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WWAMI • ruralhealth researchcenter
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Estimated Impacts of Multiple Payment Policies on Rural-Serving Home Health Agencies

KEY FINDINGS

- This study estimated the potential impacts on rural-serving home health agencies (HHAs) of three recent Medicare payment policy changes:
  - The Patient Driven Groupings Model (PDGM) was implemented in 2020 and replaced Medicare's original prospective payment system with a new model that focuses more on patients' clinical characteristics at home health admission and uses shorter 30-day payment periods compared to the prior model.
  - Rural add-on payments, which provided percentage-based increases in payments made to HHAs for serving rural beneficiaries, were revised based on county-level service utilization and population density starting in 2019, and then gradually decreased annually through 2022 before sunsetting at the end of 2023.
  - The Home Health Value Based Purchasing (HHVBP) model, which provides a percentage increase or decrease in all payments to HHAs based on overall quality scores, was launched as a demonstration in nine states in 2016 and expanded nationwide in 2022.
- Of the 9,790 HHAs operating in 2018 included in this study, 47.3% were urban HHAs that did not serve rural beneficiaries, 36.9% were urban HHAs that served rural beneficiaries, and 15.7% were rural HHAs serving rural beneficiaries.
- As a result of implementation of the PDGM, over half of rural HHAs (58.0%) and urban HHAs not serving rural beneficiaries (55.6%) were estimated to receive payment increases compared with slightly less than half of urban HHAs serving rural beneficiaries (47.1%).
- Compared to the estimated impact of the PDGM only, the impact of rural add-on payment revisions plus the PDGM resulted in a greater percentage of rural HHAs with estimated payment decreases, but differences in estimated payment changes for urban HHAs serving rural beneficiaries were minimal.
- The cumulative impact of the PDGM, rural add-on payment revisions, and the HHVBP model has the potential to vary greatly based on performance in the HHVBP model. Since the HHVBP payment adjustments may be of large magnitude, very high and very low performance in the HHVBP model may result in substantial differences in the estimated payments for HHAs compared to estimated payments from the PDGM only and the PDGM plus rural add-on payment revisions.
- The impact of these payment policy changes on estimated payments to HHAs varied across Census Divisions, profit status, quality ratings, and episode volume for all HHAs regardless of rural-serving status.

BACKGROUND

Home health agencies (HHAs) provide post-acute care services to about three million Medicare fee-for-service beneficiaries annually.[1] Historically, Medicare margins for HHAs (ie, the difference between reimbursements to HHAs and the cost to provide care for Medicare fee-for-service patients) have been high, averaging over 16% from 2015-2018, but margins vary based on HHA characteristics.[2] HHAs that serve majority rural beneficiaries have lower average Medicare margins than HHAs that serve majority urban beneficiaries.[1,2] HHAs that are non-profit and provide fewer total episodes, both of which are more common among rural HHAs, also have lower margins compared to HHAs that are for-profit and have higher total episodes.[1,2] Lower margins may impact rural HHA operations and the ability to serve rural beneficiaries. Indeed, HHAs serving rural beneficiaries have reported experiencing challenges in the capacity to admit new patients and provide the types and frequency of services beneficiaries need.[3,4]

Three payment policy changes have recently gone into effect that have the potential to drastically change payments to HHAs for providing home health services to Medicare fee-for-service beneficiaries: (1) implementation of the Patient Driven Groupings Model (PDGM), (2) revisions to rural add-on payments, and (3) demonstration and nationwide expansion of the Home Health Value Based Purchasing (HHVBP) model. These three payment policy changes are described briefly below. See Box 1 for additional information about these three payment policy changes.

PDGM: Mandated by the Bipartisan Budget Act of 2018, the implementation of the PDGM in January 2020 represented the first major revision of payments to HHAs for serving Medicare fee-for-service beneficiaries since the introduction of the home health prospective payment system in October 2000. Key changes in the PDGM included centering payment around patient clinical characteristics, removing the volume-based payment adjustment for provision of therapy services that was present in the prior prospective payment system, and shortening the payment timeframe from 60-day episodes to 30-day payment periods.

Rural add-on payments: The Bipartisan Budget Act also mandated the revisions to and the gradual sunset of rural add-on payments over time. Rural add-on payments were percentage increases in payments to HHAs for serving rural beneficiaries. The amount of the percentage increase had been 3% since the passage of the Affordable Care Act of 2010 until the Bipartisan Budget Act of 2018 mandated revisions. These revisions based amounts for the percentage increase on population density and home health service utilization in the county in which a rural beneficiary lives. The revised rural add-on payments were lower for serving rural beneficiaries in counties with high home health utilization and higher for serving rural beneficiaries in counties with low population density without high home health utilization.

HHVBP: The HHVBP model demonstration was launched in nine randomly selected states in 2016 with the first payment adjustments implemented in 2018 based on quality performance in 2016 using multiple measures of quality of care from assessment data, claims data, and patient survey data. The success of the HHVBP model demonstration led to nationwide expansion in 2022.

Box 1. Recent Medicare Payment Policy Changes for Home Health Agency (HHA) Reimbursement

Policy change	Effective	Summary
Patient Driven Groupings Model (PDGM) implementation	2020-present	The PDGM is a case-mix classification model that adjusts the base payment amount made to HHAs to reflect differences in patient characteristics and expected care needs. Mandated by the Bipartisan Budget Act of 2018 and implemented in 2020, the PDGM represents a major transition from the prior prospective payment system. Under the PDGM, each 30-day payment episode is classified into one of 432 home health resource groups (case-mix groups). Classification into a home health resource group is based on the following: • Payment period timing – the first 30-day payment period versus subsequent 30-day payment periods • Admission source – a 30-day payment period preceded by a stay in an inpatient hospital, long-term care hospital, inpatient rehabilitation facility, or skilled nursing facility is considered an institutional-admitted period versus a community-admitted period • Clinical category – one of 12 clinical categories based on primary diagnosis • Functional impairment level – three levels (low, medium, and high) based on assessment of functional and cognitive status at admission • Comorbidities – presence of no, one, or two or more secondary diagnoses for select comorbidities Source: https://www.cms.gov/files/document/se19027.pdf
Rural add-on payment revision and sunset	2019-2023	Rural add-on payments represent a percentage increase to standard payments to HHAs when care is provided to Medicare beneficiaries living in rural counties. The Bipartisan Budget Act of 2018 mandated revisions to the existing 3% rural add-on payment starting in 2019 so that the percentage increase varied based on home health utilization and population density in rural counties. In 2019, the rural add-on payment increase was: • 1.5% for rural counties with high home health utilization • 4.0% for low-density rural counties without high home health utilization • 3.0% for all other rural counties Rural add-on payment amounts then decreased by 1% annually starting in 2020 until they were phased out completely with the exception of a continuing rural add-on payment for low-density rural counties without high home health utilization, which was extended at 1% through 2023 through the Consolidated Appropriations Act of 2023. This final rural add-on payment for providing home health services to rural Medicare beneficiaries sunsetted at the end of 2023 and is no longer available as of January 1, 2024. Source:https://www.cms.gov/Regulations-and-Guidance/Guidance/Transmittals/2018Downloads/R4190CP.pdf
Home Health Value-Based Purchasing (HHVBP) model demonstration and national expansion	2016-2021 for demonstration 2022-present for national expansion	The HHVBP model was initially implemented in 2016 as a demonstration for all HHAs operating in nine randomly selected states. The HHVBP model aims to incentivize high-quality, efficient care by making payment adjustments based on a composite score of HHA quality achievement and improvement. Total performance scores include quality measures from the Outcomes and Assessment Information Set, Medicare claims data, and patient survey data from the Home Health Care Consumer Assessment of Healthcare Providers and Systems (HHCAHPS) survey. Payment adjustments for the HHVBP demonstration included: • Up to 3% upward or downward in 2018 based on performance in 2016 • Up to 5% upward or downward in 2019 based on performance in 2017 • Up to 6% upward or downward in 2020 based on performance in 2018 • Up to 7% upward or downward in 2021 based on performance in 2019 Although the demonstration was originally planned to continue through 2022, CMS ended it one year early. The national expansion of the HHVBP model for HHAs operating in all 50 states, the District of Columbia, and US territories began with 2022 as a pre-implementation year. The first performance year for the expanded HHVBP model is 2023 and the first payment year is 2025 in which payment adjustments of up to 5% upward or downward will be made based on performance in 2023 relative to peer HHAs. Peer HHAs are determined through assignment to one of two nationwide cohorts based on beneficiary volume: a larger-volume cohort or a smaller-volume cohort. HHAs in the smaller-volume cohort will not have HHCAHPS survey measures included in their total performance scores. Source: https://www.cms.gov/priorities/innovation/innovation-models/home-health-value-based-purchasing-model

The cumulative impact of these multiple payment policies is unknown and will not be uniform across all HHAs by design as the policies base reimbursement on (1) patient characteristics (PDGM), (2) where patients served by the HHA live (rural add-on payments), and (3) the quality of care provided (HHVBP model). Estimating the potential impact of these payment policies on HHAs is an essential first step towards understanding how they may affect the home health market, which in turn may affect access to home health for Medicare beneficiaries. Given the lower average margins for rural HHAs, additional challenges that rural HHAs face in providing services, and evidence of disparities in access to home health care for Medicare beneficiaries based on rural-urban status,[3-10] it is critical to document payment changes for HHA resulting from these policies by rural-serving status. Therefore, the purpose of this study was to describe the estimated impact of these three major payment policy changes on HHA reimbursement by rural-serving status, geographic location, and select home health agency characteristics (eg, profit status).

METHODS

This descriptive study was a secondary analysis of publicly available data from CMS on Medicare-certified HHAs that were operating in 2018. We used 2018 as the baseline year because 2018 was the last year before the rural add-on payment revisions went into effect and was the baseline year used by CMS for the estimated impact analysis of PDGM. To create our dataset, we linked multiple provider-level files including the 2018 Post-Acute Care and Hospice Utilization and Payment Public Use File (PAC PUF), the 2018 Home Health Compare Provider and ZIP Code Files, the 2018 Provider of Services file, and the CY2020 PDGM Agency-Level Impacts File. We included in our analysis all HHAs that had data available across all provider-level files.

We used a two-step process to classify HHAs by rural-serving status, which accounts for both the location of the HHA and the percentage of patients living in rural communities served by the HHA. First, we used the ZIP code approximation of the 2010 Rural-Urban Commuting Area (RUCA) codes to classify the location of the HHA as urban (codes 1.0, 1.1, 2.0, 2.1, 3.0, 4.1, 5.1, 7.1, 8.1, 10.1) or rural (codes 4.0, 5.0, 6.0, 7.0, 7.2, 8.0, 8.2, 9.0, 10.0, 10.2, 10.3).[11] Second, we used the PAC PUF data on percentage of rural beneficiaries to classify HHAs located in urban areas based on whether the HHA served any rural beneficiaries. Using this two-step process, all HHAs were classified as: (1) urban HHA non-rural-serving, (2) urban HHA rural-serving, or (3) rural HHA (which serve primarily rural beneficiaries).

In addition to rural-serving status, we also included the Census Division in which the HHA was located. Other HHA characteristics included profit status, quality, and total episode volume. Profit status was categorized as for-profit, non-profit, or governmental. Quality of the HHA was based on the quality-of-patient-care star rating from Home Health Compare, calculated from HHA performance on seven risk-adjusted quality measures derived from the Outcome and Assessment Information Set (OASIS) and Medicare claims. HHAs are awarded from 1 to 5 stars, including half-star increments. We classified HHAs into three quality categories: (1) 1-2.5 stars (low quality), (2) 3-3.5 stars (moderate quality), and (4) 4-5 stars (high quality). Total annual episode volume was categorized into quartiles: (1) quartile 1 (<142 episodes), (2) quartile 2 (142-331 episodes), (3) quartile 3 (332-732 episodes), and (4) quartile 4 (>732 episodes).

Our outcome of interest was the estimated percent change in reimbursement from CY2017, the baseline period before the PDGM, rural add-on payment revisions, and HHVBP demonstration payments were in effect, to CY2020, the first year all three policies were in effect. We estimated the impact of PDGM only for all HHAs. We estimated the impact of the PDGM plus rural add-on payment revisions for all rural HHAs and urban HHAs serving rural beneficiaries as there was no additional change for urban HHAs not serving rural beneficiaries. We estimated the cumulative impact of the PDGM, rural add-on payment revisions, and HHVBP model for all HHAs located in the nine states that were included in the HHVBP model demonstration (AZ, FL, IA, MD, MA, NE, NC, TN, WA).

PDGM: We estimated the impact of the PDGM using the PDGM Agency-Level Impacts File, which includes total payments under the prior prospective payment system to each HHA based on claims for episodes ending in 2017 and total payments to each HHA for these same claims had they been paid under the PDGM in 2020 instead. From this file we calculated the percent change in total payments from the prior prospective payment system to the PDGM. We categorized the percent change in total payments into seven groups: (1) greater than 10% decrease, (2) greater than 5% decrease to 10% decrease, (3) up to 5% decrease, (4) minimal (+/- 0.5%) or no change, (5) up to 5% increase, (6) greater than 5% increase to 10% increase, and (7) greater than 10% increase.

