

CHAPTER

8

---

**Home health care services**

---

**R E C O M M E N D A T I O N S**

**8-1** For calendar year 2023, the Congress should reduce the 2022 Medicare base payment rate for home health agencies by 5 percent.

COMMISSIONER VOTES: YES 17 • NO 0 • NOT VOTING 0 • ABSENT 0

.....

**8-2** The Secretary should require that home health agencies report telehealth services provided during a 30-day period.

COMMISSIONER VOTES: YES 17 • NO 0 • NOT VOTING 0 • ABSENT 0

# Home health care services

## Chapter summary

Home health agencies (HHAs) provide services to beneficiaries who are homebound and need skilled nursing care or therapy. In 2020, about 3.1 million Medicare fee-for-service beneficiaries received care, and the program spent \$17.1 billion on home health care services. In that year, 11,456 HHAs participated in Medicare.

In this chapter, we assess indicators of payment adequacy in order to recommend a payment update for 2023. Because of standard data lags, the most recent complete data we have for most payment adequacy indicators are from 2020. Where relevant, we have considered the effects of the coronavirus public health emergency (PHE) on our indicators and whether those effects are likely to be temporary or permanent. To the extent that the effects of the PHE are temporary or vary significantly across HHAs, they are best addressed through targeted temporary funding policies rather than a permanent change to all HHAs' payment rates in 2023 and future years.

This chapter also responds to a mandate in the Bipartisan Budget Act (BBA) of 2018 that requires the Commission to provide an interim report on the Act's mandated changes to the home health prospective payment system by March 15, 2022.

## In this chapter

- Mandated report on Bipartisan Budget Act of 2018 changes to the home health payment system  
Are Medicare payments adequate in 2022?
- Are Medicare payments adequate in 2022?
- How should Medicare payments change in 2023?
- Requiring HHAs to report the telehealth services they provide to Medicare beneficiaries under the home health benefit

## Assessment of payment adequacy

The indicators of Medicare payment adequacy for home health care are generally positive.

**Beneficiaries' access to care**—Access to home health care is adequate: Over 99 percent of Medicare beneficiaries lived in a county served by at least one HHA, and 87.9 percent lived in a county served by five or more HHAs.

- **Capacity and supply of providers**—Between 2019 and 2020, the number of HHAs fell by 1.0 percent, continuing a slow decline since 2013 but at a lower rate than in prior years; in fact, some areas have experienced growth in HHAs. The slower decline in supply of HHAs suggests that neither the coronavirus PHE nor the Patient-Driven Groupings Model (PDGM) has had a significant impact on HHA supply.
- **Volume of services**—In 2020, the number of beneficiaries receiving home health care fell by 4.7 percent, though a review of market trends and the monthly volume of home health services indicates that the decline was concentrated in April and May, and volume recovered later in the year to levels near or above those of 2019. This monthly pattern, with the largest drop in volume coinciding with the onset of the PHE, indicates that the decline in services was not attributable to the implementation of the PDGM. The average number of in-person visits per 30-day period also declined (9.4 percent), but some of the decline could have been offset by greater use of virtual visits through telehealth.
- **Marginal profit**—In 2020, freestanding HHAs' marginal profit—that is, the rate at which Medicare payments exceed providers' marginal costs—was 22.9 percent, suggesting a significant financial incentive for HHAs with excess capacity to serve additional Medicare patients.

**Quality of care**—Quality of care was difficult to assess in 2020. Our outcome measures were mixed, likely reflecting the impact of the PHE. The number of home health patients who were hospitalized during their spell of home health services fell slightly, meaning HHAs improved performance on this measure. However, the share of beneficiaries who were successfully discharged to the community (i.e., did not experience an unplanned hospitalization within 30 days of the end of their home health care spell) also fell, which indicates a decline in performance on this measure. Given the various disruptions to the health care delivery system in 2020, these results should be interpreted cautiously.

The 2020 outcome measure results could reflect shifts in the delivery system, such as the impact of pandemic-related mortality or other disruptions.

The Commission's quality metrics rely on risk-adjustment models that use performance from previous years to predict beneficiary risk. COVID-19 is a new diagnosis and is not included in the current risk-adjustment models. Because of these potential confounding factors, it is difficult to determine whether the performance observed in 2020 reflects actual changes in quality of care or other factors.

**Providers' access to capital**—Access to capital is a less important indicator of Medicare payment adequacy for home health care because this sector is less capital intensive than other health care sectors. The major publicly traded for-profit home health companies had sufficient access to capital markets for their credit needs.

**Medicare payments and providers' costs**—In 2020, Medicare spending for home health care declined by 4.7 percent to \$17.1 billion. Medicare margins for freestanding agencies averaged 20.2 percent, even though the cost per 30-day period increased by 3.1 percent in this year. These high margins indicate that increases in payments exceeded the increase in costs. Medicare's payments have always been in excess of cost under prospective payment, with the Medicare margin for HHAs averaging 16.2 percent from 2001 to 2019. The projected margin for 2022 is 17.0 percent.

### **How should Medicare payments change in 2023?**

Our review of payment adequacy for Medicare home health services indicates that access is more than adequate in most areas and that Medicare payments are substantially in excess of costs. Home health care can be a high-value benefit when it is appropriately and efficiently delivered. Medicare beneficiaries often prefer to receive care at home instead of in institutional settings, and home health care can be provided at lower costs than institutional care. However, Medicare's payments for home health services are too high, and these excess payments diminish the service's value as a substitute for more costly services. On the basis of these findings, the Commission's recommendation for 2023 is to reduce the Medicare home health prospective payment system (PPS) base payment rate by 5 percent.

### **Tracking the use of telehealth in the home health care benefit**

The lack of detailed information on the use of telehealth in 2020 impairs our ability to assess the changes to the benefit in this year, including our ability

to assess the impact of the PDGM and the PHE. As the use of telehealth in home health care grows, the lack of information about telehealth visits could also compromise CMS's ability to accurately set payments under the home health PPS. Payment accuracy would be improved by requiring HHAs to report the use of telehealth services on home health claims. For these reasons, the Commission recommends that the Secretary require HHAs to report the provision of telehealth during home health care on Medicare claims, similar to the requirements that already exist for in-person visits and other home health care services.

### **Mandated report: Assessing impact of the Patient-Driven Groupings Model on home health care in 2020**

The BBA of 2018 requires the Commission to provide an interim report on the Act's mandated changes to the home health PPS by March 15, 2022. The mandated changes include shortening the unit of payment under the PPS from 60 days to 30 days and eliminating the number of in-person therapy visits provided in a home health episode as a factor in the payment system. CMS implemented these changes on January 1, 2020, under a new case-mix system, the PDGM. The Commission is required to assess the impact of the changes on costs, quality, and other behavioral responses by HHAs.

Assessing the initial impact of the PDGM on home health care in 2020 is confounded by the disruptions associated with the coronavirus PHE. Particularly in the early months of the PHE, HHAs saw significant decline in demand, similar to that experienced in other health care sectors. In addition, there were several policy changes in response to the PHE that likely affected HHA operations, including expanding HHAs' use of telehealth and suspending the sequester required by the Budgetary Control Act of 2011. While these changes were intended to ensure access to home health care, they likely affected the mix and amount of home health care provided, complicating efforts to assess the effects of the PDGM.

The payment adequacy indicators for 2020 point to relative stability for Medicare home health care in the first year of the PDGM. Though the number of 30-day periods and the number of beneficiaries served in 2020 were lower than in 2019, the monthly pattern in home health care volume for 2020 signals that the declines were mostly attributable to the PHE and not the PDGM. The clinical severity of home health patients did not change significantly as a result of the emergency. The total number of in-home visits to beneficiaries fell in 2020, but much of this decline was due to fewer beneficiaries receiving home

health care services. The decline in in-person visits per 30-day period under the PDGM may reflect several factors, including greater use of telehealth and HHAs adjusting their provision of therapy services due to the revised payment incentives.

In 2020, the cost of a 30-day period grew by 3.1 percent, likely reflecting HHAs' higher service costs due to the PHE and loss of economies of scale due to unexpected volume decline. As volume recovers, HHA cost pressure could recede. Payments on an in-person per visit basis are higher under the PDGM than they were under the previous payment system. These high payments, with the modest cost pressures noted above, account for the high Medicare margin the Commission reports for 2020.

Assessing the impact of the PDGM on quality is challenging due to the disruption caused by the PHE. Performance on our quality measures in 2020 was mixed, with the rate of hospitalization during home health care declining modestly and a decline in the share of beneficiaries successfully discharged to the community (indicating worse performance relative to 2019). The Commission's quality metrics rely on risk-adjustment models based on data that predate the PHE. Because patterns of care under the PHE and the risks associated with a new diagnosis (COVID-19) are not included in these models, it is difficult to determine whether the performance observed in 2020 reflects changes in HHAs' quality of care or other factors. However, the high payment levels under the PDGM in 2020 suggest that HHAs had adequate reimbursement to provide quality care. ■





---

## Background

---

Medicare home health care consists of skilled nursing, physical therapy, occupational therapy, speech therapy, aide services, and medical social work provided to beneficiaries in their homes. To be eligible for Medicare's home health benefit, beneficiaries must need part-time (fewer than eight hours per day) or intermittent skilled care to treat their illnesses or injuries and must be unable to leave their homes without considerable effort. In contrast to coverage for skilled nursing facility services, Medicare does not require a preceding hospital stay to qualify for home health care. Also, unlike for most services, Medicare does not require copayments or a deductible for home health services. In 2020, about 3.1 million Medicare beneficiaries received home care, and the program spent \$17.1 billion on home health services.

Medicare requires that a physician, nurse practitioner, clinical nurse specialist, or physician assistant certify a patient's eligibility for home health care.<sup>1</sup> Medicare also requires that a beneficiary have a face-to-face encounter with the practitioner ordering home health care. The encounter must take place in the 90 days preceding or 30 days following the initiation of home health care. An encounter through telehealth services may be used to satisfy the requirement.

