated total hospital wages and hours in each physician payment locality to compute a physician payment locality hourly wage. We then calculated the weighted hourly wage for each physician payment locality by multiplying the hourly wage by total PE RVUs in the locality. Next, we summed the PE RVUs across all localities. The ratio of these two numbers is the weighted mean of hospital wages. Finally, we divided all the locality wages by this mean to get a wage index normalized to 1.00. We created the index such that the national average equaled one after excluding Guam, Puerto Rico, and the Virgin Islands.

In addition to the locality index, we constructed a state level hospital wage index. The methodology was very similar to that for physician payment localities, except the hourly hospital wage was calculated for each individual state and then the state hourly wages were weighted by the state total PE RVUs to create the index. In both cases, the hourly wages were weighted by PE RVUs.

For each locality, the employee wage index component of the PE GPCI was imputed using the overall PE GPCI index for 2006, the office rental index, and the GPCI cost shares reported in the August 5, 2004, *Federal Register*.¹⁶

In comparing the current PE GPCI with any alternative data sources or index construction methods, it is important to note several important caveats. All results presented here are illustrative. Index construction methods presented here are not necessarily the methods that would be used by CMS if it were to use data from these alternative sources. The data used to construct the wage indices based on the Medicare HWI data and the BLS-OES data are not from the same year as the 2006 GPCI data. Wage data change over time. Any correct comparison would need to use data from the same year. Furthermore, in the construction of the HWI-based

¹⁶ Table 5 of the August 5, 2004 *Federal Register* describes the structure of the PE GPCI: 2006 practice expense GPCI) = 0.428*(employee wage index) + 0.279 (office rent index) + 0.293. Therefore, the employee wage index for each locality can be backed out using these results.

index, counts of PE RVUs are critical in order to correctly scale the resulting index. These counts can change over time. Consequently, any estimated changes for 2006 are not reflective of what results would be in a subsequent year and are clearly not reflective of any actual proposal that could result using alternative data sources.

Table 4-1 illustrates what the impact might be of moving from the current employee wage data to using data from the Medicare HWI or the BLS-OES as the proxy for wages in the PE GPCI.

Table 4-1
Illustrative Impact on Payment of Using Alternative Data Sources

| State | Physician Payment Locality | 2005 Individual Hospital HWI data | Imputed 2006 GPCI Employee Wage Index | 2003 BLS OES Wage Index | Percent Payment Impact Using Hospital Data | Percent Payment Impact Using BLS- OES Data |
|----------------------|----------------------------|--|--|-------------------------------------|---|--|
| Alaska | | 1.184 | 1.078 | 1.143 | 1.83% | 1.13% |
| Alabama | | 0.835 | 0.864 | 0.862 | -0.63% | -0.04% |
| Arkansas | | 0.828 | 0.838 | 0.854 | -0.22% | 0.36% |
| Arizona | | 0.963 | 0.957 | 0.963 | 0.11% | 0.12% |
| California | | 1.199 | 1.123 | 1.152 | 1.27% | 0.49% |
| | Ventura, CA | 1.104 | 1.083 | 1.097 | 0.36% | 0.24% |
| | Santa Clara, CA | 1.466 | 1.337 | 1.332 | 1.80% | -0.07% |
| | San Mateo, CA | 1.456 | 1.368 | -- | 1.20% | -- |
| | San Francisco, CA | 1.459 | 1.387 | -- | 0.97% | -- |
| | Rest of California | 1.115 | 1.038 | -- | 1.38% | -- |
| | Oakland/Berkeley, CA | 1.513 | 1.287 | 1.260 | 3.28% | -0.39% |
| | Marin/Napa/Solana, CA | 1.391 | 1.217 | -- | 2.67% | -- |
| | Los Angeles, CA | 1.170 | 1.130 | 1.144 | 0.66% | 0.23% |
| | Anaheim/Santa Ana, CA | 1.154 | 1.148 | 1.133 | 0.10% | -0.24% |
| Colorado | | 1.020 | 0.979 | 1.043 | 0.79% | 1.22% |
| Connecticut | | 1.168 | 1.218 | 1.171 | -0.77% | -0.72% |
| District of Columbia | | 1.132 | 1.184 | 1.152 | -0.82% | -0.50% |
| | DC and MD/VA suburbs | 1.113 | 1.184 | 1.131 | -1.11% | -0.84% |
| Delaware | | 1.068 | 1.064 | 1.044 | 0.07% | -0.35% |
| Florida | | 0.945 | 0.928 | 0.945 | 0.35% | 0.35% |
| | Rest of Florida | 0.917 | 0.904 | -- | 0.27% | -- |
| | Miami, FL | 0.998 | 0.978 | -- | 0.39% | -- |
| | Fort Lauderdale, FL | 0.997 | 0.961 | -- | 0.71% | -- |
| Georgia | | 0.931 | 0.952 | 0.959 | -0.41% | 0.13% |
| | Rest of Georgia | 0.892 | 0.895 | -- | -0.06% | -- |
| | Atlanta, GA | 0.994 | 1.048 | -- | -0.96% | -- |
| Hawaii/Guam | | 1.084 | 1.122 | -- | -0.63% | -- |