PDGM plus rural add-on payments: We estimated the impact of the rural add-on payment revisions in addition to the PDGM based on the percent change in payments associated with the decrease in rural add-on payment from 3.0% for all rural counties in 2017 to the targeted rural add-on payments in effect in 2020: 0.5% for rural counties with high home health utilization, 3.0% for low-density rural counties without high home health utilization, and 2.0% for all other rural counties. We used the percent rural beneficiaries served by each HHA from the PAC PUF as a measure of the percent of total HHA payments impacted by the rural add-on payment revisions. We used the Home Health Compare ZIP Code File to identify all ZIP codes served by each HHA. We crosswalked the ZIP codes served to the county-level CY2021-CY2022 Rural Add-on Payment Designations File to determine which types of rural counties each HHA served based on the revised rural add-on payment classification of rural counties (ie, rural counties with high utilization, rural counties with low population density without high utilization, and all other rural counties).

Since the Home Health Compare ZIP Code File does not contain information on the volume of beneficiaries served in each ZIP code and the PAC PUF percent rural beneficiaries data does not specify type of rural county in which the beneficiary lives based on the rural add-on payment designations, we calculated low and high estimates for the impact of the rural add-on payment revisions for each HHA. For HHAs serving rural beneficiaries in more than one type of rural county based on the revised rural add-on payment designations, the low estimate assumed the overwhelming majority of rural beneficiaries served by the HHA lived in the type of rural county experiencing the greatest amount of change in rural add-on payment percentage, while the high estimate assumed that the overwhelming majority of rural beneficiaries served by the HHA lived in the type of rural county experiencing the least amount of change in the rural add-on payment percentage. For example, for an HHA that served rural beneficiaries in counties designated as high utilization rural counties and also counties designated as all other rural counties, the high estimate assumed nearly 100% of rural beneficiaries lived in counties with the "all other rural counties" designation, which experienced a decrease in the rural add-on payment percentage from 3.0% in 2017 to 2.0% in 2020. The low estimate for that same HHA assumed nearly 100% of rural beneficiaries lived in high utilization rural counties which experienced a decrease in the rural add-on payment percentage from 3.0% in 2017 to 0.5% in 2020. For HHAs serving rural beneficiaries in only one type of rural county, the low and high estimates were the same. For urban HHAs not serving rural beneficiaries, the rural add-on payment revisions had no impact on payment.

We adjusted the estimated impacts of the rural add-on payment revisions based on percentage of rural beneficiaries. We then added the estimated percent change in payments due to the rural add-on payment revisions to the estimated percent change in payments due to the PDGM to create an estimate of the impact of both these policy changes simultaneously on HHA payments. We used the same seven payment change groups to categorize HHAs in terms of percent change in total payments for the PDGM plus rural add-on payment revisions as described above for the PDGM only.

PDGM plus rural add-on payments plus HHVBP: Finally, we added the estimated impact of the HHVBP to the estimated impacts of the PDGM and rural add-on payment revisions to describe the potential cumulative impact of all three payment policy changes on HHAs in the nine states participating in the HHVBP model demonstration. Since the 2020 payment adjustment for the HHVBP model was up to 6% downwards or upwards, we used a decrease of 6% as the low estimate and an increase of 6% as the high estimate for each HHA. We added the low estimate for the HHVBP model to the low estimate from the PDGM plus rural add-on payment revisions. Similarly, we added the high estimate for the HHVBP model to the high estimate from the PDGM plus rural add-on payment revisions. This approach estimates the lowest and highest possible cumulative effects of the three payment policy changes, thus providing the full range of potential impacts on HHA payments. We used the same seven payment change groups to categorize HHAs in terms of percent change in total payments for the cumulative impact of all three payment policy changes.

For the PDGM only, the PDGM plus rural add-on payment revisions, and all three payment policy changes together, we describe the distribution of HHAs across the seven groups of percent change in total payments by rural-serving status. We then describe the distribution of HHAs across the seven groups of percent change in total payments by rural-serving status plus Census Division, profit status, quality rating, and episode volume.

FINDINGS

A total of 9,790 HHAs were eligible for analysis (ie, having data available in all provider-level files). Of these HHAs, 47.3% were urban HHAs not serving rural beneficiaries, 36.9% were urban HHAs serving rural beneficiaries, and 15.7% were rural HHAs. Table 1 presents the distribution across Census Division, profit status, quality ratings, and episode volume for all HHAs and by rural-serving status. A significantly lower percentage of rural HHAs were for-profit compared to both non-rural-serving and rural-serving urban HHAs. Quality ratings were also significantly different by rural-serving status, with a greater percentage of non-rural-serving urban HHAs receiving high quality ratings (4-5 stars) compared to rural-serving urban HHAs and rural HHAs. Average episode volume was highest for rural-serving urban HHAs.

A total of 2,018 HHAs were not included in our analysis due to not having data available across all provider-level files. These were primarily for-profit (88.7%) HHAs located in urban (92.9%) areas. Of the HHAs included in the analysis, 80.6% were for-profit and 76.7% were located in an urban area. Seventy percent of these excluded HHAs were in four Census Divisions: East North Central (27.2%), West South Central (18.1%), Pacific (14.5%), and South Atlantic (10.3%). Among included HHAs the percent from these Census Divisions was 18.4%, 25.6%, 14.3%, and 16.3%, respectively. The differences in profit status and HHA location (urban vs. rural and Census Division) between the 9,790 agencies included in the analysis and the 2,018 agencies not included were statistically significant ($p<.0001$). Given the limited information we had about the excluded HHAs, we could not classify them by rural-serving status as we did with the included HHAs.

Table 1. Characteristics of Home Health Agencies (HHAs) by Rural-Serving Status, 2018

	All HHAs n=9,790	Urban HHAs not rural serving n=4,634	Urban HHAs rural serving n=3,615	Rural HHAs n=1,541
Census Division[1]***, %				
New England	3.5%	4.8%	2.5%	2.0%
Middle Atlantic	4.6%	5.2%	4.5%	3.2%
East North Central	18.4%	19.7%	18.6%	14.2%
West North Central	6.5%	1.5%	7.6%	19.2%
South Atlantic	16.3%	17.2%	16.9%	11.9%
East South Central	4.1%	0.6%	5.5%	11.5%
West South Central	25.6%	18.3%	34.7%	25.6%
Mountain	6.8%	7.2%	5.4%	8.5%
Pacific	14.3%	25.6%	4.2%	3.8%
Profit status***, %				
For-profit	80.6%	90.6%	80.0%	51.8%
Non-profit	15.6%	8.8%	17.9%	30.8%
Governmental	3.8%	0.7%	2.1%	17.3%
Quality ratings***, %				
Low				
1-1.5 Stars	4.2%	4.7%	4.2%	2.8%
2-2.5 Stars	25.4%	24.6%	24.2%	30.4%
Moderate				
3-3.5 Stars	37.5%	35.0%	39.3%	39.5%
High				
4-4.5 Stars	27.2%	29.2%	27.6%	21.4%
5 Stars	5.7%	6.5%	4.8%	5.8%
Total episodes***, mean (SD)	671.5 (1,146.9)	495.0 (1,098.1)	908.9 (1,267.1)	583.4 (839.5)

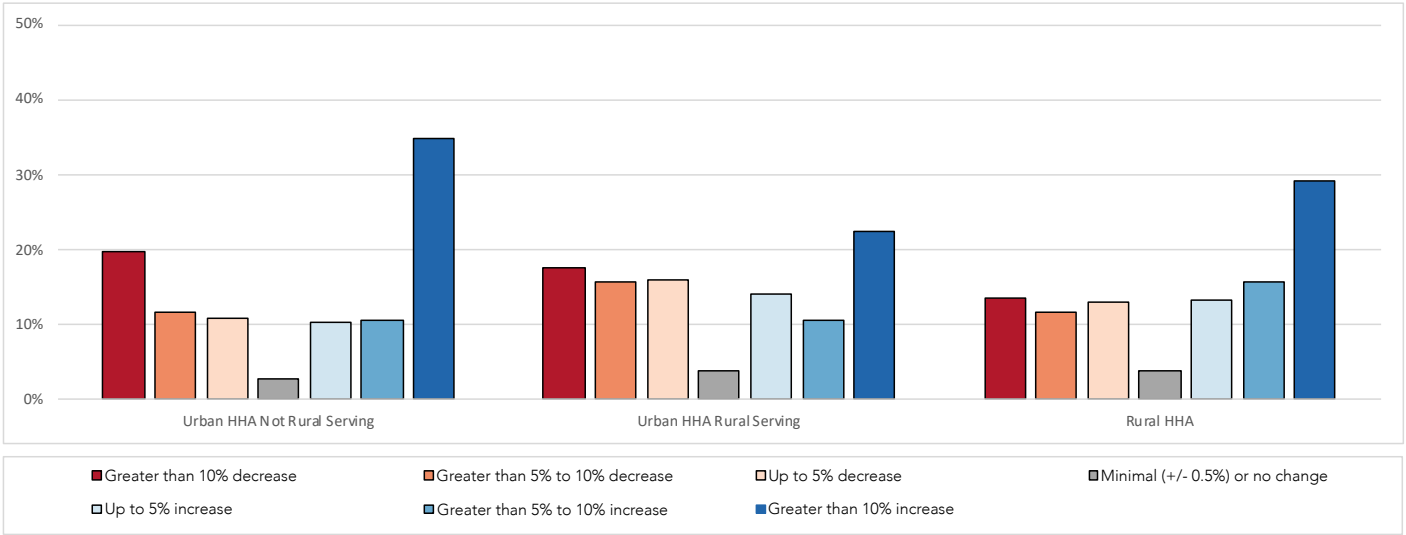
[1]New England=CT, ME, MA, NH, RI, VT; Middle Atlantic=NJ, NY, PA; East North Central=IL, IN, MI, OH, WI; West North Central=IA, KS, MN, MO, NE, ND, SD; South Atlantic=DE, DC, FL, GA, MD, NC, SC, VA, WV; East South Central=AL, KY, MS, TN; West South Central=AR, LA, OK, TX; Mountain=AZ, CO, ID, MT, NV, NM, UT, WY; Pacific=AK, CA, HI, OR, WA.
***p=<.0001 comparing urban HHAs not rural serving, urban HHAs rural serving, and rural HHAs simultaneously. All pairwise comparisons of provider characteristics by rural-serving status were also significant at p<.0001 except for quality ratings for urban HHAs not rural serving compared with urban HHAs rural serving and total episodes for urban HHAs not rural serving compared with rural HHAs which were both significant at p<.001.
Notes: Statistically significant differences in provider characteristics by rural-serving status were determined using chi-square tests for categorical variables and ANOVA for continuous variables. Percentages may not sum to 100 due to rounding.
Source: 2018 Home Health Compare and Post-Acute Care and Hospice Provider Utilization and Payment Public Use Files.

Estimated impact of the PDGM

Figures 1-5 present the estimated impact of the PDGM on payment by rural-serving status as well as Census Division, profit status, quality ratings, and total episodes. Please see the Appendix for tables with corresponding values for these figures (Tables A1-A5). Over half of rural HHAs (58.0%) and non-rural-serving urban HHAs (55.6%) were estimated to receive a payment increase as a result of the PDGM, while slightly less than half of rural-serving urban HHAs (47.1%) were estimated to receive a payment increase. The estimated impact of the PDGM varied across profit status, quality ratings, and episode volume for all HHAs. A higher percentage of low quality HHAs and for-profit HHAs had estimated payment increases greater than 10% compared to moderate and high quality HHAs and non-profit and governmental HHAs, respectively. As episode volume grew, the percentage of HHAs with estimated payment increases also increased among all HHAs. However, the proportion of HHAs estimated to receive greater than 10% increase in payments declined as episode volume increased among urban but not rural HHAs.