### Major changes to the home health prospective payment system in 2020

In 2020, CMS implemented major changes required by the Bipartisan Budget Act (BBA) of 2018: a new 30-day unit of payment (replacing the 60-day unit) and elimination of the number of in-person therapy visits as a factor in the payment system. These changes follow several years of analysis by the Commission and CMS to identify reforms to the home health prospective payment system (PPS).

CMS implemented the BBA of 2018 policies through a new case-mix system, the Patient-Driven Groupings Model (PDGM). Payments for a 30-day period are adjusted by the case-mix system to account for differences in patient severity. If beneficiaries need additional home health services at the end of the initial 30-day period, another period commences and Medicare makes an additional payment. Coverage for additional periods generally has the same requirements

as the initial period (i.e., the beneficiary must be homebound and need skilled care). The PDGM applied to home health care services as of January 1, 2020.

The implementation of the PDGM case-mix system addressed a long-standing recommendation by the Commission: to eliminate the number of in-person therapy visits provided during home health service as a payment factor in the PPS. Under the home health PPS in effect from 2000 to 2019, the number of in-person therapy visits provided during an episode was a major element in determining payments. From 2000 to 2007, episodes with 10 or more in-person therapy visits qualified for a payment boost of \$2,000 per episode or more. The volume of episodes that qualified for this boost increased during this period at a significantly faster rate than all other episodes, and the share of episodes clustered at 10 to 13 in-person therapy visits (equal to or slightly above the 10-visit threshold at which a higher payment was made) increased from 11 percent to 15 percent. In 2008, CMS replaced the single payment threshold with a series of six thresholds that increased payment more gradually, but the share of claims qualifying for higher payments due to additional in-person therapy visits continued to grow.

Concerned about these trends, since 2011 the Commission has recommended eliminating the number of in-person therapy visits provided in an episode as a payment factor (Medicare Payment Advisory Commission 2017, Medicare Payment Advisory Commission 2016, Medicare Payment Advisory Commission 2011). The Commission's intent was to ensure that care reflected patient needs and was not influenced by the financial incentives in the PPS.

The concerns of the Commission and other stakeholders led CMS to consider major revisions to the home health PPS, and in 2016 it released a report that described a new case-mix system that excluded the provision of therapy as a basis for payment and used a 30-day unit of payment (the latter now referred to as a "period" of home health care) (Plotzke et al. 2016). Following enactment of the BBA of 2018, in 2020 CMS implemented a revised version of this model—the PDGM—concurrent with the new policies required by the Act. The PDGM categorizes a 30-day home health period into 1 of 432 home health resource groups based on five elements:

- **Period timing**—A newly initiated home health period (with no home health services in the preceding 60 days) is classified as “early,” while periods that are immediately preceded by a 30-day period are classified as “late.”
- **Referral source**—Early periods that in the 14 days before the start of home health care had a stay at an acute care hospital, long-term care hospital, inpatient rehabilitation facility, or skilled nursing facility are classified as posthospital or post-acute care (PAC) institutional periods. Early periods that do not have these services in the 14 days before the start of home health care are classified as community-admitted periods. Late periods are classified as posthospital if they are preceded by a hospital stay (these also must occur within the 14 days preceding home health care); otherwise, they are classified as community-admitted periods. Payments for periods after hospital care or inpatient PAC are generally higher, reflecting the higher average number of in-person visits for these cases relative to community-admitted periods.
- **Clinical category**—Patients are assigned to 1 of 12 clinical categories based on their reported conditions: need for musculoskeletal rehabilitation; neuro/stroke rehabilitation; wound care; behavioral health care; complex nursing interventions; and seven clinical subcategories for medication management, teaching, and assessment (MMTA).<sup>2</sup>
- **Functional impairment**—Patients are assigned to one of three functional impairment levels based on reported cognitive and physical functioning information. The functional impairment groups were established so that periods were distributed uniformly across the groups; approximately one-third of periods were classified into each of the three groups.
- **Presence of comorbidities**—The case-mix system also includes a three-tiered adjustment for selected comorbidities: none, low comorbidity, or high comorbidity.

Periods with relatively few in-person visits, classified as low-use payment adjustment (LUPA) periods, are paid on a per visit basis. The threshold for a period to qualify as a LUPA varies from two to six in-person visits,

depending on the payment group to which a period has been assigned. Under the PDGM, periods above the threshold receive the full case mix-adjusted 30-day payment.

---

## **Mandated report on Bipartisan Budget Act of 2018 changes to the home health payment system**

---

The BBA of 2018 requires the Commission to assess the impact of the change to a 30-day unit of payment on payments, cost, quality, and home health agency (HHA) “behaviors”—that is, their delivery of care and billing practices (see text box on the mandate). Many of these areas overlap with the analysis we conduct during our annual review of payment adequacy. Therefore, our findings are discussed below in the section entitled “Are Medicare payments adequate in 2022?”

Analyzing the initial effects of the 2020 changes to the home health PPS is complicated by the coronavirus public health emergency’s (PHE’s) disruptions to the health care system. The PDGM was implemented on January 1, 2020, and the coronavirus PHE was declared later that month, with service disruptions beginning in March 2020. Like other sectors, HHAs saw significant decline in the demand for services due in part to beneficiaries’ reluctance to allow HHA staff into their homes. In addition, hospital procedures, a common precursor service for many home health beneficiaries, declined significantly in the PHE’s early months. HHAs faced higher costs due to personal protective equipment, staffing, and other pandemic-related expenses. Conversely, some beneficiaries reportedly sought home health care as an alternative to a hospital or skilled nursing facility (SNF) stay. Many HHAs provided visits via telehealth, but these are not recorded on Medicare claims. The Commission’s analysis needs to account for these non-PDGM factors that likely affected the mix and amount of home health services that beneficiaries received in 2020. The BBA of 2018 also requires the Commission to produce an evaluation of the impact of the PDGM in our March 2026 report, which will permit a more complete examination of the new payment model’s impact.

In addition, CMS and the Congress made several policy changes in response to the PHE that were intended to

## Mandate for the Commission to assess the impact of the Patient-Driven Groupings Model for home health care in 2020

### Section 51001. HOME HEALTH PAYMENT REFORM.

© REPORTS.— (1) INTERIM REPORT.—Not later than March 15, 2022, the Medicare Payment Advisory Commission shall submit to Congress an interim report on the application of a 30-day unit of service as the unit of service applied under section 1895(b)(2) of the Social Security Act (42 U.S.C. 1395fff(b)(2)), as amended by subsection (a), including an analysis of the level of payments provided to home health

agencies as compared to the cost of delivering home health services, and any unintended consequences, including with respect to behavioral changes and quality.

(2) FINAL REPORT.—Not later than March 15, 2026, such Commission shall submit to Congress a final report on such application and any such consequences. ■

support or expand access to home health care (Centers for Medicare & Medicaid Services 2020). These new policies included expanding HHAs' use of telehealth, allowing nurse practitioners and physician assistants to order home health services, and suspending the 2 percent sequester on Medicare payments required by the Budgetary Control Act of 2011. In addition, HHAs, like other providers, were eligible for relief funds such as the Paycheck Protection Program (PPP). These policy changes could also have affected the mix and amount of home health care services provided in 2020.

### The BBA of 2018 did not address Medicare's high payment levels for home health care

While the changes to home health care payment in 2020 were substantial, they were not designed to reduce Medicare's payments for home health care services. The BBA of 2018 required CMS to set the base rate for the PDGM at a level that was budget neutral to 2019, a year when the Commission reported high Medicare margins (15.8 percent) for freestanding agencies. (Medicare margins show the extent to which an agency's revenue from Medicare patients covers, exceeds, or falls below the cost of providing care for these patients.) Before 2020, payments for home health care substantially exceeded costs. In 2001, the first full year of the PPS, average Medicare margins for freestanding HHAs equaled 23 percent. Between 2001 and 2019, the number of in-person visits per 60-

day episode declined, falling 17.3 percent, though the average payment per 60-day episode generally grew during this period. Consequently, HHAs were able to garner extremely high average payments relative to the cost of services provided. Between 2001 and 2019, freestanding HHA margins averaged 16.2 percent.

The BBA of 2018 requires that payments under the PDGM be budget neutral (neither raise nor lower aggregate home health care spending) relative to spending that would have occurred without the new model's implementation. For 2020 through 2026, CMS is required to determine how actual aggregate home health spending under the PDGM differs from spending that would have occurred in the absence of the payment system changes and to adjust the PPS base rate as needed to achieve budget neutrality.<sup>3</sup>

However, it is not clear how CMS will enforce the BBA of 2018's budget-neutrality requirement. In the 2022 proposed rule for the home health PPS, CMS included an initial analysis that determined that the PDGM base rate for 2020 was 6 percent higher than the level needed to achieve the Act's budget-neutrality target.<sup>4</sup> CMS requested comment on its methodology for calculating budget neutrality. The 2022 final rule for the home health PPS does not provide any information on how CMS will measure budget neutrality or when it will adjust Medicare payments to achieve the BBA of 2018's budget-neutrality targets.

## The coronavirus public health emergency and the Commission's payment adequacy assessment for home health care services

On January 31, 2020, the Secretary of Health and Human Services first declared the coronavirus public health emergency (PHE). In late March 2020, the nation's health care system began to experience major changes in service utilization, which resulted in lower volume for home health care and other health care services. The PHE has had tragic effects on beneficiaries' health, including a disproportionate effect on Medicare beneficiaries. (For details on the pandemic's effects on beneficiaries' health and access to care, see Chapter 1.) It has also had damaging effects on the nation's health care workforce, with frontline health care workers facing burnout and risks to their health and safety while treating COVID-19 cases.