| | | | | | | |
|-----------------------|------------------------------|-------|-------|-------|--------|--------|
| Iowa | | 0.896 | 0.878 | 0.884 | 0.37% | 0.13% |
| Idaho | | 0.913 | 0.873 | 0.893 | 0.85% | 0.43% |
| Illinois | | 1.008 | 1.032 | 0.979 | -0.43% | -0.95% |
| | Suburban Chicago, IL | 1.043 | 1.102 | 1.038 | -1.00% | -1.09% |
| | Rest of Illinois | 0.891 | 0.887 | -- | 0.07% | -- |
| | East St. Louis, IL | 0.820 | 0.933 | -- | -2.27% | -- |
| | Chicago, IL | 1.089 | 1.128 | 1.038 | -0.65% | -1.49% |
| Indiana | | 0.930 | 0.933 | 0.924 | -0.06% | -0.18% |
| Kansas | | 0.901 | 0.883 | 0.892 | 0.39% | 0.19% |
| Kentucky | | 0.843 | 0.879 | 0.890 | -0.76% | 0.23% |
| Louisiana | | 0.838 | 0.884 | 0.853 | -0.97% | -0.65% |
| | Rest of Louisiana | 0.817 | 0.866 | -- | -1.05% | -- |
| | New Orleans, LA | 0.898 | 0.951 | 0.906 | -1.04% | -0.88% |
| Massachusetts | | 1.116 | 1.144 | 1.140 | -0.46% | -0.07% |
| | Rest of Massachusetts | 1.063 | 1.078 | -- | -0.26% | -- |
| | Metropolitan Boston | 1.164 | 1.216 | 1.180 | -0.80% | -0.55% |
| Maryland | | 0.992 | 1.070 | 1.082 | -1.36% | 0.21% |
| | Rest of Maryland | 0.943 | 0.936 | -- | 0.14% | -- |
| | Baltimore, MD and suburbs | 0.984 | 1.067 | 1.047 | -1.45% | -0.35% |
| | DC and MD/VA suburbs | 1.113 | 1.184 | 1.131 | -1.11% | -0.84% |
| Maine | | 0.955 | 0.934 | 0.950 | 0.43% | 0.33% |
| | Southern Maine | 1.005 | 0.974 | -- | 0.59% | -- |
| | Rest of Maine | 0.930 | 0.904 | -- | 0.54% | -- |
| Michigan | | 0.991 | 1.023 | 1.016 | -0.59% | -0.13% |
| | Rest of Michigan | 0.951 | 0.957 | -- | -0.13% | -- |
| | Detroit, MI | 1.035 | 1.084 | -- | -0.85% | -- |
| Minnesota | | 1.070 | 1.020 | 1.057 | 0.92% | 0.68% |
| Missouri | | 0.884 | 0.884 | 0.929 | -0.01% | 0.94% |
| | Rest of Missouri | 0.821 | 0.802 | -- | 0.44% | -- |
| | Metropolitan St. Louis, MO | 0.927 | 0.949 | 0.943 | -0.42% | -0.12% |
| | Metropolitan Kansas City, MO | 0.959 | 0.980 | 0.938 | -0.40% | -0.80% |
| Mississippi | | 0.792 | 0.856 | 0.851 | -1.39% | -0.11% |
| Montana | | 0.893 | 0.814 | 0.832 | 1.82% | 0.41% |
| North Carolina | | 0.929 | 0.946 | 0.959 | -0.34% | 0.26% |
| North Dakota | | 0.811 | 0.846 | 0.845 | -0.77% | -0.02% |
| Nebraska | | 0.960 | 0.887 | 0.897 | 1.54% | 0.21% |
| New Hampshire | | 1.024 | 0.981 | 0.999 | 0.81% | 0.34% |
| New Jersey | | 1.117 | 1.186 | 1.117 | -1.08% | -1.08% |
| | Rest of New Jersey | 1.064 | 1.114 | -- | -0.83% | -- |
| | Northern NJ | 1.157 | 1.236 | -- | -1.20% | -- |
| New Mexico | | 0.967 | 0.887 | 0.912 | 1.69% | 0.53% |
| Nevada | | 1.093 | 1.026 | 1.040 | 1.23% | 0.26% |
| New York | | 1.186 | 1.181 | 1.111 | 0.09% | -1.11% |