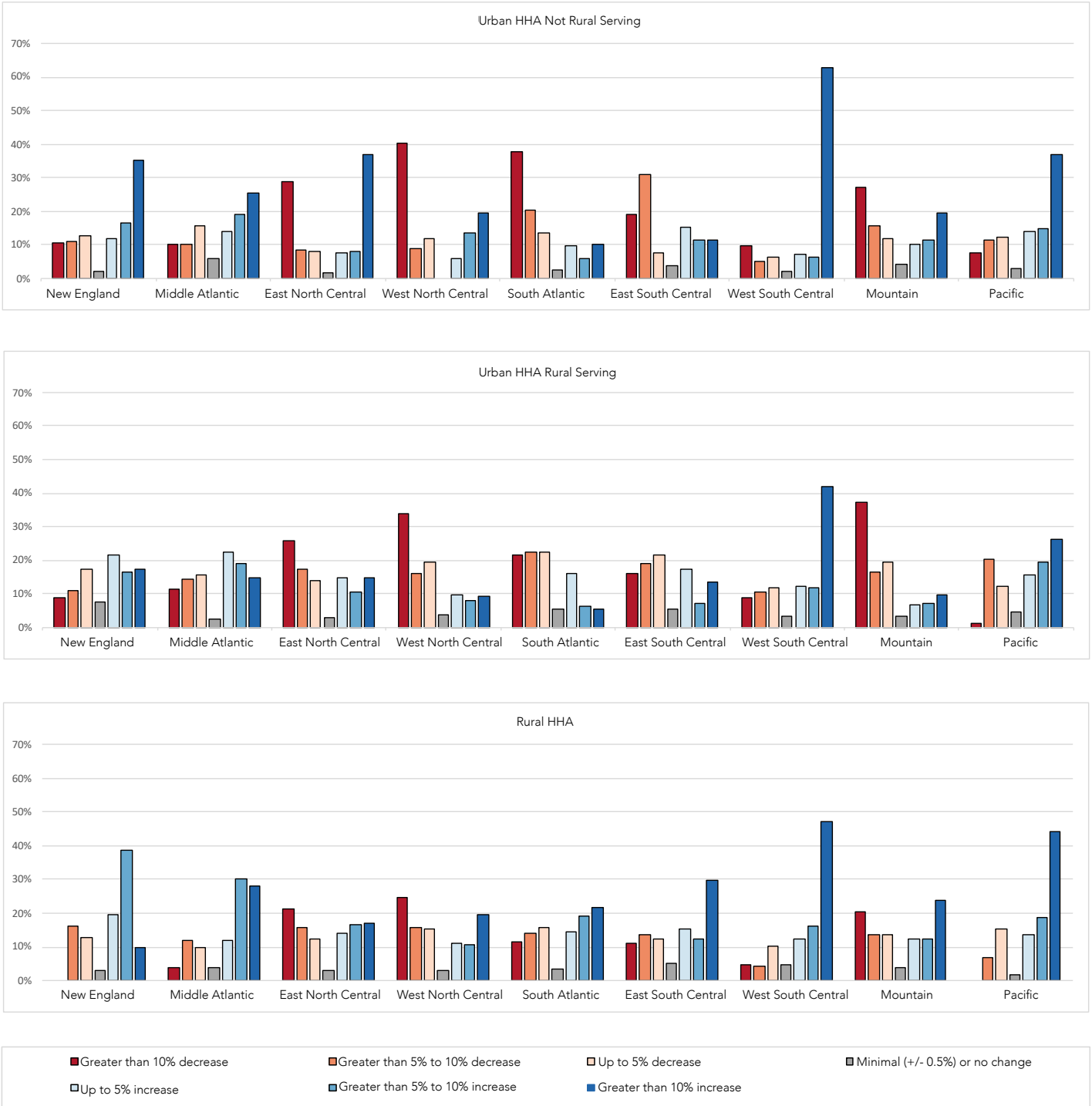
Differences in the distribution of payment changes across Census Divisions were evident. The percentage of rural HHAs with estimated increases in payment ranged from a low of 41.2% in the West North Central Census Division to a high of 76.3% in the Pacific Census Division. The percentage of rural-serving urban HHAs with estimated increases in payment ranged from a low of 23.6% in the Mountain Census Division to a high of 66.1% in the West South Central Census Division. The percentage of non-rural-serving urban HHAs with estimated increases in payment ranged from a low of 25.8% in the South Atlantic Census Division to a high of 76.8% in the West South Central Census Division. The West South Central Census Division had the highest percentage of HHAs with estimated payment increases greater than 10% across all HHAs, while the West North Central Census Division had the highest percentage of HHAs with estimated payment decreases greater than 10% for non-rural-serving urban HHAs and rural HHAs.

Figure 1. Estimated Percent Change in Medicare Fee-for-Service Payments to Home Health Agencies (HHAs) From Implementation of the Patient-Driven Groupings Model (PDGM) by Rural-Serving Status



Source: 2018 Home Health Compare, Post-Acute Care and Hospice Provider Utilization and Payment Public Use Files, and CY2020 HHA-Level PDGM Impacts File.

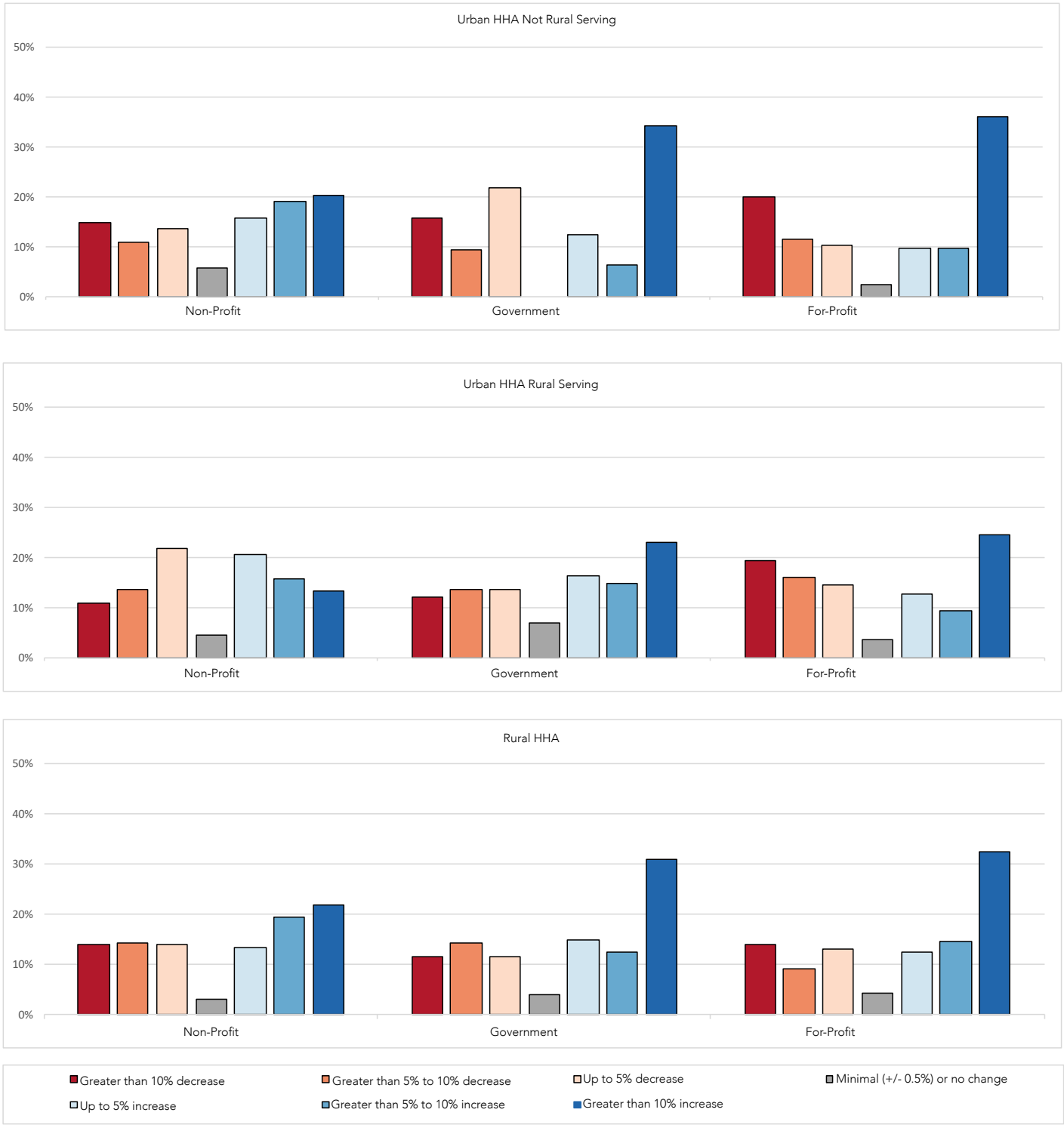
Figure 2. Estimated Percent Change in Medicare Fee-for-Service Payments to Home Health Agencies (HHAs) From Implementation of the Patient-Driven Groupings Model (PDGM) by Rural-Serving Status and Census Division[1]



[1]New England=CT, ME, MA, NH, RI, VT; Middle Atlantic=NJ, NY, PA; East North Central=IL, IN, MI, OH, WI; West North Central=IA, KS, MN, MO, NE, ND, SD; South Atlantic=DE, DC, FL, GA, MD, NC, SC, VA, WV; East South Central=AL, KY, MS, TN; West South Central=AR, LA, OK, TX; Mountain=AZ, CO, ID, MT, NV, NM, UT, WY; Pacific=AK, CA, HI, OR, WA.

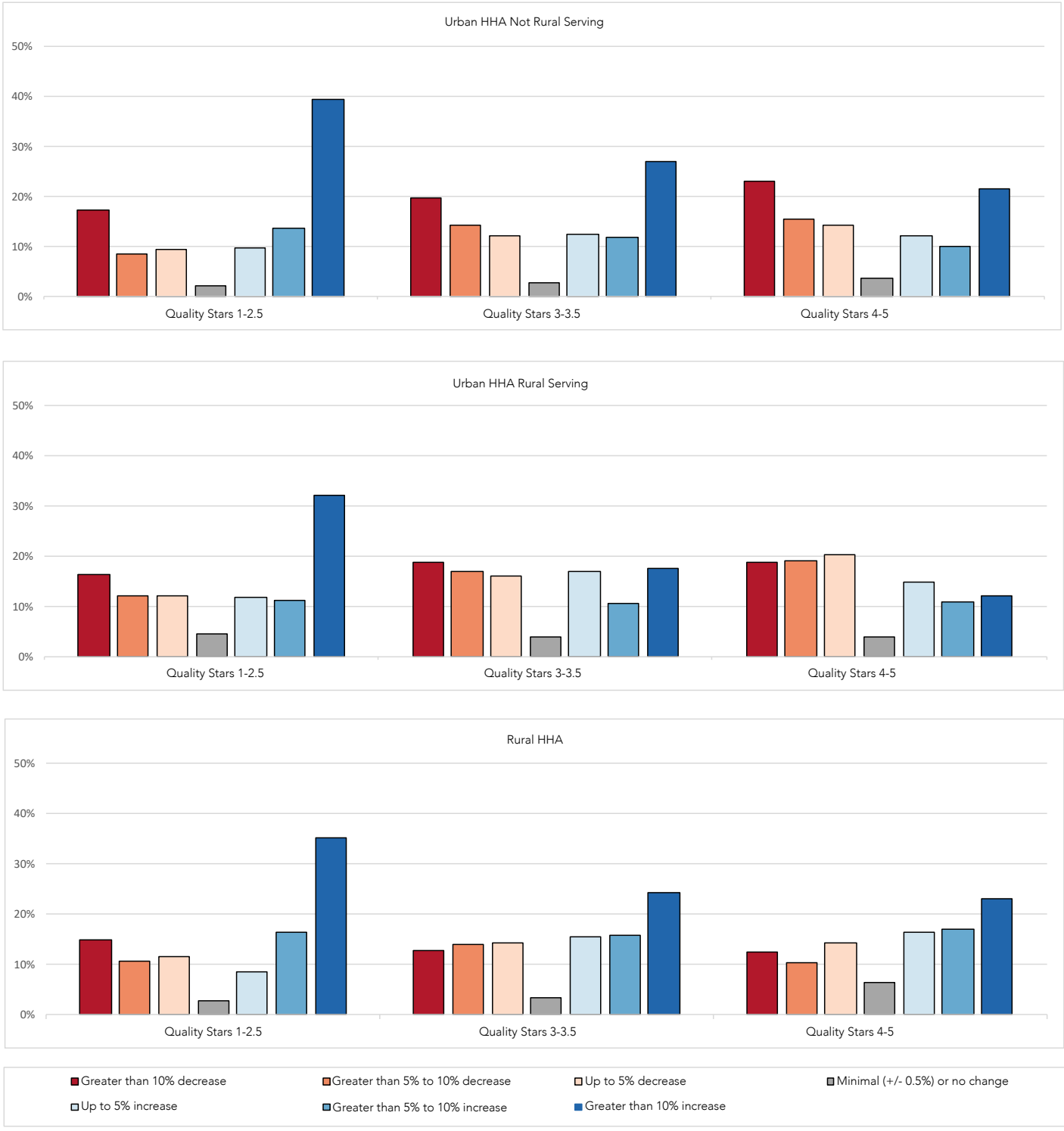
Source: 2018 Home Health Compare, Post-Acute Care and Hospice Provider Utilization and Payment Public Use Files, and CY2020 HHA-Level PDGM Impacts File.