The PHE has also had material effects on all the indicators the Commission uses to determine payment adequacy. Because of standard data lags, the most recent complete data we have are from 2020 for most of these indicators; however, we also include preliminary data from 2021 where possible. The effects of the PHE on indicators of Medicare's payment adequacy to home health agencies include:

- a significant decline in patient volume in spring 2020, largely rebounding by the end of 2020;
- substantial federal relief funding provided to home health agencies during the PHE; and

- Medicare payment policy changes that increased payments to providers, including through the suspension of the 2 percent sequestration on Medicare payments.

In this chapter, we use available data and payment policy changes to project home health agency margins for 2022 and recommend payment rate updates for 2023; however, significant uncertainty remains about the extent to which the pandemic will last and whether the changes observed during the pandemic will persist past the end of the PHE. Therefore, while it is important to analyze 2020 data to understand what happened to beneficiaries' access to care, quality of care, providers' access to capital, and Medicare's payments and providers' costs, it will be more difficult to interpret these indicators than is typically the case.

As the Commission stated last year, to the extent that the effects of the coronavirus pandemic are temporary—even if over multiple years—or vary significantly across individual providers, they are best addressed through targeted temporary funding policies rather than a permanent change to all providers' payment rates in 2023 and future years. Only permanent effects of the pandemic will be factored into the Commission's recommended changes in Medicare base payment rates. ■

---

### Are Medicare payments adequate in 2022?

---

The Commission reviews several indicators to determine the level at which payments will be adequate to cover the costs of an efficient provider in 2022 (see text box for a discussion of the impact of the PHE on our payment adequacy analysis). Specifically, we assess

beneficiary access to care (by examining the supply of home health providers, annual changes in the volume of services, and marginal profit); quality of care; access to capital; and the relationship between Medicare's payments and providers' costs. We also discuss the impact of the PDGM for each indicator. In general, the payment adequacy indicators for home health care are positive.

**TABLE  
8-1**

**Annual rate of decline for home health agencies participating in Medicare slowed in 2020**

	Prepandemic				Average annual change	
	2013	2018	2019	2020	2013–2019	2019–2020
Active home health agencies	12,788	11,701	11,571	11,456	-1.7%	-1.0%
Number of home health agencies per 10,000 FFS beneficiaries	3.4	3.0	3.0	3.1	-2.1	1.8

Note: FFS (fee-for-service). "Active home health agencies" includes all agencies operating during a year, including agencies that closed or opened at some point during the year. Percent changes were calculated on unrounded data.

Source: MedPAC analysis of CMS's Quality, Certification and Oversight file and 2021 annual report of the Boards of Trustees of the Medicare trust funds.

**Beneficiaries' access to care: Almost all beneficiaries live in an area served by HHAs**

Supply and volume indicators show that almost all beneficiaries have access to home health services. In 2020, over 99 percent of fee-for-service (FFS) beneficiaries lived in a county served by at least one HHA, 98.6 percent lived in a county served by two or more HHAs, and 87.9 percent lived in a county served by five or more agencies. These findings are consistent with our prior reviews of access.<sup>5</sup>

**Supply of providers: Agency supply declined slightly in 2020**

In 2020, the supply of agencies declined by only 1.0 percent. This decline is less than the trend in recent years; between 2013 and 2019, the number of agencies fell an average 1.7 percent per year (Table 8-1). In 2020, the contraction in HHA supply was much smaller than the drop in home health care volume. The small drop in HHA supply in 2020, a year in which the industry experienced the PHE and the implementation of a new payment model, suggests that neither event had a significant negative effect on HHA supply. Some HHAs may have utilized PPP funds or other programs to mitigate the impact of the PHE, though information on the amount of these funds received by Medicare HHAs is limited.<sup>6</sup> These additional funds could also have helped agencies weather any payment disruptions related to the implementation of PDGM.

The supply of HHAs varies significantly among states. In 2020, Texas averaged 8.4 HHAs per 10,000 FFS beneficiaries, while New Jersey averaged less than 1.0 HHA per 10,000 FFS beneficiaries. The extreme variation demonstrates that the number of providers is a limited measure of capacity in part because HHAs can vary in size. Also, because home health care is not provided in a medical facility, HHAs can adjust their service areas as local conditions change. Even the number of employees may not be an effective metric because HHAs can use contract staff to meet their patients' needs.

The Commission's June 2021 report to the Congress found that, in 2018, urban and rural areas generally had similar levels of home health care utilization (Medicare Payment Advisory Commission 2021). The report noted that use varied substantially within urban and rural areas, with rates varying sixfold among urban areas and eightfold among rural areas. Moreover, high-use and low-use areas were found among both rural and urban counties. In 16 states, per capita home health care use in rural areas exceeded use in urban areas. Though beneficiaries residing in frontier rural areas had lower use than other beneficiaries, frontier areas are concentrated in relatively low-use states such as Montana, North Dakota, and South Dakota. It should also be noted that past efforts to combat fraud, waste, and abuse in home health care have focused on high-use urban areas, so the gap between some urban and

**TABLE  
8-2**

**In 2020, Medicare expenditures and number of beneficiaries receiving home health care declined**

	Prepandemic					Annual percent change	
	2011	2017	2018	2019	2020	2011-2019	2019-2020
Home health users (in millions)	3.4	3.4	3.4	3.3	3.1	-0.6%	-7.3%
Share of FFS beneficiaries using home health care	9.4%	8.8%	8.7%	8.5%	8.1%	-1.2	-4.7
Total payments (in billions)	\$18.4	\$17.9	\$18.0	\$17.9	\$17.1	-0.3	-4.7
Average payment per home health user	\$5,348	\$5,255	\$5,333	\$5,437	\$5,591	0.2	2.8
Average payment per FFS beneficiary	\$505	\$461	\$466	\$465	\$455	-1.0	-2.0

Note: FFS (fee-for-service). Percentage change was calculated on unrounded data.

Source: MedPAC analysis of home health standard analytical file from CMS.

rural areas may in part reflect fraudulent or low-value provision of home health care services in urban areas.

**Home health spending and use declined slightly in 2020**

In 2020, the number of Medicare FFS beneficiaries using home health declined by 7.3 percent and the share of beneficiaries using the service declined 4.7 percent from 2019 levels (Table 8-2). Total Medicare spending also fell by 4.7 percent in the same period. However, average spending per beneficiary who used the service actually rose by 2.8 percent. While the disruptions to home health care due to the PHE are important to recognize, home health utilization was declining in the years before 2020. From 2011 to 2019, the number of 60-day episodes fell from 6.8 million to 6.1 million, a drop of 1.3 percent per year on average (data not shown). The level of utilization in 2019 provides a benchmark for comparison, but the trend in recent years suggests that utilization in 2020 would have been lower absent the PHE or any possible effects from the PDGM.

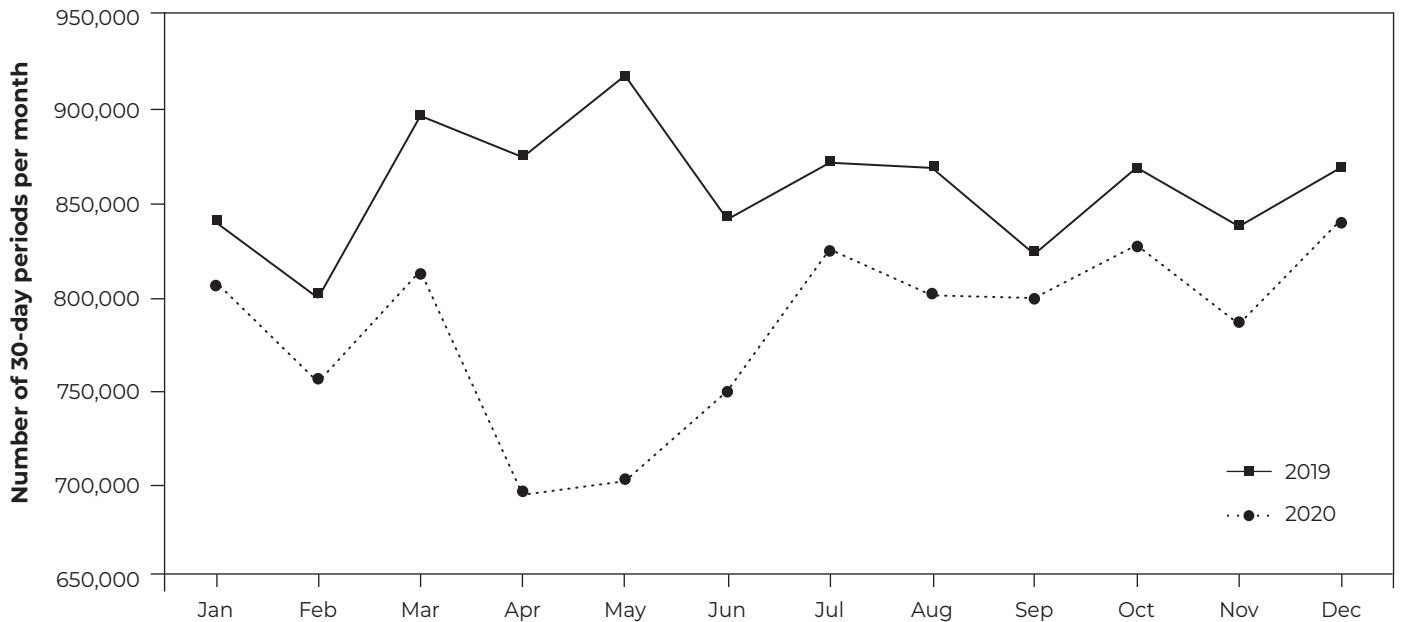
However, the PHE, not Medicare’s payment levels, likely explains much of the decline observed in 2020. In March and April 2020, HHAs reported substantial reductions in the demand for home health care services due to the PHE (Amedisys 2020a, Encompass Health 2020a, LHC Group 2020, Motley Fool 2020). HHAs attributed the decline to several factors, including the drop in inpatient hospital discharges during the PHE, assisted living facilities’ limits on HHA staff access to residents, and beneficiaries electing not to use home health care services. However, industry reports indicate that, in aggregate, the demand for home health care services recovered in the remainder of 2020 (Amedisys 2020a, Amedisys 2020b, Encompass Health 2020b). In addition, some HHAs have reported that the PHE has increased demand, as beneficiaries seek to substitute home health care for a skilled nursing facility stay. This shift in preference for home health care could result in higher demand in future years.