| | | | | | | |
|-----------------------|---------------------------------------|-------|-------|-------|--------|--------|
| | Rest of New York | 0.883 | 0.948 | -- | -1.29% | -- |
| | Queens, NY | 1.337 | 1.222 | 1.218 | 1.76% | -0.06% |
| | Poughkeepsie, Northern NYC suburbs | 1.051 | 1.040 | -- | 0.19% | -- |
| | NYC Suburbs, Long Island, NY | 1.313 | 1.265 | -- | 0.71% | -- |
| | Manhattan, NY | 1.402 | 1.365 | 1.218 | 0.50% | -2.01% |
| Ohio | | 0.931 | 0.964 | 0.952 | -0.64% | -0.23% |
| Oklahoma | | 0.846 | 0.858 | 0.846 | -0.27% | -0.26% |
| Oregon | | 1.090 | 0.988 | 1.045 | 1.94% | 1.09% |
| | Rest of Oregon | 1.034 | 0.939 | -- | 1.90% | -- |
| | Portland, OR | 1.146 | 1.097 | 1.100 | 0.83% | 0.05% |
| Pennsylvania | | 0.935 | 0.981 | 0.961 | -0.87% | -0.38% |
| | Rest of Pennsylvania | 0.873 | 0.926 | -- | -1.08% | -- |
| | Metropolitan Philadelphia, PA | 1.080 | 1.125 | 1.062 | -0.74% | -1.05% |
| Rhode Island | | 1.099 | 1.032 | 1.063 | 1.21% | 0.56% |
| South Carolina | | 0.916 | 0.919 | 0.920 | -0.07% | 0.02% |
| South Dakota | | 0.891 | 0.853 | 0.868 | 0.82% | 0.33% |
| Tennessee | | 0.897 | 0.899 | 0.913 | -0.03% | 0.29% |
| Texas | | 0.927 | 0.918 | 0.948 | 0.17% | 0.61% |
| | Rest of Texas | 0.883 | 0.855 | -- | 0.62% | -- |
| | Houston, TX | 1.006 | 1.031 | 0.984 | -0.45% | -0.85% |
| | Galveston, TX | 0.934 | 0.968 | 0.905 | -0.66% | -1.22% |
| | Fort Worth, TX | 0.952 | 0.970 | 1.017 | -0.34% | 0.91% |
| | Dallas, TX | 0.998 | 1.045 | 1.017 | -0.83% | -0.50% |
| | Brazoria, TX | 0.849 | 0.928 | 0.920 | -1.59% | -0.16% |
| | Beaumont, TX | 0.856 | 0.883 | 0.849 | -0.58% | -0.72% |
| | Austin, TX | 0.963 | 0.973 | 1.004 | -0.19% | 0.60% |
| Utah | | 0.934 | 0.897 | 0.920 | 0.78% | 0.48% |
| Virginia | | 0.932 | 0.960 | 0.988 | -0.55% | 0.56% |
| | Virginia locality | 0.906 | 0.919 | -- | -0.26% | -- |
| | DC and MD/VA suburbs | 1.113 | 1.184 | 1.131 | -1.11% | -0.84% |
| Vermont | | 0.929 | 0.943 | 0.986 | -0.28% | 0.85% |
| Washington | | 1.089 | 1.055 | 1.109 | 0.60% | 0.96% |
| | Seattle (King County), WA | 1.141 | 1.161 | 1.174 | -0.33% | 0.21% |
| | Rest of Washington | 1.064 | 1.012 | -- | 0.95% | -- |
| Wisconsin | | 0.969 | 0.951 | 0.983 | 0.35% | 0.63% |
| West Virginia | | 0.837 | 0.828 | 0.822 | 0.21% | -0.14% |
| Wyoming | | 0.912 | 0.832 | 0.867 | 1.79% | 0.79% |

We looked at the correlation between the three indices: an index based on the hospital specific wage data used to construct the HWI, an index based on the BLS-OES wage data, and the employee wage index component of the PE GPCI. A priori there should be a high correlation between the three indices because they all measure regional variation in healthcare employee

wages. However, the correlation should not be perfect because the sources of data are different, the years of the data are different, the cost shares are different, and different levels of aggregation of the data and different labor categories are used. In fact, all three indices are highly correlated. The pair-wise unweighted correlation for all payment localities between the three indices is greater than .93; the weighted correlations are always greater than .94.