Figure 3. Estimated Percent Change in Medicare Fee-for-Service Payments to Home Health Agencies (HHAs) From Implementation of the Patient-Driven Groupings Model (PDGM) by Rural-Serving Status and Profit Status[1]



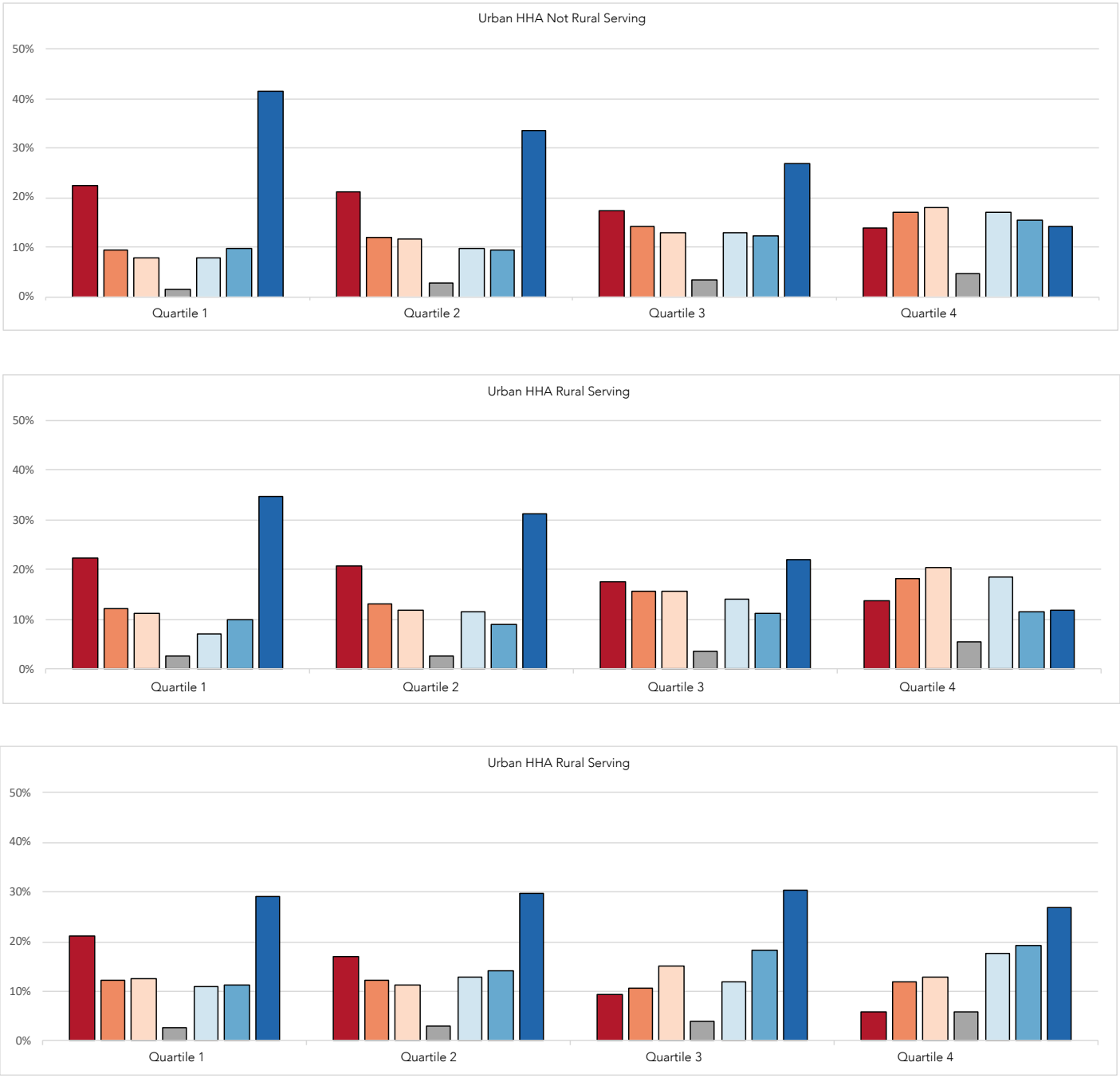
[1]HHAs with missing profit status variable (n=13) not included.
Source: 2018 Home Health Compare, Post-Acute Care and Hospice Provider Utilization and Payment Public Use Files, and CY2020 HHA-Level PDGM Impacts File.

Figure 4. Estimated Percent Change in Medicare Fee-for-Service Payments to Home Health Agencies (HHAs) From Implementation of the Patient-Driven Groupings Model (PDGM) by Rural-Serving Status and Quality Rating[1]



[1]HHAs with missing quality star rating variables (n=1,341) not included.
Source: 2018 Home Health Compare, Post-Acute Care and Hospice Provider Utilization and Payment Public Use Files, and CY2020 HHA-Level PDGM Impacts File.

Figure 5. Estimated Percent Change in Medicare Fee-for-Service Payments to Home Health Agencies (HHAs) From Implementation of the Patient-Driven Groupings (PDGM) Model by Rural-Serving Status and Episode Volume[1,2]



[1]HHA with missing episode count variable (n=540) not included.
[2]Quartile 1 - total episodes = 0 to 141; Quartile 2 - total episodes = 142 – 331; Quartile 3 - total episodes = 332 – 732; Quartile 4 - total episodes > 732.
Source: 2018 Home Health Compare, Post-Acute Care and Hospice Provider Utilization and Payment Public Use Files, and CY2020 HHA-Level PDGM Impacts File.

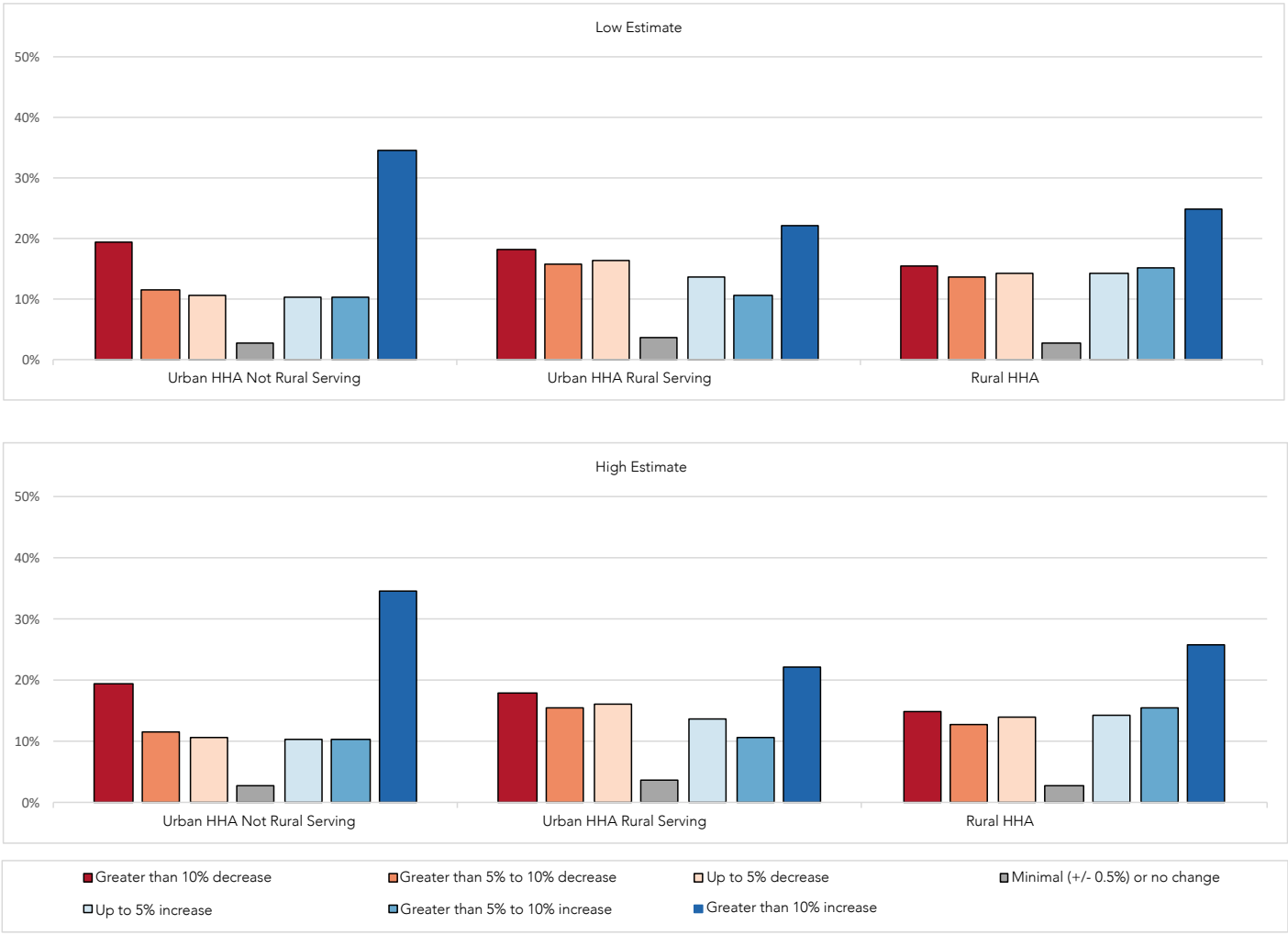
Estimated combined impact of the PDGM plus rural add-on payment revisions

Figure 6 presents the low and high estimates of the impact of the PDGM plus rural add-on payment revisions on HHA payments by rural-serving status (see Appendix Table A6 for values associated with this figure). The additional impact of rural add-on payment revisions resulted in a lower percentage of rural HHAs estimated to receive a payment increase and a higher percentage of rural HHAs estimated to receive a payment decrease compared to the PDGM only. Under the PDGM plus rural add-on payment revisions, 24.8% (low estimate) to 25.9% (high estimate) of rural HHAs were estimated to receive a greater than 10% increase in payments compared to 29.1% of rural HHAs under PDGM only. Similarly, under the PDGM plus rural add-on payment revisions, 15.4% (low estimate) to 14.9% (high estimate) of rural HHAs were estimated to receive a greater than 10% decrease in payments compared to 13.5% of rural HHAs under PDGM only. Compared to rural HHAs, the additional impact of the rural add-on payment revisions on rural-serving urban HHAs resulted in more minimal shifts in the distribution across the percent change in total payment groups.

The low and high estimates of the impact of the PDGM plus rural add-on payment revisions by rural-serving status and Census Division, profit status, quality, and episode volume can be found in Tables A7-A10 in the Appendix. Given the relatively small magnitude of the impact of the rural add-on payment revisions compared to the PDGM for rural-serving urban HHAs, variation in the estimated payment changes due to the PDGM plus the rural add-on payment revisions for these HHAs by Census Division, profit status, quality ratings, and episode volume was comparable to that of the PDGM only. For example, a higher percentage of low quality HHAs would still receive higher payment increases compared to moderate and high quality HHAs.

For rural HHAs, the distribution across payment groups by Census Division, profit status, quality rating, and episode volume all shifted downward (eg, from larger increases to smaller increases, from minimal/no change to decreases, from smaller decreases to larger decreases) with the addition of rural add-on payment revisions to the PDGM compared to the PDGM only. Similar patterns remained across HHA characteristics. A higher percentage of for-profit and governmental rural HHAs and low quality rural HHAs were still estimated to receive payment increases compared to non-profit rural HHAs and moderate to higher quality rural HHAs, respectively, even after the downward shift due to the addition of the rural add-on payment revisions. As episode volume increased, the percentage of rural HHAs estimated to receive payment increases also rose for both the high and low estimates of the PDGM plus rural add-on payment revisions, even after the downward shift. The highest percentage of rural HHAs with estimated increases remained in the Pacific Census Division and the lowest percentage remained in the West North Central Census Division in both the high and low estimates of the PDGM plus rural add-on payment revisions.

Figure 6. Estimated Percent Change in Medicare Fee-for-Service Payments to Home Health Agencies (HHAs) From Implementation of the Patient-Driven Groupings Model (PDGM) and Rural Add-On Payment Revisions[1] by Rural-Serving Status

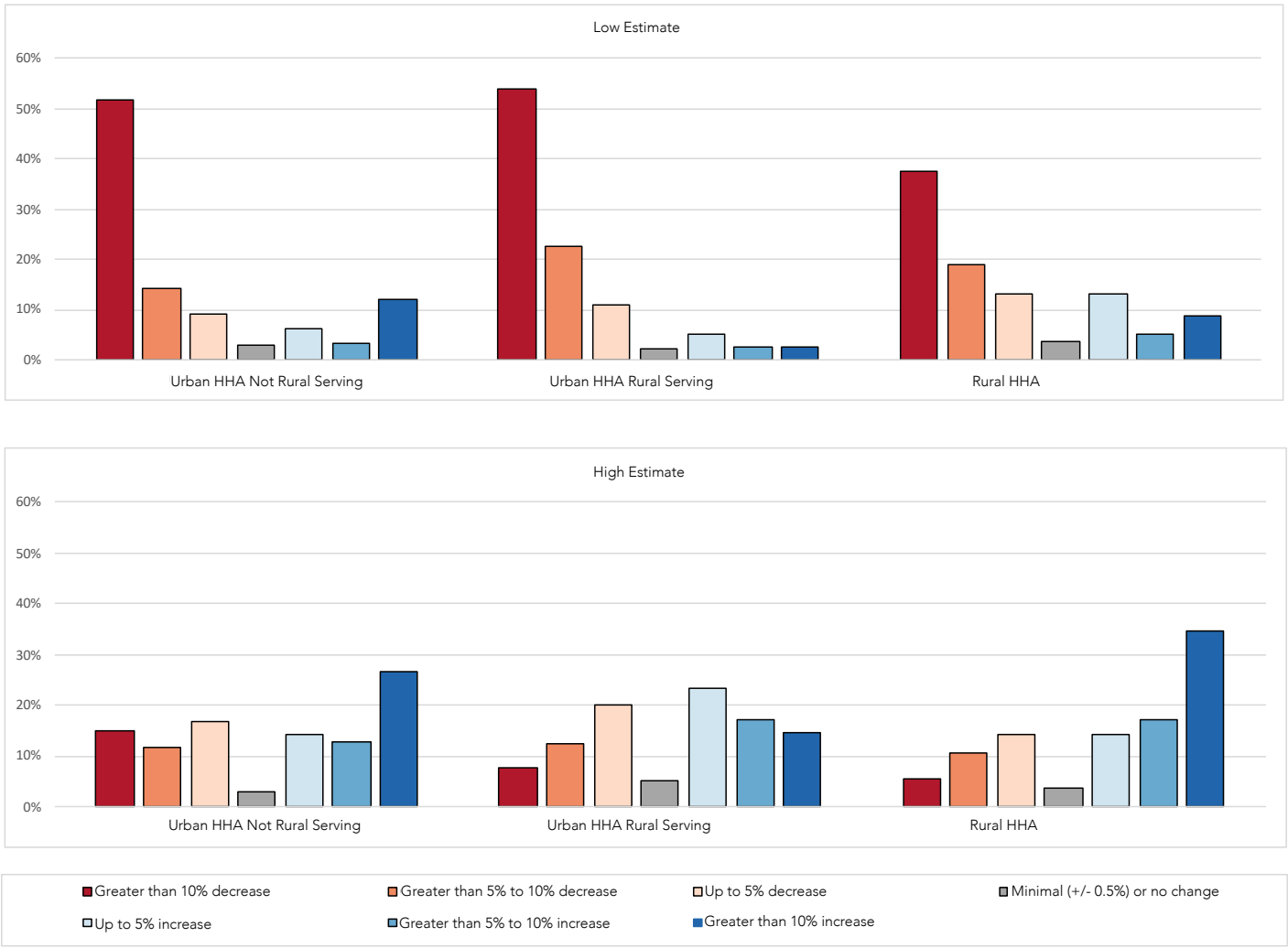


[1]No rural add-on payment for urban HHAs not rural serving.
Source: 2018 Home Health Compare and Post-Acute Care and Hospice Provider Utilization and Payment Public Use Files. CY2020 HHA-Level PDGM Impacts File and CY2021-CY2022 Rural Add-On Payment Designations File.