**Marginal profits**

Another factor we consider when evaluating access to care is whether providers have a financial incentive

**FIGURE 8-1**

**Comparison of monthly volume of 30-day home health periods in 2019 and 2020**



Note: Home health services initiated in 2019 were paid under 60-day episodes. For this figure, home health care services initiated in 2019 were recalculated as 30-day periods to provide comparable units of service in the two years. Thirty-day periods are included in the month and year that the period ended.

Source: MedPAC analysis of 2019 home health Limited Data Set file and home health standard analytic file for 2020.

to expand the number of Medicare beneficiaries they serve. In considering whether to treat a patient, a provider with excess capacity compares the marginal revenue it will receive (i.e., the Medicare payment) with its marginal costs—that is, the costs that vary with volume. If Medicare payments exceed the marginal costs of treating an additional beneficiary, a provider has a financial incentive to increase its volume of Medicare patients. In contrast, if payments do not cover the marginal costs, the provider may have a disincentive to care for Medicare beneficiaries.<sup>7</sup> In 2020, the marginal profit, on average, for freestanding HHAs was 22.9 percent. This substantial marginal profit indicates that these HHAs have a strong incentive to serve Medicare beneficiaries.

**Monthly utilization trends indicate that the PHE, not the PDGM, accounted for most of the volume decline in 2020**

Consistent with the mandate of the BBA of 2018, the Commission has assessed how home health utilization

changed in the first year of the PDGM by comparing the number and characteristics of 30-day periods for 2019 and 2020. Because home health services initiated in 2019 were paid under 60-day episodes, 2019 utilization was recalculated as 30-day periods to provide comparable units of service in the two years. Specifically, we assess changes in volume of services, measures of patient severity, and changes in the type and amount of in-person visits provided during 30-day periods.

Though the decline in volume and payments in 2020 coincides with the implementation of the PDGM, a review comparing same-month trends for 2020 with the prior year indicates that the decline in services was concentrated in April and May (Figure 8-1). In the months after the onset of the PHE, home health volume recovered and stabilized at a level slightly lower than 2019. On a month-to-month basis, volume changes in 2020 appear to have occurred in four phases:

**TABLE  
8-3**

**Timing and source of referral to home health care were similar in 2019 and 2020**

	Share of 30-day periods	
	2019	2020
By source of referral:		
Posthospital or institutional PAC	25.3%	25.7%
Community admitted	74.7	74.3
By timing of 30-day period:		
Early	35.0	31.1
Late	65.0	68.9
Payment category:		
Low-use payment adjustment	7.4	8.7
Full 30-day payment	92.6	91.3

Note: PAC (post-acute care). Home health services initiated in 2019 were paid under 60-day episodes. For this table, home health care services initiated in 2019 were recalculated as 30-day periods to provide comparable units of service in the two years. Thirty-day periods are included in the month and year that the period ended.

Source: MedPAC analysis of 2019 home health Limited Data Set file and home health standard analytic file for 2020.

**January through March 2020.** For the first two months of 2020, the number of home health periods provided by HHAs was slightly less than the volume delivered during the same time frame in 2019. The year-over-year volume gap widened in March, likely reflecting the start of PHE-related disruptions (home health agencies bill for services based on the last day of the 30-day period of service, so the claims reported for March mostly reflect services initiated in February).

**April and May 2020.** In April and May of 2020, volume dropped to about 80 percent of the level observed in the same period of 2019, reflecting the widespread disruptions to the health care system and the economy that began in March 2020. Though these months reflect significant disruption relative to prior years, the decline in home health services was less than the decline experienced in other sectors. For example, in April 2020, Medicare inpatient hospital services per beneficiary fell by 40 percent.

**June 2020 and July 2020.** In these months, home health volume rebounded. By July 2020, volume had recovered to about 96 percent of the home health periods that were provided in July 2019. This recovery suggests that HHAs were able to establish procedures to mitigate PHE risks for agency employees and Medicare beneficiaries.

**August through December 2020.** Volume did not change substantially from the July 2020 level and continued to average about 830,000 periods per month, a level equal to 95 percent of utilization in 2019 for the same time frame. By the end of 2020, monthly volume was not significantly lower than in the prior year. Because the volume of home health services had been declining before 2020, the lower level of volume in the later months of 2020 is consistent with the pre-PHE trend of declining utilization.



**TABLE  
8-4**

**Distribution of 30-day periods by clinical category in 2019 and 2020**

	Share of 30-day periods		Percentage point difference
	2019	2020	
Categories other than MMTA:			
Musculoskeletal rehabilitation	19.4%	19.5%	0.1
Wounds	12.3	14.2	1.9
Neurological rehabilitation	10.3	10.6	0.3
Complex nursing interventions	4.5	3.1	-1.4
Behavioral health	2.7	2.3	-0.4
MMTA categories:			
Cardiac and circulatory	21.6	19.3	-2.3
Respiratory	7.9	7.8	-0.1
Endocrine	6.8	7.3	0.5
Gastroenterology/genitourinary	4.3	4.6	0.3
Infectious disease	3.8	4.7	0.9
Surgical aftercare	3.4	3.5	0.1
Other	2.9	3.2	0.3

Note: MMTA (medication management, teaching, and assessment). Home health services initiated in 2019 were paid under 60-day episodes. For this table, home health care services initiated in 2019 were recalculated as 30-day periods to provide comparable units of service in the two years. Thirty-day periods are included in the month and year that the period ended. Components may not sum to totals due to rounding.

Source: MedPAC analysis of 2019 home health Limited Data Set file and 2020 home health standard analytic file.

**The characteristics of home health users under the PDGM in 2020**

The PDGM classifies 30-day periods into 432 payment groups based on 5 dimensions of care: source of referral, period timing, clinical conditions, functional status, and comorbidities. Comparing the shares of periods for 2019 and 2020 provides some context for understanding the characteristics of patients in the first year of the PDGM system. By most PDGM-based measures, the characteristics of beneficiaries did not change significantly.

**Source of referral and period timing did not change significantly under the PDGM** In 2020, the share of home health periods referred from the community was 74.3 percent compared with 25.7 percent referred from a hospital or institutional PAC, similar to the proportions from the prior year (Table 8-3). These

shares remained steady throughout 2020, even as the number of hospital discharges plummeted in March and April and then began to increase (data not shown).

Similarly, the distribution of home health periods by the period’s timing did not change significantly. For example, in 2020, the share of periods classified as late under the PDGM rose about 4 percentage points to 68.9 percent (Table 8-3). In addition, the share of cases qualifying for LUPA payments, which are paid significantly lower rates than case mix-adjusted full-period payments, did not change significantly.

**In 2020, beneficiaries had similar clinical conditions under the PDGM** We also found that the distribution of 30-day periods across the 12 clinical categories did not change significantly in 2020 relative to the prior year (Table 8-4). For example, the share of 30-day periods

**TABLE  
8-5**

**In 2020, more periods were reported in greater functional-debility and high-comorbidity payment groups**

	Share of 30-day periods	
	2019	2020
Reported functional status (high = greater debility)		
Low	33.0%	25.7%
Medium	34.0	32.7
High	33.0	41.6
Comorbidity group (high = more/more severe comorbidities)		
None	54.3	49.1
Low	37.2	37.0
High	8.5	13.9

Note: Home health services initiated in 2019 were paid under 60-day episodes. For this table, home health care services initiated in 2019 were recalculated as 30-day periods to provide comparable units of service in the two years. Thirty-day periods are included in the year that the period ended.

Source: MedPAC analysis of 2019 home health Limited Data Set file and 2020 home health standard analytic file.

initiated with MMTA for cardiac/circulatory conditions or with need for complex nursing interventions as a primary reason for home health care declined by 2.3 percentage points and 1.4 percentage points, respectively, while the share of periods initiated due to wound care needs or MMTA for infectious disease grew by 1.9 percentage points and 0.9 percentage points, respectively. Since the PDGM assigns the clinical group based on the reported primary reason for home health care, the consistency between 2019 and 2020 indicates that beneficiaries were referred to home health care for similar conditions in these years. The steady proportions of clinical conditions for the two years suggest that broader disruptions to the health care system, such as canceled elective surgeries or beneficiaries electing not to use home health services to avoid potential exposure to the coronavirus, did not materially affect the clinical mix of patients typically served in home health care.

**Changes in functional status and rates of comorbidities should be interpreted carefully** In 2020, the reported acuity for home health beneficiaries was higher than

in 2019 for two measures of severity: the reported functional status of beneficiaries at the start of the 30-day period and the number of cases with a high level of clinical comorbidities (recognized by the PDGM with higher payments) (Table 8-5). Between 2019 and 2020, the share of 30-day home health periods that reported the highest level of functional debility rose from 33.0 percent to 41.6 percent (the PDGM raises payments as reported debility increases). During this period, the share of patients coded in the highest-paying comorbidity group rose from 8.5 percent to 13.9 percent. However, these findings should be interpreted cautiously. In the past, the Commission has voiced concerns that functional status may be susceptible to provider coding practices and is therefore a less reliable indicator of patient severity (Medicare Payment Advisory Commission 2019). In addition, changes in the coding of comorbid conditions typically follow the implementation of new case-mix systems, and CMS expected that HHAs would change coding practices to report more of these conditions when it proposed the PDGM (Centers for Medicare & Medicaid Services 2019). Changes in agency coding practice in response to

**TABLE  
8-6**

**Mean CMS-HCC score for home health beneficiaries by quarter of use, 2019 and 2020**

	Quarter				Annual average
	1	2	3	4	
2019	2.54	2.24	2.12	2.02	2.05
2020	2.44	2.28	2.09	1.99	2.00

Note: CMS-HCC (CMS hierarchical condition category). Home health services initiated in 2019 were paid under 60-day episodes. For this table, home health care services initiated in 2019 were recalculated as 30-day periods to provide comparable units of service in the two years. Thirty-day periods are included in the quarter that the period ended.