The most important issue is how a switch from the current data used in the PE GPCI wage component to hospital wage or BLS-OES data would affect total payment in different physician localities. The employee wage index is only one component of the PE GPCI. As noted above, it comprises approximately 43 percent of the PE GPCI. Therefore, the effect of using any alternative data sources in the construction of the PE GPCI would only be less than half the effect of the change in the employee wage index. Furthermore, the PE GPCI contributes only 44 percent of the geographic adjustment that is used in the fee schedule. Thus, employee wages represent 18.7 percent of the average physician's fee. Therefore, a 1 percent change in the employee wage index would result in a change in the average fee of approximately 0.187 percent.

Our illustrative impacts show that the impact of using alternatives to the current data would likely generally be minimal. If the hospital-specific data used for the HWI were to be used, in lieu of data currently used, to proxy physician employee wages differences among areas, 44 localities (including statewide localities) would see an increase in aggregate Medicare physician payments, 9 of which would see increases of more than 1 percent. Forty-five localities would see decreases in aggregate Medicare physicians payments, 13 of which would see decreases of more than 1 percent. At the State level, 26 States would see an increase in aggregate Medicare physician payments, 9 of which would see increases of more than 1 percent. Twenty-five States (and the District of Columbia) would see decreases in aggregate Medicare physicians payments, three of which would see decreases of more than 1 percent. Payments in a number of rural areas would increase but payments would also decrease in a number of rural areas.

If the BLS-OES data were used, 33 States would see increases, but only 3 would see increases of more than 1 percent and 17 would see decreases. Only two States would see decrease of more than 1 percent. In addition, the direction of the simulated impact is often the same using either of the two data sources. The direction of the change is the same for 37 States. Because of the way that the BLS-OES data are collected, analysis could not be done at the locality level.

This analysis used hospital wage data used to construct the FY 2005 HWI. The hospital wage data for the FY 2005 HWI is 10 percent adjusted and 90 percent unadjusted for occupational mix based on information collected in 2003. Beginning with the FY 2007 wage index, CMS will apply a 100 percent occupational adjustment to hospital wage data using occupational mix survey data collected in 2006. As such, the analysis presented here is preliminary and illustrative and should not be taken to be representative of impacts using occupationally adjusted hospital wage data were such an option to be adopted in the future.

Conclusion

The Census Bureau is discontinuing the Decennial Census long form. Three possible alternative data sources are the ACS, the Medicare Hospital Wage data, and the BLS-OES data. In its response to the recent GAO report pertaining to the GPCIs, the Department responded as follows:

“CMS has consistently sought valid, representative data sources that are more current than the decennial census in the past GPCI updates. This was stated in our final rule, published on November 15, 2004 (page 66262). As the report indicates, the ACS is still under development. The earliest the ACS data would be available would be 2010, and we plan to review the ACS as a potential data source at that time. While the ACS is a very interesting possibility to consider for future use, such use would be years away. Without any analysis of survey results, the recommendations for “developing a plan for transitioning” to ACS seems premature”¹⁷

The discussion presented here does not imply that ACS should be endorsed as a successor to the Decennial long form data. Similarly, we are not endorsing either the hospital wage data or the BLS-OES data as successors to the Decennial long form data. As with the refinement of the MEI, CMS routinely updates the GPCI. As part of the refinement process, CMS investigates existing data to determine what sources of data would be most useful and accurate for this process. At that time, CMS will evaluate the existing data sources,

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SECTION 5: OFFICE RENTS AND OTHER EXPENSES

Office Rents

The physicians in Iowa and Maine were concerned about the accuracy of the PE GPCIs office rental proxy, HUD’s Fair Market Apartment Rents (FMRs). As many observers have, they questioned the face validity of using relative apartment rents to proxy relative physician office rents. Nevertheless, some meeting participants noted that use of the apartment rental proxy may be valid and may benefit rural areas. Participants suggested few sources of data on office rents or values but they did discuss the option of property tax rolls. This was determined not to be feasible by both the meeting participants and us.

The Government Accountability Office (GAO) has also recently reviewed the GPCIs¹⁸ and noted the greater face validity of an index of commercial rents. GAO recommended that CMS evaluate the index of standardized USPS rental costs constructed by Anthony M. Yezer. Postal Service rental data have previously been evaluated by CMS,¹⁹ but that report is over 10 years old and

¹⁷ GAO Report, GAI-05-119 (March 2005). “Geographic Adjustment Indices are Valid in Design, but Data and Methods Need Refinement,” page 44.

¹⁸ GAO Report, GAI-05-119 (March 2005). “Geographic Adjustment Indices are Valid in Design, but Data and Methods Need Refinement.”

¹⁹ Dayhoff, DA and GC Pope, 1994, Comparison of GPCI Rental Index to Three Sources of Commercial Office Rents. Final Report to the Health Care Financing Administration under Contract No. 500-89-0050. Waltham, MA: Center for Health Economics Research.

does not evaluate Professor Yezer's quality-adjusted rental index. Given that other sources of data on commercial office rents contain information on only a limited number of geographic areas, we believe that the postal rental data are the best available source to measure geographic variation in commercial rents.