Estimated combined impact of the PDGM, rural add-on payment revisions, and HHVBP

Figure 7 presents the estimated cumulative impact of all three payment policy changes on payments to HHAs by rural-serving status for the 1,794 HHAs in our sample that were located in the nine states participating in the HHVBP model demonstration (see Table A11 in the appendix for values for this figure). In the low estimate, over half of HHAs were estimated to receive a decrease in payments with the highest percentage of rural and urban HHAs experiencing a greater than 10% decrease. HHAs are more evenly distributed across the seven payment change groups in the high estimate compared to the low estimate. The high estimate results in over half of rural and urban HHAs receiving an increase in payments, most often greater than 10% for both non-rural-serving urban HHAs and rural HHAs.

Figure 7. Estimated Percent Change in Medicare Fee-for-Service Payments to Home Health Agencies (HHAs) From Implementation of the Patient-Driven Groupings Model (PDGM), Rural Add-On Payment Revisions,[1] and Home Health Value Based Purchasing (HHVBP) Model[2] by Rural-Serving Status



[1]No rural add-on payment for urban HHAs not rural serving.
[2]HHVBP states are Arizona, Florida, Iowa, Maryland, Massachusetts, Nebraska, North Carolina, Tennessee, Washington.
Source: 2018 Home Health Compare and Post-Acute Care and Hospice Provider Utilization and Payment Public Use Files. CY2020 HHA-Level PDGM Impacts File and CY2021-CY2022 Rural Add-On Payment Designations File.

CONCLUSIONS

The estimated impact of the PDGM, rural add-on payment revisions, and HHVBP model demonstration varied by rural-serving status of the HHA as well as Census Division, profit status, quality rating, and episode volume. Despite these variations, it is notable that, regardless of rural-serving status or HHA characteristics, HHAs were distributed across the entire continuum from large payment increases to large payment decreases (greater than 10% in either direction). Therefore, while some HHAs stand to benefit from these payment policy changes, other HHAs that are similar in terms of rural-serving status and other characteristics will likely experience decreased payments.

The potential for payment decreases among many rural HHAs and rural-serving urban HHAs under the PDGM raises concerns about potential access to care and quality of care for rural beneficiaries should these HHAs encounter financial instability requiring a reduction in coverage area or service provision. In addition, a high percentage of non-profit and low-volume rural HHAs are estimated to receive decreased payments. With lower average margins among non-profit, low-volume, and rural HHAs compared to for-profit, high-volume, and urban HHAs, respectively,[1,2] if these estimated decreases are realized, rural-urban differences in financial health of HHAs may be exacerbated.

While rural add-on payment revisions may have minimal impacts on rural-serving urban HHAs within the context of the larger payment changes attributed to the PDGM in our estimates, it is possible that some rural-serving urban HHAs already experiencing decreased payments under the PDGM may decide to serve fewer rural beneficiaries when rural add-on payments sunset. The decreases in payments due to rural add-on payment revisions experienced by rural HHAs may also lead to service area contractions or reductions in service provision, which could exacerbate existing rural-urban disparities in access and service provision.[5-9,12-16] Prior research on rural add-on payments suggest that only larger rural add-on payment amounts (5% and 10% historically) have differential impacts on the supply of HHAs serving rural communities,[17] so it is unclear whether the recent rural add-on payment revisions and sunset will have a meaningful effect on access to care for rural beneficiaries.

Given the potential magnitude of the HHVBP model payment adjustments compared to the PDGM and rural add-on payment revisions for many HHAs, the outsized impact of the HHVBP on the distribution of HHAs across payment groups is perhaps unsurprising. High quality HHAs estimated to receive payment decreases under the PDGM may experience lower decreases or even increases when accounting for the HHVBP model payment adjustments; that is, their quality may result in higher performance scores which may reduce or negate the impact of decreased payments under the PDGM. Conversely, while many low quality HHAs stand to receive higher payments under the PDGM, the HHVBP model payment adjustments may reduce or negate the increased payments under the PDGM. Low quality HHAs that are facing decreases due to the PDGM and/or the rural add-on payment revisions may face an even higher risk of financial instability if the HHVBP model payment adjustments result in further cuts.

While we considered the highest and lowest impacts of the HHVBP model payment adjustments in our estimates, many HHAs will see less drastic payment adjustments in practice under the expanded HHVBP model. Indeed, the majority of HHAs received payment adjustments within 2% upwards or downwards during the HHVBP model demonstration despite the potential for payments adjustments of up to 3% in the first year and up to 7% in the final year of the demonstration.[18] If the average payment adjustments for the expanded HHVBP model are similar, despite the up to 5% payment adjustment for the first payment year of the expanded HHVBP model in 2025, many HHAs will experience smaller impacts. However, for HHAs with lower margins that are experiencing decreases in payments due to the PDGM and/or rural add-on payment

revisions, even an additional 2% reduction may affect operations. While evaluations of the HHVBP model demonstration suggest the model itself did not exacerbate disparities in home health utilization by rural-urban status,[18,19] the potential cumulative impact of the expanded HHVBP model, PDGM and rural add-on payment revisions on rural HHAs and their ability to provide services should be monitored. In addition, rural HHAs will be disproportionately represented in the smaller-volume cohort for which HHCAHPS measures of patient experience are excluded from calculation of total performance scores; the peer comparison among smaller-volume HHAs may negatively impact smaller-volume rural-serving HHAs compared to smaller-volume urban HHAs because rural-serving HHAs perform better on patient experience measures on average compared to urban HHAs.[10] Future research should compare estimated versus actual impact of these overlapping payment policies on total payments to HHAs by rural-urban status as well as the ability of HHAs to absorb decreases and/or adapt practices, and the subsequent effect on access to home health services and quality of care provided.

LIMITATIONS

This study has several limitations that are important for interpretation of the estimated payment changes presented. First and foremost, estimated percent changes in payments do not represent actual impacts of payment policy changes. The estimated percentage changes in payments to HHAs as a result of the three payment policy changes rely on claims experience prior to policy implementation. Therefore, the estimates cannot take into consideration changes in HHA coverage area as well as admission, care delivery, coding, and billing practices that may have occurred as a result of the payment policy changes. Additional study of actual charges following implementation of these policy changes is needed as these data were not available at the time of analysis. Second, the estimates are only available for HHAs that were included in all baseline data files. Thus, estimates have not been made for HHAs excluded due to missing data, which were primarily for-profit, urban, and not evenly distributed across census regions, as well as any HHAs that entered the market after baseline. However, estimates do include HHAs that exited the market between baseline and 2020. While the home health market has been relatively stable over the last decade, there was an average annual decrease in active HHAs of -1.7% between 2013 and 2019 and a smaller average annual decrease of -0.8% in 2020 and 2021.[1] Whether HHAs that exited the market were estimated to have greater decreases in payments than HHAs that remained in the market and actually experienced decreased payments prior to exiting the market requires further study. HHAs that entered the market following implementation of these policy changes may also differ from HHAs with longer tenure as prior research on the original prospective payment system suggests new entrants may be more likely to adopt practices that maximize profit.[20] Third, our estimates relied on public data, which required us to calculate low and high estimates of payment changes related to rural add-on payment revisions and the HHVBP payment adjustments. As a result, we were only able to describe a range of estimates rather than a more precise point estimate of the impact of multiple payment policy changes. Future studies using data that contain beneficiary ZIP codes will allow for evaluation of the actual impact of the rural add-on payment revisions and sunset. Fourth, our study focuses on three payment policies related to Medicare fee-for-service payments, but the growth in Medicare Advantage enrollment may also impact the financial stability of HHAs depending on the payer mix of an HHA and payment rates from the private insurers contracted with CMS to offer Medicare Advantage plans. Both enrollment in Medicare Advantage plans and the rate of growth in enrollment are increasing among rural beneficiaries,[21,22] so future research should take into account both Medicare Advantage and fee-for-service payments. Finally, the impact of payment changes must be considered in the context of the financial stability of the HHAs. The available public data sources we used enabled us to estimate the impact of payment policy changes as a percentage change in total payments but did not allow us to estimate how that change affects the margins of HHAs.

IMPLICATIONS FOR POLICY AND PRACTICE

While some HHAs may adapt well to these payment policy changes and maintain high margins, other HHAs may struggle. It is the potential for additional financial constraints due to payment policy changes among already struggling HHAs that deserves close attention, especially when these HHAs are operating in underserved communities. In addition to the PDGM, rural add-on payment revisions, and upcoming payment adjustments from the expanded HHVBP model, HHAs are recovering from the impact of the COVID-19 pandemic, which emerged in early 2020 just after implementation of the PDGM. The COVID-19 pandemic affected payments to HHAs based on census decreases and case-mix changes during the initial stages of the pandemic as well as funding for Medicare providers through the Coronavirus Aid, Relief, and Economic Security (CARES) Act and the Paycheck Protection Program and Health Care Enhancement (PPPHCE) Act. CARES Act and PPPHCE Act funding likely contributed to historically high margins for HHAs during the first two years of the COVID-19 pandemic despite large decreases in utilization during the early pandemic,[1] and now HHAs are managing the loss of this extra financial boost. HHAs are also facing cuts to the PDGM payments that were made in 2023 and 2024. The most recent cuts in CMS's final rule for 2024, included a permanent behavior adjustment of -2.890% to the home health payment rate, which is based on assumed behavior changes HHAs would make in coding due to implementation of the PDGM as well as actual behavior changes in coding observed from the first three years under the PDGM (eg, increased coding of comorbidities, coding the highest paying diagnosis as the primary diagnosis).[23] For HHAs already experiencing decreases in Medicare payments due to the PDGM and rural add-on payment revisions, the behavior cut coupled with the potential for additional negative payment adjustments under the expanded HHVBP model may be especially concerning. As HHAs continue to navigate operating under the PDGM, manage the sunset of rural add-on payments in 2024, and prepare to receive the first payment adjustments under the expanded HHVBP model in 2025, monitoring of access to and quality of HHA care for rural beneficiaries is critical.

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APPENDIX

This appendix contains tables that correspond to the figures presented in the report to provide the values presented in the figures as well as additional tables from the analysis.

Table A1. Estimated Percent Change in Medicare Fee-for-Service Payments to Home Health Agencies (HHAs) From Implementation of the Patient-Driven Groupings Model (PDGM) by Rural-Serving Status

	Estimated percent change
Urban HHAs not rural serving	**n=4,634**
Minimal/no change	2.7%
Greater than 10% decrease	19.6%
Greater than 5% to 10% decrease	11.5%
Up to 5% decrease	10.7%
Up to 5% increase	10.4%
Greater than 5% to 10% increase	10.5%
Greater than 10% increase	34.7%
Urban HHAs rural serving	**n=3,615**
Minimal/no change	3.9%
Greater than 10% decrease	17.7%
Greater than 5% to 10% decrease	15.6%
Up to 5% decrease	15.9%
Up to 5% increase	14.1%
Greater than 5% to 10% increase	10.6%
Greater than 10% increase	22.4%
Rural HHAs	**n=1,541**
Minimal/no change	3.8%
Greater than 10% decrease	13.5%
Greater than 5% to 10% decrease	11.8%
Up to 5% decrease	13.0%
Up to 5% increase	13.2%
Greater than 5% to 10% increase	15.7%
Greater than 10% increase	29.1%

Source: 2018 Home Health Compare, Post-Acute Care and Hospice Provider Utilization and Payment Public Use Files, and CY2020 HHA-Level PDGM Impacts File.