Source: MedPAC analysis of data from the 2019 and 2020 Medicare CMS-HCC files.

the new payment model's incentives likely contributed significantly to changes in reported patient severity, while other factors in the case-mix system do not appear to have been materially affected. It is not clear to what extent the PHE contributed to changes in reported patient severity.

**In 2020, CMS-HCC risk scores of home health care beneficiaries declined slightly** The review of patient attributes under the PDGM (Table 8-3, p. 282; Table 8-4, p. 283; and Table 8-5, opposite page) indicates that in 2020, patient characteristics did not shift significantly from 2019 on most measures, suggesting that neither the PHE nor the implementation of the PDGM led to a significant change in the case mix of Medicare beneficiaries using home health care. This finding was further bolstered using another measure—the average CMS hierarchical condition category (CMS-HCC) scores for Medicare home health beneficiaries in 2019 and 2020 (Table 8-6). These scores predict a beneficiary's Medicare cost relative to the national average based on a range of demographic, enrollment, and clinical characteristics. The CMS-HCC includes a broader range of risk factors than the PDGM, such as categories for Medicaid enrollment, beneficiary age and sex, and numerous clinical conditions. It measures risk using clinical data from a full year of medical service and is less affected by changes in HHA coding practices. While the CMS-HCC is not used in setting home health payments, it provides a broad measure of the acuity of Medicare beneficiaries.

On an annual basis, the mean CMS-HCC score for FFS beneficiaries who used home health was slightly lower in 2020, indicating that patients' health status was slightly less severe compared with 2019. The quarterly pattern of HCC change was the same for both years, with the first quarter in each year having the highest scores, then declining through the fourth quarter. The CMS-HCC trends suggest that neither the PHE nor the implementation of the PDGM significantly changed the average home health agency's mix of cases in 2020.

**Increased use of telehealth services during the PHE makes it difficult to interpret the 2020 decline in in-person visits** In 2020, the number of in-person visits provided to home health beneficiaries fell by 18.6 percent relative to 2019 (Table 8-7, p. 286). This decline reflects fewer beneficiaries served and fewer 30-day periods provided, but the number of in-person home health visits fell more than the number of home health users. In-person therapy visits declined by more than in-person nursing visits, likely reflecting the impact of the PDGM, which no longer provides additional payment for periods that cover more therapy services.

The decline in in-person visits could also reflect two trends during the PHE: the reluctance of beneficiaries to receive services in the home and growth in the use of telehealth. Shortly after the onset of the PHE, CMS expanded the use of telehealth in home health care,

**TABLE  
8-7**

**In-person therapy visits declined more than skilled nursing visits**

	In-person visits (in millions)			Category as a share of all in-person visits	
	2019	2020	Annual change	2019	2020
Physical therapy	34.1	25.5	-25.3%	34%	31%
Occupational therapy	10.8	7.5	-31.0	11	9
Speech-language pathology	2.1	1.5	-29.1	2	2
Skilled nursing	45.2	40.9	-9.5	45	50
Medical social services	0.8	0.5	28.4	1	1
Home health aide	6.6	5.2	-21.6	7	6
Total	99.7	81.1	-18.6	100	100

Note: Home health services initiated in 2019 were paid under 60-day episodes. For this table, home health care services initiated in 2019 were recalculated as 30-day periods to provide comparable units of service in the two years. Thirty-day periods are included in the year that the period ended. Components may not sum to totals due to rounding. Percent change columns were calculated on unrounded data.

Source: MedPAC analysis of 2019 home health Limited Data Set file and 2020 home health standard analytic file.

permitting agencies to provide virtual visits and other telehealth services under the benefit. The expanded coverage of telehealth was initially for the duration of the PHE but was later made permanent. Several reports suggest that HHAs’ use of telehealth grew significantly during the PHE. A large national for-profit HHA provider reported that the quarterly number of telehealth visits it conducted increased 48 percent to 261,000 visits after the PHE was declared (Holly 2021). A survey found that 71 percent of HHAs expanded their telehealth programs in 2020 (Shang et al. 2020). Several HHAs and industry experts we interviewed indicated that telehealth and virtual visits expanded substantially during the PHE, surging at the beginning of the PHE and receding in later months.

The expansion required HHAs to report the costs of telehealth services on their Medicare cost report, but there was no requirement to report any other information about telehealth use. As a result, no Medicare data are available on the type of telehealth HHAs provided, the characteristics of patients who received such services, or the number of virtual visits or other telehealth services beneficiaries received. Medicare claims report only in-person visits, and so the services reported in Table 8-7 do not include any

telehealth services beneficiaries received (i.e., virtual visits).

**2020 decline in therapy services accounts for most of the decline in in-person visits** Though the absence of data on virtual visits creates some uncertainty about the total services provided during a home health period, a review of the in-person visit data for 2020 provides some insight about home health care changes at the beneficiary level. Table 8-8 indicates that for 30-day periods without a LUPA, the average number of in-person visits between 2019 and 2020 fell from 10.2 visits to 9.2 visits. This decline was mostly due to a drop in in-person therapy visits (including physical, occupational, and speech-language pathology). Notably, however, in-person skilled nursing visits per period rose slightly, by 0.6 percent. Several factors could account for the stability of in-person nursing visits provided, such as skilled nursing requiring more hands-on care that cannot be provided through telehealth, in-person nursing visits substituting for fewer therapy visits when possible, or beneficiary preferences about the types of service they were willing to accept in the home during the PHE.<sup>8</sup> The increased number of virtual visits and other telehealth

**TABLE  
8-8**

**The number of in-person visits per non-LUPA 30-day period declined in 2020**

	Number of in-person visits per non-LUPA 30-day period		Annual percent change
	2019	2020	
Skilled nursing	4.6	4.6	0.6%
Physical therapy	3.5	2.9	-16.9
Occupational therapy	1.1	0.9	-23.8
Speech-language pathology	0.2	0.2	-23.1
Medical social services	0.1	0.1	-21.1
Home health aide	0.7	0.6	-14.2
Total	10.2	9.2	-9.4

Note: LUPA (low-use payment adjustment). Home health services initiated in 2019 were paid under 60-day episodes. For this table, home health care services initiated in 2019 were recalculated as 30-day periods to provide comparable units of service in the two years. Thirty-day periods are included in the year that the period ended. Components may not sum to totals due to rounding. Percent change columns were calculated on unrounded data.

Source: MedPAC analysis of 2019 home health Limited Data Set file and 2020 home health standard analytic file.

services likely offset some of the decline in services noted in Table 8-8.

Fewer in-person therapy visits could reflect the impact of the PDGM, since the new model makes a flat payment regardless of the number of in-person therapy visits provided, while the predecessor system raised payments as the number of these visits increased. Between 2019 and 2020, the share of home health periods (excluding LUPA periods) receiving at least one in-person therapy visit fell from 65 percent to 57 percent. At the same time, among those home health periods with at least one in-person therapy visit, the average number of in-person therapy visits fell from 7.6 visits to 6.6 visits (Table 8-9, p. 288). For these periods, the share of 30-day periods with 6 or more in-person therapy visits dropped, while the share with 5 or fewer in-person visits increased. A comparison of the change for in-person therapy visits across the 12 clinical categories of the PDGM indicates a drop of about 1 in-person therapy visit per period in each category (data not shown). However, the expanded use of telehealth, which could be used to provide both nursing and physical therapy services,

could have compensated for some of the in-person visit decline. Although the elimination of in-person therapy visits as a payment factor in the PPS changed the incentive to provide more therapy services than otherwise necessary, CMS reiterated that it expected HHAs to base care on patient needs and not change therapy plans of care or limit these services due to the payment system’s new model (Centers for Medicare & Medicaid Services 2021).

**Quality of care: 2020 data are difficult to assess**

The quality of care in 2020 is difficult to assess due to the effects of the PHE on beneficiaries and providers. Each year, we track changes in Medicare’s quality measures and assess whether performance has improved, declined, or remained steady. However, we do not use the reported 2020 results for quality measures to inform our conclusions about the adequacy of Medicare payments to home health agencies. Data for 2020 reflect temporary changes in the delivery of care and data limitations unique to the PHE rather than actual trends in quality. In addition, the Commission’s quality metrics rely on

**TABLE  
8-9**

**In 2020, share of 30-day periods with at least one in-person therapy visit declined**

	2019	2020
Share of 30-day periods with at least one in-person therapy visit	65%	57%
Average in-person therapy visits per 30-day period (for periods with at least one in-person therapy visit)	7.6	6.6
Distribution of 30-day periods with one or more in-person therapy visits		
1 to 3 in-person therapy visits	18.7%	24.9%
3 to 5 in-person therapy visits	23.9%	25.1%
6 to 9 in-person therapy visits	31.3%	27.7%
10 or more in-person therapy visits	26.0%	22.3%

Note: Table includes 30-day periods that were full periods of home health care and did not qualify for LUPA payments. Home health services initiated in 2019 were paid under 60-day episodes. For this table, home health care services initiated in 2019 were recalculated as 30-day periods to provide comparable units of service in the two years. Thirty-day periods are included in the year that the period ended. Components may not sum to totals due to rounding.

Source: MedPAC analysis of 2019 home health Limited Data Set file and 2020 home health standard analytic file.

risk-adjustment models that use performance from previous years to predict beneficiary risk. COVID-19 is a new diagnosis and is not included in the current risk-adjustment models, though many associated conditions are. As a result, our risk models do not fully represent the acuity and mix of patients receiving care in 2020.