HUD Fair Market Rents

FMRs determine the eligibility of rental housing units for the Section 8 Housing Assistance Payments program. Section 8 Rental Certificate program participants cannot rent units whose rents exceed the FMRs. FMRs also serve as the payment standard used to calculate subsidies under the Rental Voucher program. HUD annually estimates FMRs for metropolitan areas and non-metropolitan county FMR areas.

Advantages and Disadvantages for the PE GPCI. The advantages of the HUD FMRs for the PE GPCI office rental index are that the FMRs are available with a consistent methodology for all physician payment localities, including both urban and rural areas. They are adjusted for apartment size and quality, albeit imperfectly. Moreover, they are produced and annually updated by a government agency using a publicly documented methodology and are available at no cost to CMS. Although the FMRs measure apartment rents, some physicians' offices are located in residential buildings and areas, and many of the same factors (e.g., population density) that affect residential rents should affect commercial rents. The HUD FMRs have been compared to several measures of commercial rents and were highly correlated across areas for which both rents were available. In addition, Gillis et al.²⁰ found that the rent component of the PE GPCI explained a reasonable share of office expenses per square foot. The sample sizes of buildings on which the FMRs are based greatly exceed the number of buildings reflected in commercial rental measures. This means that the FMRs coverage and representation of rents in an entire area is much better than that of commercial rental sources, and that the FMRs are subject to much less random statistical error.

The disadvantage of the FMR is that it is a proxy measure that does not necessarily reflect the relative office rents paid by physicians' practices, or the type of buildings or areas in which physicians' offices are located. Moreover, their adjustments for apartment size and quality are limited.

USPS Rental Data

USPS maintains a file containing cost and square footage data on buildings it leases nationwide. This file contains usable information on roughly 25,000 leased buildings. These buildings are primarily local post offices dealing with the public, although distribution centers and office buildings are included. Information available includes whether the building is leased or owned, the date the lease was effective or the building was purchased, interior square footage, annual rent or purchase price, and building location (ZIP Code).

²⁰ Gillis, K., R. Willke and R. Reynolds (Fall 1993). "Assessing the Validity of the Geographic Practice Cost Indices." *Inquiry* 30(3):pp. 265-280.

Dayhoff and Pope²¹ found that geographic coverage of the USPS rental data is better than other sources of commercial rental data, which tend to focus on a limited number of large cities. In fact, because of the large number of rural post offices, coverage of rural areas is especially good. Moreover, post offices are widely dispersed into small commercial and residential areas, which may have similarities to where physicians locate their offices.

As a data source, the USPS does have a number of distinct limitations. The post office buildings are not necessarily a nationally or locally representative sample of commercial office rents, nor are they a representative sample of the buildings where physicians locate their offices. Moreover, the number of postal buildings available to measure rents, although good in comparison to other sources of commercial rents, is nevertheless quite limited. Dayhoff and Pope (1994) found that virtually all counties had fewer than 100 leased postal buildings and most had 10 or fewer. This compares to the thousands (tens of thousands in larger counties) of apartments on which the HUD FMRs are based in a typical urban county. And although there would be more postal buildings in a rural locality than in a county, the numbers would still be quite small relative to the HUD FMR data counts.

In the early 1990s, CMS (then Health Care Financing Administration) contracted with Health Economics Research, Inc., to evaluate sources of commercial office rents versus the HUD FMRs for the PE GPCI. One conclusion was that rental indices constructed from postal rents are subject to a significant amount of random error. For example, with a sample of 100 postal rents, about one-third of the time, the calculated index for an area whose true index was 1.00 would be less than 0.93 or greater than 1.07. The study concluded that a sample size of several hundred buildings per payment locality was necessary to measure a rental index with any precision. The statistical precision of the HUD FMR rental index was considerably better than the postal index.

The study found that the differences between relative HUD FMRs and relative postal rents across five urban-rural population size categories were quite small. In particular, relative apartment and postal rents were quite similar in non-metropolitan areas. However, postal rents were 10 percent higher than HUD FMRs in the Northeast, but 13 percent lower in the Midwest. Post office and FMRs were highly correlated across States, but relative postal rents had a greater range. Dayhoff and Pope (1994) attributed this to greater random variation in the postal rents given that 11 States contained fewer than 100 post office buildings in the sample, and another 7 contained between 100 and 200 buildings. A similar situation existed for large metropolitan areas (population of 1 million or more), where the correlation was high, but the postal rents exhibited greater dispersion and index values could be quite different for particular areas. In particular, the postal rents were relatively much higher in New York City, as were other measures of commercial rents. The postal rental data were determined to be inferior to the HUD FMRs for the PE GPCI, largely because of the much smaller sample size, and hence larger random variation of the postal rental index. There may be a trade-off in considering different data sources between precision and the accuracy of the data in tracking commercial rents.