Table A2. Estimated Percent Change in Medicare Fee-for-Service Payments to Home Health Agencies (HHAs) From Implementation of the Patient-Driven Groupings Model (PDGM) by Rural-Serving Status and Census Division[1]

	All HHA n=9,790	Census Division[1]								
		New England n=343	Middle Atlantic n=451	East North Central n=1,801	West North Central n=638	South Atlantic n=1,594	East South Central n=403	West South Central n=2,501	Mountain n=661	Pacific n=1,398
Urban HHAs not rural serving	**n=4,634**	**n=220**	**n=240**	**n=911**	**n=67**	**n=799**	**n=26**	**n=850**	**n=335**	**n=1,186**
Minimal/no change	2.7%	2.3%	5.8%	1.6%	0.0%	2.6%	3.8%	2.0%	4.2%	3.1%
Greater than 10% decrease	19.6%	10.4%	10.0%	28.9%	40.3%	37.7%	19.2%	9.9%	27.2%	7.6%
Greater than 5% to 10% decrease	11.5%	10.9%	10.0%	8.6%	9.0%	20.4%	30.8%	4.9%	15.8%	11.5%
Up to 5% decrease	10.7%	12.7%	15.8%	8.2%	11.9%	13.5%	7.7%	6.3%	11.9%	12.1%
Up to 5% increase	10.4%	11.8%	13.8%	7.7%	6.0%	9.9%	15.4%	7.4%	10.2%	14.1%
Greater than 5% to 10% increase	10.5%	16.4%	19.2%	8.2%	13.4%	5.9%	11.5%	6.5%	11.3%	14.9%
Greater than 10% increase	34.7%	35.4%	25.4%	36.8%	19.4%	10.0%	11.5%	62.9%	19.4%	36.8%
Urban HHAs rural serving	**n=3,615**	**n=92**	**n=161**	**n=672**	**n=275**	**n=611**	**n=200**	**n=1,256**	**n=195**	**n=153**
Minimal/no change	3.9%	7.6%	2.5%	3.0%	3.6%	5.4%	5.5%	3.3%	3.1%	4.6%
Greater than 10% decrease	17.7%	8.7%	11.2%	25.6%	33.8%	21.6%	16.0%	8.7%	37.4%	1.3%
Greater than 5% to 10% decrease	15.6%	10.9%	14.3%	17.4%	16.0%	22.6%	19.0%	10.3%	16.4%	20.3%
Up to 5% decrease	15.9%	17.4%	15.5%	14.1%	19.6%	22.6%	21.5%	11.6%	19.5%	12.4%
Up to 5% increase	14.1%	21.7%	22.4%	14.6%	9.8%	16.2%	17.5%	12.4%	6.7%	15.7%
Greater than 5% to 10% increase	10.6%	16.3%	19.2%	10.7%	8.0%	6.1%	7.0%	11.8%	7.2%	19.6%
Greater than 10% increase	22.4%	17.4%	14.9%	14.6%	9.1%	5.6%	13.5%	41.9%	9.7%	26.1%
Rural HHAs	**n=1,541**	**n=31**	**n=50**	**n=218**	**n=296**	**n=184**	**n=177**	**n=395**	**n=131**	**n=59**
Minimal/no change	3.8%	3.2%	4.0%	3.2%	3.0%	3.3%	5.1%	4.8%	3.8%	1.7%
Greater than 10% decrease	13.5%	0.0%	4.0%	21.1%	24.7%	11.4%	11.3%	4.8%	20.6%	0.0%
Greater than 5% to 10% decrease	11.8%	16.1%	12.0%	15.6%	15.9%	14.1%	13.6%	4.3%	13.7%	6.8%
Up to 5% decrease	13.0%	12.9%	10.0%	12.4%	15.2%	15.8%	12.4%	10.4%	13.7%	15.2%
Up to 5% increase	13.2%	19.4%	12.0%	14.2%	11.1%	14.7%	15.2%	12.4%	12.2%	13.6%
Greater than 5% to 10% increase	15.7%	38.7%	30.0%	16.5%	10.5%	19.0%	12.4%	16.2%	12.2%	18.6%
Greater than 10% increase	29.1%	9.7%	28.0%	17.0%	19.6%	21.7%	29.9%	47.1%	23.7%	44.1%

[1]New England=CT, ME, MA, NH, RI, VT; Middle Atlantic=NJ, NY, PA; East North Central=IL, IN, MI, OH, WI; West North Central=IA, KS, MN, MO, NE, ND, SD; South Atlantic=DE, DC, FL, GA, MD, NC, SC, VA, WV; East South Central=AL, KY, MS, TN; West South Central=AR, LA, OK, TX; Mountain=AZ, CO, ID, MT, NV, NM, UT, WY; Pacific=AK, CA, HI, OR, WA.
Source: 2018 Home Health Compare, Post-Acute Care and Hospice Provider Utilization and Payment Public Use Files, and CY2020 HHA-Level PDGM Impacts File.

Table A3. Estimated Percent Change in Medicare Fee-for-Service Payments to Home Health Agencies (HHAs) From Implementation of the Patient-Driven Groupings Model (PDGM) by Rural-Serving Status and Profit Status[1]

	Profit status			
	All HHA n=9,777	Non-Profit n=1,525	Government n=372	For-Profit n=7,880
Urban HHAs not rural serving	**n=4,631**	**n=405**	**n=32**	**n=4,194**
Minimal/no change	2.7%	5.7%	0.0%	2.4%
Greater than 10% decrease	19.6%	14.8%	15.6%	20.1%
Greater than 5% to 10% decrease	11.5%	10.9%	9.4%	11.6%
Up to 5% decrease	10.7%	13.6%	21.9%	10.4%
Up to 5% increase	10.4%	15.8%	12.5%	9.8%
Greater than 5% to 10% increase	10.4%	19.0%	6.3%	9.6%
Greater than 10% increase	34.7%	20.3%	34.4%	36.1%
Urban HHAs rural serving	**n=3,612**	**n=647**	**n=74**	**n=2,891**
Minimal/no change	3.9%	4.5%	6.8%	3.7%
Greater than 10% decrease	17.7%	10.8%	12.2%	19.4%
Greater than 5% to 10% decrease	15.5%	13.5%	13.5%	16.1%
Up to 5% decrease	15.9%	21.8%	13.5%	14.6%
Up to 5% increase	14.0%	20.6%	16.2%	12.5%
Greater than 5% to 10% increase	10.6%	15.6%	14.9%	9.4%
Greater than 10% increase	22.4%	13.3%	23.0%	24.4%
Rural HHAs	**n=1,534**	**n=473**	**n=266**	**n=795**
Minimal/no change	3.9%	3.0%	4.1%	4.3%
Greater than 10% decrease	13.6%	14.0%	11.7%	14.0%
Greater than 5% to 10% decrease	11.7%	14.4%	14.3%	9.2%
Up to 5% decrease	13.0%	14.0%	11.7%	13.0%
Up to 5% increase	13.2%	13.5%	15.0%	12.5%
Greater than 5% to 10% increase	15.7%	19.5%	12.4%	14.6%
Greater than 10% increase	28.9%	21.8%	30.8%	32.6%

[1]HHA with missing profit status variable (n=13) not included.
Source: 2018 Home Health Compare, Post-Acute Care and Hospice Provider Utilization and Payment Public Use Files, and CY2020 HHA-Level PDGM Impacts File.

Table A4. Estimated Percent Change in Medicare Fee-for-Service Payments to Home Health Agencies (HHAs) From Implementation of the Patient-Driven Groupings Model (PDGM) by Rural-Serving Status and Quality Ratings[1]

	Quality ratings			
	All HHA n=8,449	Quality stars 1-2.5 n=3,611	Quality stars 3-3.5 n=3,381	Quality stars 4-5 n=1,457
Urban HHAs not rural serving	**n=3,611**	**n=1,059**	**n=1,263**	**n=1,289**
Minimal/no change	2.9%	2.1%	2.7%	3.7%
Greater than 10% decrease	20.2%	17.4%	19.7%	23.1%
Greater than 5% to 10% decrease	13.0%	8.6%	14.3%	15.4%
Up to 5% decrease	12.1%	9.4%	12.1%	14.4%
Up to 5% increase	11.4%	9.5%	12.4%	12.0%
Greater than 5% to 10% increase	11.7%	13.6%	12.0%	9.9%
Greater than 10% increase	28.6%	39.4%	26.8%	21.5%
Urban HHAs rural serving	**n=3,381**	**n=959**	**n=1,328**	**n=1,094**
Minimal/no change	4.1%	4.5%	3.8%	4.0%
Greater than 10% decrease	18.0%	16.2%	18.6%	18.8%
Greater than 5% to 10% decrease	16.2%	12.2%	16.8%	18.9%
Up to 5% decrease	16.3%	12.0%	16.0%	20.4%
Up to 5% increase	14.8%	11.8%	16.9%	14.9%
Greater than 5% to 10% increase	10.8%	11.2%	10.5%	10.9%
Greater than 10% increase	19.9%	32.2%	17.5%	12.1%
Rural HHAs	**n=1,457**	**n=484**	**n=576**	**n=397**
Minimal/no change	3.9%	2.7%	3.3%	6.3%
Greater than 10% decrease	13.5%	14.9%	12.9%	12.6%
Greater than 5% to 10% decrease	11.9%	10.7%	14.1%	10.3%
Up to 5% decrease	13.4%	11.6%	14.2%	14.4%
Up to 5% increase	13.5%	8.7%	15.5%	16.4%
Greater than 5% to 10% increase	16.3%	16.3%	15.8%	16.9%
Greater than 10% increase	27.6%	35.1%	24.3%	23.2%

[1]HHA with missing quality star rating variables (n=1,341) not included.
Source: 2018 Home Health Compare, Post-Acute Care and Hospice Provider Utilization and Payment Public Use Files, and CY2020 HHA-Level PDGM Impacts File.

Table A5. Estimated Percent Change in Medicare Fee-for-Service Payments to Home Health Agencies (HHAs) From Implementation of the Patient-Driven Groupings Model (PDGM) by Rural-Serving Status and Episode Volume[1,2]

	Episode volume				
	All HHA n=9,250	Quartile 1 n=2,331	Quartile 2 n=2,308	Quartile 3 n=2,303	Quartile 4 n=2,308
Urban HHAs not rural serving	**n=4,094**	**n=1,319**	**n=1,166**	**n=996**	**n=613**
Minimal/no change	2.8%	1.5%	2.7%	3.5%	4.6%
Greater than 10% decrease	19.5%	22.3%	21.1%	17.4%	13.9%
Greater than 5% to 10% decrease	12.4%	9.3%	12.0%	14.3%	17.0%
Up to 5% decrease	11.6%	7.7%	11.6%	13.0%	17.9%
Up to 5% increase	11.0%	7.8%	9.8%	12.9%	17.0%
Greater than 5% to 10% increase	11.1%	9.8%	9.4%	12.3%	15.5%
Greater than 10% increase	31.6%	41.6%	33.5%	26.8%	14.2%
Urban HHAs rural serving	**n=3,615**	**n=636**	**n=735**	**n=897**	**n=1,347**
Minimal/no change	3.9%	2.7%	2.6%	3.5%	5.4%
Greater than 10% decrease	17.7%	22.2%	20.8%	17.6%	13.9%
Greater than 5% to 10% decrease	15.5%	12.3%	13.2%	15.7%	18.3%
Up to 5% decrease	15.9%	11.3%	11.7%	15.7%	20.4%
Up to 5% increase	14.0%	7.1%	11.6%	14.2%	18.6%
Greater than 5% to 10% increase	10.6%	9.9%	8.8%	11.3%	11.4%
Greater than 10% increase	22.4%	34.6%	31.3%	22.1%	12.0%
Rural HHAs	**n=1,541**	**n=376**	**n=407**	**n=410**	**n=348**
Minimal/no change	3.8%	2.7%	3.0%	3.9%	6.0%
Greater than 10% decrease	13.5%	21.3%	17.0%	9.5%	5.8%
Greater than 5% to 10% decrease	11.8%	12.2%	12.3%	10.7%	11.8%
Up to 5% decrease	13.0%	12.5%	11.3%	15.1%	12.9%
Up to 5% increase	13.2%	10.9%	12.8%	12.0%	17.5%
Greater than 5% to 10% increase	15.7%	11.4%	14.0%	18.3%	19.3%
Greater than 10% increase	29.1%	29.0%	29.7%	30.5%	26.7%

[1]HHA with missing episode count variable (n=540) not included.
[2]Quartile 1 – total episodes = 0 to 141; Quartile 2 – total episodes = 142 – 331; Quartile 3 – total episodes = 332 – 732; Quartile 4 – total episodes > 732.
Source: 2018 Home Health Compare, Post-Acute Care and Hospice Provider Utilization and Payment Public Use Files, and CY2020 HHA-Level PDGM Impacts File.

Table A6. Estimated Percent Change in Medicare Fee-for-Service Payments to Home Health Agencies (HHAs) From Implementation of the Patient-Driven Groupings Model and Rural Add-On Payment Revisions[1] by Rural-Serving Status

	Low estimate	High estimate
Urban HHAs not rural serving	**n=4,634**	
Minimal/no change	2.7%	2.7%
Greater than 10% decrease	19.6%	19.6%
Greater than 5% to 10% decrease	11.5%	11.5%
Up to 5% decrease	10.7%	10.7%
Up to 5% increase	10.4%	10.4%
Greater than 5% to 10% increase	10.5%	10.5%
Greater than 10% increase	34.7%	34.7%
Urban HHAs rural serving	**n=3,615**	
Minimal/no change	3.6%	3.6%
Greater than 10% decrease	18.1%	18.0%
Greater than 5% to 10% decrease	15.7%	15.6%
Up to 5% decrease	16.3%	16.2%
Up to 5% increase	13.6%	13.8%
Greater than 5% to 10% increase	10.6%	10.7%
Greater than 10% increase	22.1%	22.2%
Rural HHAs	**n=1,541**	
Minimal/no change	2.7%	2.8%
Greater than 10% decrease	15.4%	14.9%
Greater than 5% to 10% decrease	13.6%	12.9%
Up to 5% decrease	14.2%	14.0%
Up to 5% increase	14.2%	14.3%
Greater than 5% to 10% increase	15.1%	15.4%
Greater than 10% increase	24.8%	25.9%

[1]No rural add-on payment for urban HHAs not rural serving.
Source: 2018 Home Health Compare and Post-Acute Care and Hospice Provider Utilization and Payment Public Use Files. CY2020 HHA-Level PDGM Impacts File and CY2021-CY2022 Rural Add-On Payment Designations File.