Detecting changes attributable to the PDGM, even without the impact of the PHE, would be challenging. The Commission has observed in previous reports that annual changes in average payment per 60-day home health episode did not correlate with yearly trends in home health care quality (Medicare Payment Advisory Commission 2014).

We evaluate quality of care using two measures: average risk-adjusted rates of successful discharge to the community and all-condition hospitalizations within a stay. Successful discharge to the community includes beneficiaries discharged to the community who did not have an unplanned hospitalization and did not die in the succeeding 30 days. The hospitalization measure captures all unplanned hospitalizations (admissions and readmissions) and outpatient

observation stays that occur during the home health spell of service (beneficiaries who died during a SNF stay are excluded from the measure). Discharges to hospice or beneficiaries with the hospice benefit are excluded from the calculation of both measures. COVID-19-related deaths are captured in the discharge to community measure but not the hospitalization measure. Both measures are uniformly defined and risk adjusted across HHAs, SNFs, inpatient rehabilitation facilities, and long-term care hospitals. Inclusion of all PAC sectors takes another step toward achieving a unified payment system and evaluation of outcomes across PAC settings.<sup>9</sup> Providers with at least 60 spells in the year (the minimum count to meet a reliability threshold of 0.7) were included in calculating the average HHA rate.

In 2020, the share of Medicare beneficiaries hospitalized during their home health stay declined to 18.3 percent, an improvement over the trend in the previous five years, which averaged 21.1 percent (Table 8-10). Conversely, between 2019 and 2020, the share of patients discharged successfully to the community dropped from 72.2 percent to 60.9 percent. Given

**TABLE  
8-10**

**Quality trends for 2020 were mixed**

	Prepandemic					
	2015	2016	2017	2018	2019	2020
Successful discharge to the community	68.3%	69.2%	69.6%	70.4%	72.2%	60.9%
Hospitalization during home health spell	20.6	20.8	21.4	21.5	21.4	18.3

Note: "Successful discharge to the community" includes beneficiaries discharged to the community (including those discharged to the same nursing home) who did not have an unplanned hospitalization or die in the 30 days after discharge. The hospitalization measure captures all unplanned hospital admissions and readmissions and outpatient observation stays that occurred during the stay. Both measures are uniformly defined and risk adjusted across the four post-acute care settings. Providers with at least 60 stays in the year (the minimum count to meet a reliability of 0.7) were included in calculating the average facility rate.

Source: MedPAC analysis of Medicare Provider Analysis and Review and home health standard analytical files from CMS.

the various disruptions to the health care delivery system in 2020, it is difficult to determine the factors that account for the improvement in hospitalization rates and the drop in successful discharges to the community. Technical factors could also account for some of these results. Though the patient characteristics of beneficiaries receiving home health care in 2020 did not change significantly, our models may not have accounted for aspects of patient risk attributable to home health care beneficiaries during the pandemic. For these reasons, the changes in home health care quality need to be interpreted carefully and may have little, if any, relationship to the adequacy of Medicare payments in 2020.

The Commission no longer includes measures of patient functional improvement in our assessment of quality. The Commission contends that maintaining and improving functional status is a key goal of PAC but has raised serious questions about the reliability of currently reported information (Medicare Payment Advisory Commission 2019). Because functional assessments are used in the case-mix system to establish payments, it is unlikely that this information can be divorced from payment incentives. In its June 2019 report to the Congress, the Commission discussed possible strategies to improve the assessment data, the importance of monitoring the reporting of these data, and alternative measures of function (such as

patient-reported surveys) that do not rely on provider-completed assessments (Medicare Payment Advisory Commission 2019). The experience of home health care indicates that HHA practices can be influenced by payment policy. For example, the share of episodes coded with the highest functional debility rose in 2020 when CMS implemented the new payment model (Table 8-5, p. 284). In addition, a review of the home health value-based purchasing program noted that agencies had revised patient assessment practices to improve their quality scores under the program; as a result, improvement on some quality measures may have reflected revised assessment practices and not improvement in the quality of care provided.

**Patient experience measures indicate that most beneficiaries were satisfied with their home health care in 2019**

HHAs collect Home Health Care Consumer Assessment of Healthcare Providers and Systems® (HH-CAHPS®) surveys from a sample of patients served, which CMS uses to calculate results for five measures of patient experience included in the overall rating.<sup>10</sup> The HH-CAHPS measures key components of quality by assessing whether something that should happen during a stay (such as clear communication) actually happened or how often it happened. In 2019, 84 percent of surveyed patients rated their overall HHA experience a 9 or 10 on a 10-point scale (Table 8-11, p. 290).<sup>11</sup>

**TABLE  
8-11**

**Home health patient experience measures, 2019**

HH-CAHPS® measure	2019
<b>Overall care:</b> How patients rated the overall care from the HHA	84%
<b>Likely to recommend:</b> Patients who would definitely recommend the HHA to friends and family	78
<b>Professional care:</b> How well the home health team gave care in a professional way	88
<b>Communication:</b> How well the home health team communicated with patients	85
<b>Discussion of care:</b> How well the home health team discussed medicines, pain, and home safety with patients	83

Note: HH-CAHPS® (Home Health Care Consumer Assessment of Healthcare Providers and Systems®), HHA (home health agency). HH-CAHPS is a standardized 34-item survey of patients' evaluations of home health care. The survey items are combined to calculate measures of patient experience for each agency. The HH-CAHPS percentages included in the table are shares of patients who gave "top-box," or the most positive, responses to HH-CAHPS survey items. The top-box response is "9" or "10" (high) for the HHA overall care item, "Definitely yes" for likely to recommend the agency, and "Always"/"yes" for the three composite measures (professional care, communication, discussion of care). Results are based on surveys from a sample of HHA patients from January to December for the year in question.

Source: CMS summary of HH-CAHPS public report of survey results tables.

Seventy-eight percent of patients reported that they would definitely recommend the HHA to family and friends. Measures of professional care, communication, and discussion of care were all over 80 percent.

**Providers' access to capital: Access to capital is adequate**

In 2020, the all-payer margin for freestanding HHAs averaged 8.1 percent, indicating that many HHAs yield positive financial results that should appeal to capital markets. HHAs are not as capital intensive as other providers because they do not require extensive physical infrastructure, and most are too small to attract interest from capital markets. Few HHAs access capital through publicly traded shares or through public debt, such as issuance of bonds. In 2020, Medicare accounted for about 53 percent of revenue for freestanding HHAs.

Information on publicly traded home health care companies provides some insight into access to capital, but it has limitations. Publicly traded companies may have other lines of business in addition to home health care, such as hospice, Medicaid-covered services, and private-duty nursing. Also, publicly traded companies are a small portion of the total number of HHAs in the

industry. However, since they are the largest corporate entities in home health care, they can provide some insight about the industry's financial status.

Analysis of the for-profit publicly traded companies indicates that they have access to capital. Financial analysts have noted that, while the firms saw reduced volume in the second quarter of 2020, demand recovered in later months and did not constrict access to capital. While aggregate Medicare revenues were lower in 2020 for some firms, these declines reflected lower volume and were offset by lower total costs for Medicare services. Financial analysts anticipate that firms will experience an increase in volume as inpatient hospital services increase, though other factors, such as the future course of the PHE, could affect volume.

**Medicare payments and providers' costs: Higher payment per in-person visit in 2020**

In 2020, the average payment per 30-day (non-LUPA) period for freestanding agencies was \$2,047. Though we typically report the annual payment increase, 2020 is the first year of a new unit of payment, with no comparable payments in 2019. As an alternative, we compared the average payment per in-person visit in



2019 and 2020, since in-person visits are a primary unit of service in the home health benefit and data on the number of visits are available for both years. Between 2019 and 2020, Medicare's payment per visit increased by about 16 percent, from \$180 per in-person visit to \$209 per in-person visit under the PDGM.<sup>12</sup> The per visit payment increase reflects the budget-neutrality requirement under the BBA of 2018, which requires Medicare to maintain expenditures at a pre-PDGM baseline. The increase also reflects the other payment policies in 2020, including the annual payment update of 1.5 percent, a 3.46 percent payment reduction that CMS implemented in anticipation of utilization and coding changes in the PDGM's first year, and the suspension of the sequester. Finally, a 4 percent increase in case-mix acuity in 2020, determined using data simulating 2019 payments under the PDGM, also raised payments in 2020.

The drop in in-person visits per 30-day period is a substantial factor in the higher payment per visit under the PDGM. When setting the PDGM base rate, CMS, consistent with the requirements of the BBA of 2018 requirements, assumed the number of in-person visits in a 30-day period would remain stable; thus, the rate is based on a higher level of utilization than occurred in 2020.<sup>13</sup> The base rate also does not reflect the shift to a less costly mix of services due to the drop in therapy services. If telehealth visits had been counted, the 2020 per visit payment increase would likely have been lower.

The decline in in-person visits under the PDGM was similar to the outcome in 2000 when Medicare switched from a cost-based home health reimbursement system to a PPS that used 60-day episodes of care. In that year, the number of visits per 60-day episode fell and was lower than the amount CMS assumed when it set the base payment for the newly established PPS; as a result, in 2001, the Medicare margin for home health care exceeded 20 percent. Though in-person visits per period could rebound in future years as the effects of the PHE recede, the pattern of visits and payments observed in 2020 is similar to the experience early in the history of the home health PPS that led to years of payments well in excess of costs.

In 2020, the average cost per 30-day period rose by 3.1 percent, greater than the 1.4 percent average annual

increase in cost per 60-day episode between 2017 and 2019. Utilization trends under the PDGM suggest that the new payment model could have slowed cost growth. In 2020, the 1.0-visit decline per 30-day period lowered the cost of care, since fewer visits were provided in a period. In addition, the mix of services in 2020 was less costly, since higher-cost in-person therapy visits (the most expensive in-person service HHAs provide) accounted for most of the decline. Without these changes, costs in 2020 would have been higher.