²¹ Dayhoff, DA and GC Pope, 1994, Comparison of GPCI Rental Index to Three Sources of Commercial Office Rents. Final Report to the Health Care Financing Administration under Contract No. 500-89-0050. Waltham, MA: Center for Health Economics Research.

Quality-Adjusted Postal Rental Index.

The purpose of the Yezer analysis, done under contract with the USPS, is to help in setting appropriate fees for the post office box service, i.e., Post Office boxes. This application requires estimation of standardized rental costs for individual postal facilities down to the ZIP Code level. Using these data, Yezer estimates statistical models in which the dependent variable is rent per square foot and the independent variables include location, lease characteristics (particularly date endorsed and length), size, characteristics of the facility, and census tract attributes. The result is a system of equations that can be used to predict rent per square foot for any facility located within the United States.

However, as originally developed, this approach is not appropriate for the GPCI, because it predicts rents for facilities with particular attributes and qualities, while for the PE GPCI office rental index the goal is to produce a constant-quality index for a payment locality.

To test his methodology, Yezer developed quality-constant adjusted rental amounts for selected metropolitan areas. Because the USPS facility database contains variables measuring total rent, lease terms, location, and facility attributes, it has all the information necessary to construct a constant-quality office rental index of the type required by the PE GPCI rental index. One additional advantage of the facility database is that USPS standards for facilities tend to ensure a minimum level of quality for each observation, and the normal variation in rent based on tenant characteristics, both creditworthiness and effect on other building tenants, is held constant. Finally, most lease terms are uniform because USPS lease criteria have been relatively standardized compared with the general population of commercial leases.

The general pattern of index construction from the database involves estimation of an equation for the entire country, where indicators are inserted to differentiate location by county or county group. Other relevant variables are included in the estimation. The estimated coefficients of the location variables can then be transformed directly into a measure of the percentage difference between rental prices for offices with constant quality, in different locations across the country.

We have empirical comparisons of alternative rental indices for 22 large cities. These results are compared to a HUD FMR index and a quality-adjusted apartment rental index based on the American Housing Survey. The postal and FMR indices appear to be highly correlated, but nevertheless produce significantly different index values for several cities, even in this small sample.²²

Evaluation of the Postal Rental Data and Quality-Adjusted Index.

The postal lease data may be useful as a source for the PE GPCI office rental index. As commercial, rather than residential rent data, they may have greater face validity to physicians than the FMR apartment rents.

We do have serious reservations about the postal data. As described above, the sample sizes of postal buildings are much smaller than the number of apartments on which the FMRs are based. Although a postal rental index is arguably subject to less systematic error in measuring physician

²² These results are in the RTI report that is available from CMS.

office rents than a residential rent index based on the FMRs, it is subject to greater random error. The greater random error of a postal rental index may degrade its accuracy to the point where it is less accurate overall than the FMR residential rent index. The quality-adjusted rental index does have conceptual appeal. The index values provided us for a sample of 22 cities are not implausible. However, we have not obtained results on enough geographic areas to fully evaluate the approach. We would need data from post offices from all geographic localities to determine whether this approach is feasible.

A concern is that the data and methods are essentially proprietary. It is not clear to what extent CMS would be able to establish an ongoing relationship with Yezer to obtain rental index values for the PE GPCI on a timely and consistent basis. It may be possible, however, for CMS to obtain data from the USPS for all geographic localities and perform similar analyses. This would be a very time intensive process. We do know that it has taken Yezer many years to construct the dataset. Currently, we do not have access to the data for all geographic localities.

Supplies, Equipment, and Miscellaneous Expenses

The component of the PE GPCI that reflects expenses for supplies, equipment, and miscellaneous inputs accounts for slightly less than one-third of the overall index. Based on conversations with medical equipment and supply firms, researchers concluded that no credible data existed that could measure variation in these input prices.²³ On the other hand, it appeared that the basic prices for these inputs did not vary across geographic areas. Miscellaneous inputs were so heterogeneous that there did not appear to be any price data that could measure geographic differences in this category of expenses. Therefore, the PE GPCI assumes that input processes related to supplies, equipment, and miscellaneous expenses do not vary across physician payment localities.