Table A7a. Low Estimated Percent Change in Medicare Fee-for-Service Payments to Home Health Agencies (HHAs) From Implementation of the Patient-Driven Groupings Model (PDGM) and Rural Add-On Payment Revisions by Rural-Serving Status and Census Division[1]

	All HHA n=9,790	Census Division[1]								
		New England n=343	Middle Atlantic n=451	East North Central n=1,801	West North Central n=638	South Atlantic n=1,594	East South Central n=403	West South Central n=2,501	Mountain n=661	Pacific n=1,398
Urban HHAs not rural serving	**n=3,615**	**n=92**	**n=161**	**n=672**	**n=275**	**n=611**	**n=200**	**n=1,256**	**n=195**	**n=153**
Minimal/no change	3.6%	7.6%	6.2%	2.5%	3.3%	4.8%	5.0%	2.9%	4.1%	3.3%
Greater than 10% decrease	18.1%	8.7%	9.9%	25.6%	34.6%	22.6%	17.0%	9.2%	37.4%	1.3%
Greater than 5% to 10% decrease	15.7%	10.9%	14.9%	17.4%	16.7%	21.9%	20.0%	10.6%	18.0%	19.0%
Up to 5% decrease	16.3%	18.5%	14.3%	14.4%	19.3%	23.9%	23.0%	12.0%	16.9%	15.0%
Up to 5% increase	13.6%	17.4%	19.9%	14.4%	9.5%	15.6%	15.5%	12.5%	7.7%	15.7%
Greater than 5% to 10% increase	10.6%	20.7%	19.3%	10.9%	7.6%	5.7%	8.0%	11.5%	6.2%	19.6%
Greater than 10% increase	22.1%	16.3%	15.5%	14.7%	9.1%	5.6%	11.5%	41.2%	9.7%	26.1%
Rural HHAs	**n=1,541**	**n=31**	**n=50**	**n=218**	**n=296**	**n=184**	**n=177**	**n=395**	**n=131**	**n=59**
Minimal/no change	2.7%	3.2%	4.0%	1.4%	2.7%	3.3%	2.8%	3.5%	1.5%	1.7%
Greater than 10% decrease	15.4%	0.0%	4.0%	23.4%	27.0%	14.7%	15.8%	5.3%	22.1%	0.0%
Greater than 5% to 10% decrease	13.6%	16.1%	18.0%	16.5%	15.9%	14.7%	15.8%	9.1%	13.0%	8.5%
Up to 5% decrease	14.2%	19.4%	6.0%	13.3%	16.2%	15.2%	13.6%	12.2%	17.6%	15.3%
Up to 5% increase	14.2%	22.6%	18.0%	17.0%	10.5%	17.9%	14.1%	13.4%	11.5%	15.3%
Greater than 5% to 10% increase	15.1%	32.3%	32.0%	15.6%	9.1%	17.4%	13.0%	15.2%	15.3%	17.0%
Greater than 10% increase	24.8%	6.5%	18.0%	12.8%	18.6%	16.9%	24.9%	41.3%	19.1%	42.4%

[1]New England=CT, ME, MA, NH, RI, VT; Middle Atlantic=NJ, NY, PA; East North Central=IL, IN, MI, OH, WI; West North Central=IA, KS, MN, MO, NE, ND, SD; South Atlantic=DE, DC, FL, GA, MD, NC, SC, VA, WV; East South Central=AL, KY, MS, TN; West South Central=AR, LA, OK, TX; Mountain=AZ, CO, ID, MT, NV, NM, UT, WY; Pacific=AK, CA, HI, OR, WA.
Source: 2018 Home Health Compare and Post-Acute Care and Hospice Provider Utilization and Payment Public Use Files. CY2020 HHA-Level PDGM Impacts File and CY2021-CY2022 Rural Add-On Payment Designations File.

Table A7b. High Estimated Percent Change in Medicare Fee-for-Service Payments to Home Health Agencies (HHAs) From Implementation of the Patient-Driven Groupings Model (PDGM) and Rural Add-On Payment Revisions by Rural-Serving Status and Census Division[1]

	All HHA n=9,790	Census Division[1]								
		New England n=343	Middle Atlantic n=451	East North Central n=1,801	West North Central n=638	South Atlantic n=1,594	East South Central n=403	West South Central n=2,501	Mountain n=661	Pacific n=1,398
Urban HHAs rural serving	**n=3,615**	**n=92**	**n=161**	**n=672**	**n=275**	**n=611**	**n=200**	**n=1,256**	**n=195**	**n=153**
Minimal/no change	3.6%	8.7%	5.0%	2.4%	2.9%	5.1%	4.5%	3.0%	3.1%	3.9%
Greater than 10% decrease	18.0%	8.7%	9.9%	25.6%	34.6%	22.1%	16.0%	9.2%	37.4%	1.3%
Greater than 5% to 10% decrease	15.6%	10.9%	14.9%	17.4%	16.4%	21.9%	19.5%	10.5%	16.9%	19.0%
Up to 5% decrease	16.2%	17.4%	14.3%	14.4%	18.9%	23.7%	23.0%	12.0%	18.0%	14.4%
Up to 5% increase	13.8%	17.4%	21.1%	14.6%	10.2%	15.7%	17.0%	12.3%	7.7%	15.7%
Greater than 5% to 10% increase	10.7%	20.6%	19.3%	10.9%	8.0%	5.9%	8.0%	11.6%	7.2%	19.6%
Greater than 10% increase	22.2%	16.3%	15.5%	14.7%	9.1%	5.6%	12.0%	41.4%	9.7%	26.1%
Rural HHAs	**n=1,541**	**n=31**	**n=50**	**n=218**	**n=296**	**n=184**	**n=177**	**n=395**	**n=131**	**n=59**
Minimal/no change	2.8%	3.2%	4.0%	1.4%	2.0%	1.6%	4.0%	3.8%	3.8%	1.7%
Greater than 10% decrease	14.9%	0.0%	4.0%	23.4%	26.4%	14.1%	14.1%	5.1%	20.6%	0.0%
Greater than 5% to 10% decrease	12.8%	16.1%	18.0%	16.1%	15.2%	14.1%	15.3%	7.1%	14.5%	6.8%
Up to 5% decrease	14.0%	16.1%	6.0%	12.8%	16.2%	16.3%	13.0%	12.7%	13.7%	17.0%
Up to 5% increase	14.3%	25.8%	14.0%	17.0%	11.8%	16.9%	14.7%	13.2%	12.2%	13.6%
Greater than 5% to 10% increase	15.4%	29.0%	32.0%	15.6%	9.8%	19.0%	12.4%	16.2%	13.7%	17.0%

[1]New England=CT, ME, MA, NH, RI, VT; Middle Atlantic=NJ, NY, PA; East North Central=IL, IN, MI, OH, WI; West North Central=IA, KS, MN, MO, NE, ND, SD; South Atlantic=DE, DC, FL, GA, MD, NC, SC, VA, WV; East South Central=AL, KY, MS, TN; West South Central=AR, LA, OK, TX; Mountain=AZ, CO, ID, MT, NV, NM, UT, WY; Pacific=AK, CA, HI, OR, WA.
Source: 2018 Home Health Compare and Post-Acute Care and Hospice Provider Utilization and Payment Public Use Files. CY2020 HHA-Level PDGM Impacts File and CY2021-CY2022 Rural Add-On Payment Designations File.

Table A8a. Low Estimated Percent Change in Medicare Fee-for-Service Payments to Home Health Agencies (HHAs) From Implementation of the Patient-Driven Groupings Model (PDGM) and Rural Add-On Payment Revisions[1] by Rural-Serving Status and Profit Status[2]

	Profit status			
	All HHA n=9,777	Non-Profit n=1,525	Government n=372	For-Profit n=7,880
Urban HHAs not rural serving	**n=4,631**	**n=405**	**n=32**	**n=4,194**
Minimal/no change	2.7%	5.7%	0.0%	2.4%
Greater than 10% decrease	19.6%	14.8%	15.6%	20.1%
Greater than 5% to 10% decrease	11.5%	10.9%	9.4%	11.6%
Up to 5% decrease	10.7%	13.6%	21.9%	10.4%
Up to 5% increase	10.4%	15.8%	12.5%	9.8%
Greater than 5% to 10% increase	10.4%	19.0%	6.3%	9.6%
Greater than 10% increase	34.7%	20.3%	34.4%	36.1%
Urban HHAs rural serving	**n=3,612**	**n=647**	**n=74**	**n=2,891**
Minimal/no change	3.6%	4.5%	6.8%	3.4%
Greater than 10% decrease	18.1%	11.0%	13.5%	19.8%
Greater than 5% to 10% decrease	15.7%	14.1%	13.5%	16.1%
Up to 5% decrease	16.3%	22.0%	13.5%	15.1%
Up to 5% increase	13.6%	19.5%	16.2%	12.2%
Greater than 5% to 10% increase	10.6%	16.2%	13.5%	9.2%
Greater than 10% increase	22.1%	12.8%	23.0%	24.1%
Rural HHAs	**n=1,534**	**n=473**	**n=266**	**n=795**
Minimal/no change	2.7%	3.6%	1.5%	2.6%
Greater than 10% decrease	15.5%	15.2%	14.7%	16.0%
Greater than 5% to 10% decrease	13.6%	16.5%	14.3%	11.6%
Up to 5% decrease	14.2%	14.2%	13.9%	14.3%
Up to 5% increase	14.2%	14.2%	15.8%	13.7%
Greater than 5% to 10% increase	15.1%	17.8%	12.8%	14.2%
Greater than 10% increase	24.7%	18.6%	27.1%	27.6%

[1]No rural add-on payment for urban HHAs not rural serving.
[2]HHA with missing profit status variable (n=13) not included.
Source: 2018 Home Health Compare and Post-Acute Care and Hospice Provider Utilization and Payment Public Use Files. CY2020 HHA-Level PDGM Impacts File and CY2021-CY2022 Rural Add-On Payment Designations File.

Table A8b. High Estimated Percent Change in Medicare Fee-for-Service Payments to Home Health Agencies (HHAs) From Implementation of the Patient-Driven Groupings Model (PDGM) and Rural Add-On Payment Revisions[1] by Rural-Serving Status and Profit Status[2]

	Profit status			
	All HHA n=9,777	Non-Profit n=1,525	Government n=372	For-Profit n=7,880
Urban HHAs not rural serving	**n=4,631**	**n=405**	**n=32**	**n=4,194**
Minimal/no change	2.7%	5.7%	0.0%	2.4%
Greater than 10% decrease	19.6%	14.8%	15.6%	20.1%
Greater than 5% to 10% decrease	11.5%	10.9%	9.4%	11.6%
Up to 5% decrease	10.7%	13.6%	21.9%	10.4%
Up to 5% increase	10.4%	15.8%	12.5%	9.8%
Greater than 5% to 10% increase	10.4%	19.0%	6.3%	9.6%
Greater than 10% increase	34.7%	20.3%	34.4%	36.1%
Urban HHAs rural serving	**n=3,612**	**n=647**	**n=74**	**n=2,891**
Minimal/no change	3.6%	4.2%	5.4%	3.4%
Greater than 10% decrease	18.0%	11.0%	13.5%	19.7%
Greater than 5% to 10% decrease	15.6%	14.1%	13.5%	16.0%
Up to 5% decrease	16.2%	21.6%	13.5%	15.1%
Up to 5% increase	13.8%	19.9%	17.6%	12.3%
Greater than 5% to 10% increase	10.7%	16.2%	13.5%	9.4%
Greater than 10% increase	22.2%	13.0%	23.0%	24.2%
Rural HHAs	**n=1,534**	**n=473**	**n=266**	**n=795**
Minimal/no change	2.8%	3.2%	2.6%	2.6%
Greater than 10% decrease	14.9%	14.8%	13.2%	15.6%
Greater than 5% to 10% decrease	12.8%	16.1%	14.7%	10.2%
Up to 5% decrease	14.0%	13.5%	12.8%	14.7%
Up to 5% increase	14.3%	14.8%	15.8%	13.5%
Greater than 5% to 10% increase	15.4%	17.8%	12.8%	14.8%
Greater than 10% increase	25.8%	19.9%	28.2%	28.6%

[1]No rural add-on payment for urban HHAs not rural serving.
[2]HHA with missing profit status variable (n=13) not included.
Source: 2018 Home Health Compare and Post-Acute Care and Hospice Provider Utilization and Payment Public Use Files. CY2020 HHA-Level PDGM Impacts File and CY2021-CY2022 Rural Add-On Payment Designations File.