The PHE has led to reported price increases in labor and other services needed to deliver home health care, plus additional costs for personal protective equipment. The volume decline in 2020 due to the PHE could also have caused HHAs to experience negative economies of scale. However, the 10 percent increase in average cost per visit for both skilled nursing and physical therapy was higher than the rise of input prices indicated by the 2020 home health market basket. Because these cost hikes were likely driven by the PHE, increases in per visit costs could be lower in future years.

### **Medicare margins for freestanding HHAs increased sharply in 2020**

In 2020, the aggregate Medicare margin for freestanding HHAs jumped almost 5 percentage points to 20.2 percent (Table 8-12, p. 292).<sup>14</sup> The margin ranged from 4.1 percent to 31.8 percent for those at the 25th percentile and 75th percentile, respectively, of the margin distribution (data not shown). For-profit HHAs had higher margins than nonprofit HHAs, and rural HHAs had slightly higher margins than urban HHAs. Agencies with higher volume had better financial results, likely reflecting the economies of scale possible for larger operations. For example, margins for HHAs in the bottom quintile of volume averaged 11.6 percent, compared with a 22.4 percent average margin for HHAs in the top quintile.

In 2020, HHAs received substantial payments through PHE-related relief programs, such as the Provider Relief Fund, Paycheck Protection Program, and the Small Business Administration Loan Forgiveness program. When these relief funds are included, the Medicare aggregate margin for freestanding HHAs in 2020 was 21.9 percent (data not shown).<sup>15</sup>

**TABLE  
8-12**

**Medicare margins for freestanding home health agencies, 2019 and 2020**

	Medicare margins		Share of home health agencies	Share of periods
	2019	2020		
All	15.4%	20.2%	100%	100%
Geography				
Majority urban	16.1	20.0	87.4	85.2
Majority rural	14.2	21.6	12.6	14.8
Type of ownership				
For profit	17.4	22.7	87.4	80.6
Nonprofit	11.4	12.4	12.6	19.4
Volume quintile				
First (smallest)	9.7	11.6	20	2.6
Second	11.4	14.0	20	6.4
Third	13.3	17.0	20	11.1
Fourth	14.1	18.8	20	19.7
Fifth (largest)	17.5	22.4	20	60.2

Note: Home health agencies were classified as majority urban if they provided more than 50 percent of episodes to beneficiaries in urban counties and were classified as majority rural if they provided more than 50 percent of episodes to beneficiaries in rural counties. These data do not include federal Provider Relief Fund payments that HHAs received due to the public health emergency. Share of home health agencies and periods are as of 2020.

Source: MedPAC analysis of Medicare home health cost report files from CMS.

The Commission includes hospital-based HHAs in its calculation of acute care hospitals' Medicare margins because these agencies operate in the financial context of hospital operations. In 2020, margins for hospital-based HHAs were -21.6 percent (data not shown). The lower margins of hospital-based HHAs are attributable chiefly to their higher costs, some of which are a result of overhead costs allocated to the HHA from its parent hospital. Hospital-based HHAs help their parent institutions financially if they can shorten inpatient stays, lowering expenses in the more costly inpatient hospital setting.

**Relatively efficient HHAs serve patients similar to those at all other HHAs**

The Commission is required by the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 to consider the costs associated with efficient providers. The analysis informs the Commission's update discussion by examining the adequacy of payments for those providers that perform relatively well on cost and quality measures.

The Commission follows two principles when selecting a set of efficient providers. First, the providers must do

relatively well on both cost and quality metrics. Second, performance has to be consistent, meaning that the provider cannot have poor performance on any metric in any of three consecutive years preceding the year under evaluation. The Commission's approach is to examine how many providers meet a preestablished set of criteria. It does not establish a set share (for example, 10 percent) of providers to be considered efficient and then define criteria to meet that pool size.

To identify efficient HHAs, we examined cost efficiency and quality at freestanding HHAs to identify a cohort that demonstrated better performance on these metrics relative to peers (Table 8-13, p. 294). The cost measure was on a per episode basis, adjusted for risk (patients' health status) and local wages; the quality measures were risk-adjusted rates of hospitalizations during the home health spell and rate of successful discharge to the community after the home health spell. Our approach categorized an HHA as relatively efficient if it was in the best performing third on at least one measure (low cost per episode, a low hospitalization rate, or a high rate of beneficiaries with a successful discharge to the community) and was not in the worst performing third of any of these measures for three consecutive years (2017 to 2019). Providers also had to have complete claims, quality, and cost report data for 2017 to 2020. In 2020, about 15 percent of freestanding HHAs met the criteria to be classified as efficient.

For 2020, a year that includes the effects of the PHE and PDGM implementation, we selected providers based on their performance in 2017 to 2019, a period prior to the two events. Consequently, the results for this report should be interpreted carefully because the data for 2020 could reflect factors unrelated to the relative efficiency of HHAs.

In 2020, relative to other HHAs, efficient HHAs served a similar mix of patients and had a similar mix of nursing, therapy, aide, and social services visits but had a median cost per period that was about 1 percent lower. Relatively efficient providers had a median hospitalization rate that was 3.4 percentage points lower (lower is better). Relatively efficient HHAs provided 0.6 fewer in-person visits per period and had a median margin that was 4.5 percentage points higher. Efficient providers were less likely to be for profit,

tended to provide fewer 30-day periods in rural areas, and had a median Medicare margin of 24.3 percent.

### **The Commission projects that Medicare margins will remain high in 2022**

In modeling 2022 payments, we incorporate policy changes that will go into effect between the year of our most recent data, 2020, and the year for which we are making the margin projection, 2022. The major changes are:

- a 2.0 percent payment update for 2021;
- a 0.3 percent decrease in payments in 2021 and 2022 due to the phasing out of the rural add-on payments for home health care in the BBA of 2018;
- a 2.6 percent payment update for 2022;
- a 0.7 percent increase in 2022 to reflect a change to the outlier policy CMS implemented for 2022;<sup>16</sup>
- the suspension of the payment sequester under the Budget Control Act through March 31, 2022, a reduced payment sequester of 1 percent from April 1, 2022, to June 30, 2022, and the resumption of the sequester on July 1, 2022; and
- an estimated 3.6 percent rise in cost per 30-day period in 2021 and 3.1 percent rise in 2022, based in part on the home health market basket for these years.

On the basis of these policies and assumptions, the Commission projects a margin of 17.0 percent in 2022.

The margin projection for 2022 assumes a rate of cost inflation that is high relative to past experience. In 2011 to 2019—the last 10 years the 60-day payment episode was in effect—the average increase in cost per episode was about 0.5 percent. Annual changes in this period varied from a 3.4 percent drop to a 3.0 percent climb, though in most years the annual change up or down was 1.0 percent or less. However, the PHE likely exposed HHAs to cost inflation that they have not typically experienced, resulting in the higher than average cost per period increase of 3.1 percent in 2020. While the past experience of HHAs would suggest that this high rate of cost growth will not continue, some effects of the PHE, such as higher costs for labor, could persist through 2022. As a result, the Commission's

**TABLE  
8-13**

**Performance of relatively efficient home health agencies in 2020**

<b>Provider characteristics</b>	<b>Relatively efficient providers</b>	<b>All other providers</b>
Number of home health agencies	463	2,701
Share that are for profit	70.6%	77.7%
<b>Median</b>		
Medicare margin	24.3%	19.8%
Hospitalization during home health spell	16.5%	19.9%
Successful discharge to community relative to expected	1.11	1.03
Standardized cost per episode	\$1,281	\$1,294
Patient severity case-mix index	1.11	1.03
<b>Visits per period</b>		
Average in-person visits per period	8.2	8.8
<b>Share of in-person visits by type</b>		
Skilled nursing	48%	49%
Aide	5%	5%
MSS	1%	1%
Therapy	46%	45%
<b>HHA size</b>		
Median number of 30-day payment periods	993	997
<b>Share of episodes</b>		
Low-use episode	10.0%	7.8%
Outlier episode	5.6%	7.8%
Provided to rural beneficiaries	22.2%	27.3%

Note: MSS (medical social services), HHA (home health agency). Sample includes freestanding HHAs with complete data for three consecutive years. "Therapy" includes physical, occupational, and speech-language pathology visits. "Low-use periods" are those with low numbers of in-person visits, and these periods are paid on a per visit basis (the threshold for these payments depends on the payment group a period is assigned to, and it ranges from two to six in-person visits). "Outlier episodes" are those that received a very high number of in-person visits and qualified for outlier payments. Shares may not sum to 100 percent due to rounding.

Source: MedPAC analysis of Medicare cost reports and home health standard analytic file from CMS.

projection for 2022 assumes that costs will grow by the home health market basket for 2021 and 2022, for an average increase of about 3.47 percent a year. However, if this rate of cost growth returns to the annual rates observed before 2020, Medicare margins in 2022 could be higher than 17 percent.

**How should Medicare payments change in 2023?**

Our review of payment adequacy for Medicare home health service indicates that access is more than adequate in most areas and that payments substantially

exceed costs. On the basis of these findings, the Commission has concluded that home health payments should be significantly reduced. We anticipate that payments in 2022 will substantially exceed costs. These excess payments do not accrue to the advantage of the beneficiary or the Medicare program and do not encourage the efficient use of the home health care benefit.

Home health care can be a high-value benefit when it is appropriately and efficiently delivered. Medicare beneficiaries often prefer to receive care at home instead of in institutional settings, and home health care can be provided at lower costs than institutional care. However, Medicare's payments for home health services are too high, and the excess payments diminish the service's value as a substitute for more costly services. In addition, broad geographic variation in the use of the home health benefit indicates inefficiencies in some areas of the country.