This assumption was discussed at both the Iowa and Maine meetings. Physicians from these rural areas asserted that certain goods and services that they need to purchase to run their practices were more expensive than in urban areas. One issue that was raised related to equipment repairs. Maine physicians believed that they had to pay a surcharge to get service technicians to travel from the Boston area to Maine. No documentation of this claim could be provided at the meeting and none has been provided subsequently. After extensive discussion in both of the localities that we visited, the physicians agreed that the assumption of uniformity across areas in the prices of these inputs seemed reasonable.

One possible explanation for the perception that equipment costs are higher in rural areas is that rural physicians may not have a high enough volume of patients to recover the essentially fixed costs of medical equipment. However, this issue is not directly related to the PE GPCI and how it is constructed.

²³ Welch, WP, S Zuckerman, G Pope, 1989, The Geographic Medicare Economic Index: Alternative Approaches. Report to the Health Care Financing Administration under Grants Nos. 18-C-98326/1-01, 17-C-99222/3-01, and 17-C-98758/1-03. Washington, DC: The Urban Institute.

Conclusions

In its response to the recent GAO report pertaining to the GPCIs, the Department responded as follows:

“To date, we have explored numerous alternative rental data sources including: the U.S. Postal Services, General Services Administration, Internal Revenue Service, etc. None of these sources contained sufficient data for nonmetropolitan areas, nor did any contain data for all metropolitan areas.

The alternative commercial rent data sources we have examined to date are not reflective of the average commercial space in the area, but rather the particular type of space most relevant to the needs of the particular source’s clients. Additionally, none of the data sources contained sufficient sample sizes at the county level.

While we recognize that apartment rents are not a perfect proxy for physician office rents, there are no existing national studies that present reliable retail and business rental data. Additionally, the GPCIs measure relative differences among areas and we believe that commercial rents will generally vary among areas as residential rates vary.”²⁴

Clearly, there are many shortcomings to the analysis of the USPS data. Furthermore, the postal rental data do not address the issue of basing the PE GPCI office rental index on “proxy” data. In addition, more data would have to be collected and more analyses would have to be performed before any determination could be made about the method. Additionally, the analysis method is new and has not been used to generate an index for all localities. Therefore, this method must be considered as something that could only be considered as a potential refinement in the future and not as something that could be used in shorter-term refinement of the PE GPCIs. CMS will continue to consider all potentially useful data sources when considering revisions to the PE GPCIs.

No credible data to measure area variation in prices of supplies, equipment, and other expenses appear to exist. Given the widespread availability of these practice inputs, and their mobility across areas, it is unlikely that major price differentials would persist. Although participants in the Iowa and Maine meetings raised some issues about these inputs, in the end, they did not seem uncomfortable with continuing the existing policy of no geographic adjustment for these input prices.

SECTION 6: DISCUSSION AND SUMMARY OF RECOMMENDATIONS

The meeting participants had a number of concerns relevant to Medicare physician payment in rural areas. While a number of the concerns were PE GPCI issues, a number of them were not. Instead, they were about different types of expenses or challenges encountered in rural areas. A full analysis of these issues is beyond the scope of this report. We do, however, summarize the major comments of this type communicated at the meetings.

²⁴ GAO Report, GAI-05-119 (March 2005). “Geographic Adjustment Indices are Valid in Design, but Data and Methods Need Refinement,” pages 44-45.

Issues Directly Related to PE GPCI Data

Practice Cost Shares

The meeting participants were concerned about the accuracy of percents of overall practice costs and practice cost shares allocated to non-physician employee wages, office rents, equipment and supplies and other. The meeting participants did argue that practice cost shares, as measured by the 1998 AMA-SMS survey data, were no longer accurate. They further expressed their opinions that cost shares in rural practices differ from cost shares in more urban areas. Cost shares are important because these percentages are used to weight the components that measure the cost variation in the payment localities. The weights determine the degree to which the final index tracks each of the components. The practice cost shares for the PE GPCI are the same as the practice costs shares used for the MEI. Thus, data sources for practice cost shares need to serve both purposes.

As part of this study, with cognizance that the AMA will no longer be conducting its survey, we examined MGMA data on practice cost shares. We recognize that these data need to be used cautiously. The sample sizes are small, we are unable to control for specialty differences across communities and the MGMA data contain no information on small, non-group practices. It is difficult to make a rigorous comparison between the AMA and MGMA data on cost shares. Our analysis shows differences in the sizes of the component shares computed from the two datasets. To the extent that these data appear credible and are viewed favorably within the physician community the MGMA data are worthy of consideration as a potential source for practice cost shares.

The second area of concern was related to the accuracy of the geographic variation in the practice costs allocated to the three components. We investigated this issue with respect to non-physician employee wages, and office rent.