Table A9a. Low Estimated Percent Change in Medicare Fee-for-Service Payments to Home Health Agencies (HHAs) From Implementation of the Patient-Driven Groupings Model (PDGM) and Rural Add-On Payment Revisions[1] by Rural-Serving Status and Quality Ratings[2]

	Quality ratings			
	All HHA n=8,449	Quality stars 1-2.5 n=3,611	Quality stars 3-3.5 n=3,381	Quality stars 4-5 n=1,457
Urban HHAs not rural serving	**n=3,611**	**n=1,059**	**n=1,263**	**n=1,289**
Minimal/no change	2.9%	2.1%	2.7%	3.7%
Greater than 10% decrease	20.2%	17.4%	19.7%	23.1%
Greater than 5% to 10% decrease	13.0%	8.6%	14.3%	15.4%
Up to 5% decrease	12.1%	9.4%	12.1%	14.4%
Up to 5% increase	11.4%	9.5%	12.4%	12.0%
Greater than 5% to 10% increase	11.7%	13.6%	12.0%	9.9%
Greater than 10% increase	28.6%	39.4%	26.8%	21.5%
Urban HHAs rural serving	**n=3,381**	**n=959**	**n=1,328**	**n=1,094**
Minimal/no change	3.8%	3.6%	4.1%	3.8%
Greater than 10% decrease	18.4%	16.7%	18.8%	19.5%
Greater than 5% to 10% decrease	16.4%	12.2%	17.4%	18.9%
Up to 5% decrease	16.7%	12.7%	16.4%	20.6%
Up to 5% increase	14.3%	11.7%	15.6%	15.1%
Greater than 5% to 10% increase	10.7%	11.0%	10.8%	10.5%
Greater than 10% increase	19.6%	32.2%	16.9%	11.7%
Rural HHAs	**n=1,457**	**n=484**	**n=576**	**n=397**
Minimal/no change	2.8%	1.9%	3.5%	3.0%
Greater than 10% decrease	15.4%	15.9%	15.6%	14.4%
Greater than 5% to 10% decrease	13.9%	13.8%	14.6%	13.1%
Up to 5% decrease	14.6%	10.7%	14.8%	18.9%
Up to 5% increase	14.5%	10.7%	16.2%	16.6%
Greater than 5% to 10% increase	15.6%	15.5%	17.5%	13.1%
Greater than 10% increase	23.2%	31.4%	17.9%	20.9%

[1]No rural add-on payment for urban HHAs not rural serving.
[2]HHA with missing quality star rating variables (n=1,341) not included.
Source: 2018 Home Health Compare and Post-Acute Care and Hospice Provider Utilization and Payment Public Use Files. CY2020 HHA-Level PDGM Impacts File and CY2021-CY2022 Rural Add-On Payment Designations File.

Table A9b. High Estimated Percent Change in Medicare Fee-for-Service Payments to Home Health Agencies (HHAs) From Implementation of the Patient-Driven Groupings Model (PDGM) and Rural Add-On Payment Revisions[1] by Rural-Serving Status and Quality Ratings[2]

	Quality ratings			
	All HHA n=8,449	Quality stars 1-2.5 n=3,611	Quality stars 3-3.5 n=3,381	Quality stars 4-5 n=1,457
Urban HHAs not rural serving	**n=3,611**	**n=1,059**	**n=1,263**	**n=1,289**
Minimal/no change	2.9%	2.1%	2.7%	3.7%
Greater than 10% decrease	20.2%	17.4%	19.7%	23.1%
Greater than 5% to 10% decrease	13.0%	8.6%	14.3%	15.4%
Up to 5% decrease	12.1%	9.4%	12.1%	14.4%
Up to 5% increase	11.4%	9.5%	12.4%	12.0%
Greater than 5% to 10% increase	11.7%	13.6%	12.0%	9.9%
Greater than 10% increase	28.6%	39.4%	26.8%	21.5%
Urban HHAs rural serving	**n=3,381**	**n=959**	**n=1,328**	**n=1,094**
Minimal/no change	3.8%	3.6%	3.8%	3.9%
Greater than 10% decrease	18.3%	16.6%	18.6%	19.4%
Greater than 5% to 10% decrease	16.3%	12.1%	17.3%	18.7%
Up to 5% decrease	16.6%	12.7%	16.3%	20.5%
Up to 5% increase	14.5%	11.8%	16.0%	15.1%
Greater than 5% to 10% increase	10.9%	11.1%	10.9%	10.7%
Greater than 10% increase	19.7%	32.2%	17.1%	11.8%
Rural HHAs	**n=1,457**	**n=484**	**n=576**	**n=397**
Minimal/no change	2.9%	2.3%	3.1%	3.3%
Greater than 10% decrease	14.8%	15.5%	14.9%	13.9%
Greater than 5% to 10% decrease	13.0%	13.0%	14.4%	11.1%
Up to 5% decrease	14.5%	10.7%	14.6%	18.9%
Up to 5% increase	14.5%	10.7%	15.8%	17.1%
Greater than 5% to 10% increase	15.9%	15.3%	17.5%	14.4%
Greater than 10% increase	24.4%	32.4%	19.6%	21.4%

[1]No rural add-on payment for urban HHAs not rural serving.
[2]HHA with missing quality star rating variables (n=1,341) not included.
Source: 2018 Home Health Compare and Post-Acute Care and Hospice Provider Utilization and Payment Public Use Files. CY2020 HHA-Level PDGM Impacts File and CY2021-CY2022 Rural Add-On Payment Designations File.

Table A10a. Low Estimated Percent Change in Medicare Fee-for-Service Payments to Home Health Agencies (HHAs) From Implementation of the Patient-Driven Groupings Model (PDGM) and Rural Add-On Payment Revisions[1] by Rural-Serving Status and Episode Volume[2,3]

	Episode volume				
	All HHA n=9,250	Quartile 1 n=2,331	Quartile 2 n=2,308	Quartile 3 n=2,303	Quartile 4 n=2,308
Urban HHAs not rural serving	**n=4,094**	**n=1,319**	**n=1,166**	**n=996**	**n=613**
Minimal/no change	2.8%	1.5%	2.7%	3.5%	4.6%
Greater than 10% decrease	19.5%	22.3%	21.1%	17.4%	13.9%
Greater than 5% to 10% decrease	12.4%	9.3%	12.0%	14.3%	17.0%
Up to 5% decrease	11.6%	7.7%	11.6%	13.0%	17.9%
Up to 5% increase	11.0%	7.8%	9.8%	12.9%	17.0%
Greater than 5% to 10% increase	11.1%	9.8%	9.4%	12.3%	15.5%
Greater than 10% increase	31.6%	41.6%	33.5%	26.8%	14.2%
Urban HHAs rural serving	**n=3,615**	**n=636**	**n=735**	**n=897**	**n=1,347**
Minimal/no change	3.6%	2.0%	2.3%	3.5%	5.2%
Greater than 10% decrease	18.1%	21.7%	21.2%	18.1%	14.7%
Greater than 5% to 10% decrease	15.7%	12.1%	13.1%	16.1%	18.6%
Up to 5% decrease	16.3%	12.0%	12.1%	15.9%	20.9%
Up to 5% increase	13.6%	7.6%	11.7%	13.6%	17.6%
Greater than 5% to 10% increase	10.6%	9.3%	8.6%	11.2%	11.9%
Greater than 10% increase	22.1%	35.4%	31.0%	21.7%	11.1%
Rural HHAs	**n=1,541**	**n=376**	**n=407**	**n=410**	**n=348**
Minimal/no change	2.7%	1.6%	3.0%	1.7%	4.9%
Greater than 10% decrease	15.4%	23.1%	18.7%	11.7%	7.8%
Greater than 5% to 10% decrease	13.6%	14.1%	13.5%	13.4%	13.5%
Up to 5% decrease	14.2%	13.0%	12.0%	15.6%	16.1%
Up to 5% increase	14.2%	10.9%	13.0%	14.9%	18.4%
Greater than 5% to 10% increase	15.1%	9.6%	14.3%	18.8%	17.5%
Greater than 10% increase	24.8%	27.7%	25.6%	23.9%	21.8%

[1]No rural add-on payment for urban HHAs not rural serving.
[2]HHA with missing episode count variable (n=540) not included.
[3]Quartile 1 – total episodes = 0 to 141; Quartile 2 – total episodes = 142 – 331; Quartile 3 – total episodes = 332 – 732; Quartile 4 – total episodes > 732.
Source: 2018 Home Health Compare and Post-Acute Care and Hospice Provider Utilization and Payment Public Use Files. CY2020 HHA-Level PDGM Impacts File and CY2021-CY2022 Rural Add-On Payment Designations File.

A10b. High Estimated Percent Change in Medicare Fee-for-Service Payments to Home Health Agencies (HHAs) From Implementation of the Patient-Driven Groupings Model (PDGM) and Rural Add-On Payment Revisions[1] by Rural-Serving Status and Episode Volume[2,3]

	Episode volume				
	All HHA n=9,250	Quartile 1 n=2,331	Quartile 2 n=2,308	Quartile 3 n=2,303	Quartile 4 n=2,308
Urban HHAs not rural serving	**n=4,094**	**n=1,319**	**n=1,166**	**n=996**	**n=613**
Minimal/no change	2.8%	1.5%	2.7%	3.5%	4.6%
Greater than 10% decrease	19.5%	22.3%	21.1%	17.4%	13.9%
Greater than 5% to 10% decrease	12.4%	9.3%	12.0%	14.3%	17.0%
Up to 5% decrease	11.6%	7.7%	11.6%	13.0%	17.9%
Up to 5% increase	11.0%	7.8%	9.8%	12.9%	17.0%
Greater than 5% to 10% increase	11.1%	9.8%	9.4%	12.3%	15.5%
Greater than 10% increase	31.6%	41.6%	33.5%	26.8%	14.2%
Urban HHAs rural serving	**n=3,615**	**n=636**	**n=735**	**n=897**	**n=1,347**
Minimal/no change	3.6%	1.9%	2.6%	3.1%	5.2%
Greater than 10% decrease	17.9%	21.7%	21.1%	18.0%	14.5%
Greater than 5% to 10% decrease	15.6%	12.0%	13.2%	15.8%	18.4%
Up to 5% decrease	16.2%	12.1%	11.7%	15.9%	20.9%
Up to 5% increase	13.8%	7.6%	11.7%	14.2%	17.7%
Greater than 5% to 10% increase	10.7%	9.4%	8.6%	11.3%	12.1%
Greater than 10% increase	22.2%	35.4%	31.2%	21.7%	11.3%
Rural HHAs	**n=1,541**	**n=376**	**n=407**	**n=410**	**n=348**
Minimal/no change	2.8%	1.9%	2.5%	3.2%	3.7%
Greater than 10% decrease	14.9%	22.6%	18.2%	10.7%	7.5%
Greater than 5% to 10% decrease	12.8%	14.1%	12.8%	12.0%	12.6%
Up to 5% decrease	13.9%	12.0%	12.0%	16.1%	15.8%
Up to 5% increase	14.3%	11.4%	13.3%	14.4%	18.4%
Greater than 5% to 10% increase	15.4%	10.1%	14.7%	18.3%	18.4%
Greater than 10% increase	25.9%	27.9%	26.5%	25.4%	23.6%

[1]No rural add-on payment for urban HHAs not rural serving.
[2]HHA with missing episode count variable (n=540) not included.
[3]Quartile 1 – total episodes = 0 to 141; Quartile 2 – total episodes = 142 – 331; Quartile 3 – total episodes = 332 – 732; Quartile 4 – total episodes > 732.
Source: 2018 Home Health Compare and Post-Acute Care and Hospice Provider Utilization and Payment Public Use Files. CY2020 HHA-Level PDGM Impacts File and CY2021-CY2022 Rural Add-On Payment Designations File.

Table A11. Estimated Percent Change in Medicare Fee-for-Service Payments to Home Health Agencies (HHAs) From Implementation of the Patient-Driven Groupings Model (PDGM), Rural Add-On Payment Revisions[1], and Home Health Value Based Purchasing (HHVBP) Model[2] by Rural-Serving Status

	Low estimate	High estimate
Urban HHAs not rural serving	**n=974**	
Minimal/no change	3.0%	3.0%
Greater than 10% decrease	51.9%	15.1%
Greater than 5% to 10% decrease	14.3%	11.8%
Up to 5% decrease	9.2%	16.7%
Up to 5% increase	6.4%	14.2%
Greater than 5% to 10% increase	3.3%	12.7%
Greater than 10% increase	12.0%	26.5%
Urban HHAs rural serving	**n=582**	
Minimal/no change	2.1%	5.0%
Greater than 10% decrease	54.0%	7.7%
Greater than 5% to 10% decrease	22.7%	12.5%
Up to 5% decrease	11.0%	19.9%
Up to 5% increase	5.0%	23.2%
Greater than 5% to 10% increase	2.8%	17.0%
Greater than 10% increase	2.6%	14.6%
Rural HHAs	**n=238**	
Minimal/no change	3.8%	3.8%
Greater than 10% decrease	37.4%	5.5%
Greater than 5% to 10% decrease	18.9%	10.5%
Up to 5% decrease	13.0%	14.3%
Up to 5% increase	13.0%	14.3%
Greater than 5% to 10% increase	5.0%	17.2%
Greater than 10% increase	8.8%	34.4%

[1]No rural add-on payment for urban HHAs not rural serving.
[2]HHVBP states are Arizona, Florida, Iowa, Maryland, Massachusetts, Nebraska, North Carolina, Tennessee, Washington.
Source: 2018 Home Health Compare and Post-Acute Care and Hospice Provider Utilization and Payment Public Use Files. CY2020 HHA-Level PDGM Impacts File and CY2021-CY2022 Rural Add-On Payment Designations File