#### RECOMMENDATION 8-1

**For calendar year 2023, the Congress should reduce the 2022 Medicare base payment rate for home health agencies by 5 percent.**

#### RATIONALE 8-1

A 5 percent reduction in 2023 would represent a significant action to address the magnitude of the excess payments embedded in Medicare's home health payment rates. However, this reduction would likely be inadequate to align Medicare payments with providers' actual costs. Though the PHE was a disruption for HHAs, it did not significantly change the industry's financial outlook or service delivery practices; in fact, Medicare margins in 2020 were substantially higher than in 2019.

#### IMPLICATIONS 8-1

##### Spending

- This recommendation would decrease federal program spending by \$750 million to \$2 billion in 2023 and by \$5 billion to \$10 billion over 5 years.

##### Beneficiary and provider

- We do not expect this recommendation to have adverse effects on beneficiaries' access to appropriate care. Given the current level of

payments, we do not expect the recommendation to affect providers' willingness to deliver appropriate home health care.

#### Requiring HHAs to report the telehealth services they provide to Medicare beneficiaries under the home health benefit

The lack of detailed information on the use of telehealth in 2020 impaired our ability to assess the changes to the benefit in this year, limiting our ability to assess the impact of the PDGM and the PHE. In 2020, in-person visits during 30-day periods fell by an average of 1.0 visit, but virtual visits likely increased, offsetting some of this decline. Since virtual visits in some instances may have substituted for in-person visits, we lack important context for assessing the in-person visit decline.

As the use of telehealth in home health care grows, the lack of detailed information about these visits could also compromise CMS's ability to set payments accurately under the home health PPS. In the PDGM, CMS sets payment for each case-mix group based on the total cost of the in-person visits provided in a 30-day period. Without claims-level information on telehealth use, CMS must rely on facility-level overhead costs to set payments that include the use of telehealth services. To the extent that telehealth use varies across clinical categories or other beneficiary characteristics, the payment for a given payment group may be too high or too low. Payment accuracy would be improved by requiring HHAs to report the use of telehealth services on home health claims.

#### RECOMMENDATION 8-2

**The Secretary should require that home health agencies report telehealth services provided during a 30-day period.**

#### RATIONALE 8-2

The lack of information about the frequency, duration, or modality of telehealth services received during a 30-day home health period makes it challenging to characterize service use under the benefit for payment accuracy or other policy analysis. Given the

recent expansion of telehealth coverage under the home health benefit, the Commission contends that HHAs should be required to report the delivery of virtual visits and other telehealth services on Medicare claims, similar to what Medicare requires for in-person visits provided by HHAs and other services under the benefit.<sup>17</sup> Collecting information on telehealth use during a period would ensure that these services are accounted for when analyzing beneficiaries' use of home health care services and when setting payments under the home health PPS. The information reported should include the type of telehealth, dates of service, and duration of service.

**Spending**

- This recommendation would not change payments relative to current law.

**Beneficiary and provider**

- Beneficiaries' access to care should not be affected. Including data on telehealth when constructing the home health case-mix index should protect access to care for beneficiaries who use more of these services. HHAs may incur some costs to provide the additional administrative data. ■

## Endnotes

---

- 1 The Coronavirus Aid, Relief, and Economic Security (CARES) Act of 2020 (P.L. 226-136) permanently expanded ordering and supervision authority for home health care to include nurse practitioners, clinical nurse specialists, and physician assistants (before this statute, only physicians had this authority). State laws on medical scope of practice also govern the services these practitioners are permitted to deliver and may limit the ability of some practitioners to order home health care.
- 2 The seven MMTA categories include surgical care, cardiac and circulatory, endocrine, gastroenterology/genitourinary, infectious disease, respiratory, and other conditions.
- 3 The statute requires CMS to raise or lower the home health base rate to account for the difference in spending if aggregate actual expenditures deviate from the expenditures expected under CMS's estimate. CMS has the authority to make permanent adjustments when it determines that an observed deviation from expected behavior will continue in future years. The statute provides the authority for temporary (one-year) adjustments when CMS identifies overpayments or underpayments that occurred in a prior year.
- 4 CMS computed the budget-neutrality target for 2020 by applying the 153-group payment system that was in effect in 2019 to the claims that were paid under the PDGM in 2020. The budget-neutral level of Medicare spending identified by this method was determined to be lower than the actual spending under the PDGM in 2020.
- 5 In prior years, the Commission has reported access based on ZIP code data from Medicare Compare. However, this file was not produced during 2020 due to the disruption associated with the PHE. As a result, in this report we use a measure based on U.S. counties.
- 6 Data from the U.S. Small Business Administration indicates that \$7.7 billion has been distributed to providers classified as "home health care services" under the North American Industry Classification System. This category covers a broader range of home health services than Medicare home health agencies, including home care providers such as personal care services, homemaker and companion services, physical therapy, medical social services, medications, medical equipment and supplies, counseling, 24-hour home care, occupation and vocational therapy, dietary and nutritional services, speech therapy, audiology, and high-tech care such as intravenous therapy. It is unclear how much of the \$7.7 billion has been received by Medicare HHAs.
- 7 If we approximate marginal cost as total Medicare costs minus fixed building and equipment costs, then marginal profit can be calculated as follows:  
  
$$\text{Marginal profit} = (\text{Medicare payments} - (\text{total Medicare costs} - \text{fixed costs})) / \text{Medicare payment}.$$
  
  
This comparison is a lower bound on the marginal profit because we do not consider any potential labor costs that are fixed.
- 8 The clinical training for physical therapy and skilled nursing overlap in some instances; for example, both fields provide training for wound care.
- 9 The risk adjustment for successful discharge to the community measure includes age and sex of the beneficiary, end-stage renal disease (ESRD) and disability status for Medicare entitlement, principal diagnosis, comorbidities, the length of the preceding hospital stay (if there was one), and a count of the hospitalizations during the preceding year. Risk adjusters for the hospitalization measure include primary diagnosis, comorbidities and severity of illness, special conditions (severe wounds, difficulty swallowing, and bowel incontinence), age and sex, disability and ESRD status, hospitalization in the previous month, days in the intensive care unit during a preceding hospitalization (if there was one), a count of the hospitalizations during the preceding year, and the provision of ventilator care during the PAC stay.
- 10 CAHPS® is a registered trademark of the Agency for Healthcare Research and Quality.
- 11 CMS is not publicly reporting HH-CAHPS results based on surveys collected in the first two quarters of 2020.
- 12 These payment per visit amounts were computed by dividing the total Medicare PPS payments in each year by the total number of visits (for 2020, only payments and in-person visits for 30-day periods paid under PDGM were included).
- 13 The BBA of 2018 required CMS to set spending under the PDGM so that it was equal to what Medicare would have spent under the predecessor payment system if the latter had been in effect in 2020.
- 14 This analysis relies on cost reports for 2019 and 2020.
- 15 The amount of the relief funds included in the calculation of Medicare margins was determined by applying the

proportion of an HHA's revenues attributable to Medicare in 2019 to the total PHE relief funds reported on the cost report.

16 In the 2022 home health payment rule, CMS lowered the fixed loss threshold to increase the number of periods that qualified for outlier payments.

17 For in-person visits, Medicare requires HHAs to report the date of a visit, type of practitioner, duration of services, and medical supplies utilized.



## References

---

- Amedisys. 2020a. Amedisys Corporation (AMED) CEO Paul Kusserow on Q2 2020 results—Earnings call transcript. <https://seekingalpha.com/article/4362058-amedisys-inc-amed-ceo-paul-kusserow-on-q2-2020-results-earnings-call-transcript>.
- Amedisys. 2020b. Amedisys Corporation (AMED) CEO Paul Kusserow on Q3 2020 results—Earnings call transcript. <https://seekingalpha.com/article/4383625-amedisys-inc-amed-ceo-paul-kusserow-on-q3-2020-results-earnings-call-transcript>.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2021. The role of therapy under the one Health Patient-Driven Groupings Model (PDGM). <https://www.cms.gov/files/document/se20005.pdf>.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2020. Home health agencies: CMS flexibilities to fight COVID-19.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2019. Medicare and Medicaid programs; CY 2020 home health prospective payment system rate update; home health value-based purchasing model; home health quality reporting requirements; and home infusion therapy requirements. Final rule. *Federal Register* 84, no. 217 (November 8): 60478–60646.
- Encompass Health. 2020a. Encompass Health Corporation (EHC) Q2 2020 earnings call transcript. <https://s22.q4cdn.com/748396774/files/Events/2020/Q2-2020-Transcript.pdf>.
- Encompass Health. 2020b. Q3 2020 earnings call. October 29. <https://s22.q4cdn.com/748396774/files/Events/2020/Transcript-Q3-2020-EHC-US-20201029-2429767-C.pdf>.
- Holly, R. 2021. Home health trends for 2021. *Home Health Care News*, January 18. <https://homehealthcarenews.com/2021/01/top-home-health-trends-for-2021/>.
- LHC Group. 2020. LHC Group (LHCG) CEO Keith Myers on Q1 2020 results—Earning call transcript. <https://seekingalpha.com/article/4386484-lhc-group-inc-lhcg-ceo-keith-myers-on-q3-2020-results-earnings-call-transcript>.
- Medicare Payment Advisory Commission. 2019. *Report to the Congress: Medicare and the health care delivery system*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2018. *Report to the Congress: Medicare and the health care delivery system*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2017. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2016. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2014. *Report to the Congress: Impact of home health payment rebasing on beneficiary access to and quality of care*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2011. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Motley Fool. 2020. AMEDISYS Inc (AMED) Q1 2020 earnings call transcript. <https://www.fool.com/earnings/call-transcripts/2020/05/08/amedisys-inc-amed-q1-2020-earnings-call-transcript.aspx>.
- Plotzke, M., T. Christian, and B. Fout. 2016. *Medicare home health prospective payment system: Case-mix refinements: Overview of the home health groupings model*. Cambridge, MA: Abt Associates.
- Shang, J., A. M. Chastain, U. G. E. Perera, et al. 2020. COVID-19 preparedness in US home health care agencies. *Journal of the American Medical Directors Association* 21, no. 7 (July): 924–927.