Non-Physician Employee Wages

Because the Decennial Census long form is being discontinued, alternative data will have to be used to determine the non-physician employee wage component of the PE GPCI. No geographic data pertaining to this issue were brought to the meetings by the participants. The data used in the Hospital Wage Index was mentioned as a possibility. Other options for consideration are: ACS from the Bureau of the Census, and OES data from BLS.

For illustrative purposes, we compared the non-physician employee component of the PE GPCI to indices constructed from data used in computing the Medicare HWI, and indices constructed from BLS-OES data. The hospital wage data used for this analysis excluded the application of geographic reclassification and the rural floor. The illustrative analysis suggests that the differences among the three indices are small for most payment localities. The important issue, however, is the impact of any changes of overall payment. When the localities are aggregated up to the State level, the estimated effect on payments is usually less than 1 percent. At the locality level, the majority of changes are also less than 1 percent. Overall, there are not large differences in index values whichever data source is used for calculation of the employee wage index. These results are not qualitatively different from those derived from the Decennial Census data. Rural physicians are concerned about the levels of payment in their payment localities. Use of these

alternative data sources would result in increases in payments for some rural areas, but also decreases in payments in other rural areas.

Physician Office Rents

The objection to “proxy” data in the GPCI has been raised most strongly with regard to the PE GPCI's measure of relative office rents. Many physicians and other observers may not find the current PE GPCI's measure of relative residential apartment rents to have good face validity. A measure of relative commercial rents could be a more appropriate measure of relative physician office rents. Using data maintained by the USPS, we have performed some limited analyses to create a postal rental index using lease costs of postal buildings. For the 22 cities analyzed, the correlations between the index based on the FMR data and the index based on the USPS data is high. But we do not have enough data to analyze the results for all payment localities. In addition, these data would not rectify the concern that the data are proxy data. Here, we would be exchanging one set of proxy data for another set of proxy data.

Supplies, Equipment, and Miscellaneous Expenses

No credible data to measure area variation in prices of supplies, equipment, and other expenses appear to exist. Given the widespread availability of these practice inputs, and their mobility across areas, it is unlikely that major price differentials would persist. Although participants in the Iowa and Maine meetings raised some issues about these inputs, in the end, they did not seem uncomfortable with continuing the existing policy of no geographic adjustment for these input prices.

Additional Issues in Rural Physician Practice

The concern in rural areas is that the low supply of physicians relative to urban areas could result in health care access problems for rural residents. If there were evidence that Medicare payment systems (e.g., the PE GPCI) exacerbated these problems then arguments for altering the PE GPCI or other parts of the payment system could be strengthened. However, the Medicare Payment Advisory Commission (add citation) examined data on access for Medicare beneficiaries in urban and rural areas and found no differences with respect to having a usual source of care or doctor, getting care, delays in care, or needing a doctor but being unable to see one. In addition, a recent study by the Center for Studying Health System Change (Reschovsky and Staiti, 2005) showed that median nominal physician incomes were quite comparable in urban and rural areas. Nevertheless, practicing in a rural community may be quite different than practicing in an urban community, and physicians devoted significant portions of the meeting time to issues faced by rural physician practices that were not directly related to the PE GPCI.

Most of the areas of discussion pertained to levels of payment and access. They argued that rural medicine has a number of unique characteristics that have cost implications for their practices. For example, they argued that because of the lack of other available physicians, their on-call time is greater than on-call time for less non-rural physicians and that their travel time is greater. In addition, rural physicians claim that their practices need to maintain outreach offices in multiple locations to generate the patient volume they need for their practices. These offices are staffed by physician assistants and other non-physician employees.

The meeting participants expressed concerns about the effectiveness of HPSA payments. The purpose of HPSA payments is to encourage physicians to practice in rural areas with few physicians by increasing the Medicare reimbursement a physician receives. Rural physicians claim they cannot receive HPSA payments, even though their patients live in medically underserved areas, because most rural physician practices cluster in a few areas. If so, the concentration of physicians would become too high, and rural physicians would not qualify for HPSA payments.

The physicians in the rural areas expressed a high level of frustration with the payments that they receive for their provision of Medicare services. Based upon the evidence presented here, however, revision of the PE GPCI based on the use of any alternative data sources will not be sufficient to address these concerns. If it is determined that payment is not sufficient in rural localities, other policies might be considered rather than revision of the PE GPCI.

Recommendations

CMS routinely refines the MEI and the GPCIs. Consequently, CMS is continuously looking for data sources that can be used for these purposes. As part of the refinement process, CMS investigates both the applicability of the datasets that are in existence at the time of the refinement and how the considered datasets should be used to yield valid and reliable results. It is possible that the datasets discussed here may prove to be useful in further refinements. CMS will continue to perform analyses of extant data in a timely fashion. At this time, we do not endorse any of the datasets discussed here at this time.

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