# C H A P T E R

Home health care services

# RECOMMENDATION

**9** For 2020, the Congress should reduce the calendar year 2019 Medicare base payment rate for home health agencies by 5 percent.

COMMISSIONER VOTES: YES 16 • NO 0 • NOT VOTING 0 • ABSENT 1

# Home health care services

#### Chapter summary

Home health agencies (HHAs) provide services to beneficiaries who are homebound and need skilled nursing or therapy. In 2017, about 3.4 million Medicare beneficiaries received care, and the program spent \$17.7 billion on home health care services. In that year, almost 12,000 HHAs participated in Medicare.

## Assessment of payment adequacy

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

**Beneficiaries' access to care**—Access to home health care is adequate: Over 98 percent of beneficiaries lived in a ZIP code where an HHA operated in 2017, and 84 percent lived in a ZIP code with five or more HHAs.

- *Capacity and supply of providers*—The number of HHAs fell slightly (by 3 percent) in 2017, but this decline follows a long period of growth in prior years. From 2004 to 2016, the number of HHAs increased by 60 percent. The decline in 2017 was concentrated in areas that experienced sharp increases in supply in prior years.
- *Volume of services*—From 2002 to 2016, home health utilization increased substantially, with the number of episodes rising nearly 60 percent and the episodes per home health user climbing from 1.6 to 1.9

#### In this chapter

- Are Medicare payments adequate in 2019?
- How should Medicare payments change in 2020?

episodes. In 2017, volume dropped 3.1 percent, the total number of fee-forservice users also fell slightly, and the average number of episodes per home health user declined by 1.4 percent. Episodes not preceded by a hospitalization accounted for most of the growth since 2002, increasing from about half of episodes in 2002 to two-thirds of episodes in 2017.

Marginal profit—In 2017, freestanding HHAs' marginal profit—that is, the rate at which Medicare payments exceed providers' marginal cost—was 17.5 percent, suggesting a significant financial incentive for HHAs to serve Medicare patients.

Quality of care—In 2017, the rate of home health patients who were hospitalized or received treatment in the emergency room during an episode did not change significantly, similar to the trend in prior years, while measures of functional status, such as improvement in walking and transferring, increased. However, the functional status measures should be interpreted cautiously because these measures are based on provider-reported data and could be affected by agency coding practices.

**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. Several acquisitions to increase capacity and expansion of capacity by publicly traded home health care firms indicate adequate access to capital. In 2017, the average all-payer margin for HHAs was 4.5 percent.

Medicare payments and providers' costs—In 2017, Medicare spending for home health care declined by 1.6 percent. However, between 2002 and 2016, spending increased by over 88 percent. For more than a decade, payments under the home health prospective payment system (PPS) have consistently and substantially exceeded costs. In 2017, Medicare margins for freestanding agencies averaged 15.2 percent. The projected margin for 2019 is 16 percent. Two factors have contributed to payments exceeding costs: Agencies have reduced episode costs by decreasing the number of visits provided, and cost growth in recent years has been lower than the annual payment updates for home health care.

The high margins of freestanding HHAs have led the Commission to recommend a 5 percent reduction in the home health PPS base payment rate for 2020. However, this reduction will likely be inadequate to align Medicare payments with providers' actual costs, and further reductions through rebasing will likely be necessary. In past years, the Commission has recommended that payments be rebased in the year following a payment rate reduction. However, given the congressionally mandated revisions to the home health PPS that are slated for 2020, our recommendation for 2020 addresses only the level of payment. The planned revisions to the home health PPS likely will alter the mix and level of services HHAs provide. Future rebasing should reflect the new patterns of care. Those data will not be available until mid-2021. ■

## 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 2017, about 3.4 million Medicare beneficiaries received home care, and the program spent \$17.7 billion on home health services. Medicare spending for home health care more than doubled between 2001 and 2017, and this care accounted for about 3 percent of Medicare fee-for-service (FFS) spending in 2016.

Medicare requires that a physician certify a patient's eligibility for home health care and that a patient receiving services be under the care of a physician. In 2011, Medicare implemented a requirement that a beneficiary have a face-to-face encounter with the physician ordering home health care. The encounter must take place in the 90 days preceding or 30 days following the initiation of home health care. Contacts through nonphysician practitioners or authorized telehealth services may be used to satisfy the requirement.

Medicare pays for home health care in 60-day episodes. Payments for an episode are adjusted to account for a patient's clinical and functional characteristics and the number of therapy visits provided in the episode. If beneficiaries need additional covered home health services at the end of the initial 60-day episode, another episode commences and Medicare pays for an additional episode. (An overview of the home health prospective payment system (PPS) is available at http://www.medpac.gov/ docs/default-source/payment-basics/medpac\_payment\_ basics\_18\_hha\_final\_sec.pdf?sfvrsn=0.) Coverage for additional episodes generally has the same requirements as the initial episode (i.e., the beneficiary must be homebound and need skilled care). The Bipartisan Budget Act of 2018 made significant changes to payments for home health care services in 2020 (see text box on revisions to the home health PPS, pp. 232–233).

Home health care plays an important role in the care of Medicare beneficiaries. Home health can serve as an efficient substitute for or step down from institutional post-acute care (PAC), helping to keep beneficiaries in their homes and potentially reducing Medicare expenditures. Some new models of care—such as valuebased purchasing, the Hospital Readmission Reduction Program (HRRP), and Medicare's bundled acute care demonstrations—encourage closer cooperation between home health agencies (HHAs) and other providers to improve care for beneficiaries. In the future, changes in technology and new models of care may make it possible to deliver more care in the home. However, establishing appropriate incentives and levels of payment in FFS Medicare has proven challenging.

# Use and growth of the home health benefit has varied substantially with changes in coverage and payment policy

The home health benefit has changed substantially since the 1980s. Implementation of the inpatient hospital PPS in 1983 led to increased use of home health services as hospital lengths of stay decreased. Medicare tightened coverage of some services, but the courts overturned these curbs in 1988. After this change, the number of HHAs, users, and services expanded rapidly in the early 1990s. Between 1990 and 1995, the number of annual users rose by 75 percent, and the number of visits more than tripled to about 250 million a year. Spending increased more than fourfold between 1990 and 1995, from \$3.7 billion to \$15.4 billion. As the rates of use and the duration of home health spells grew, there was concern that the benefit was serving more as a long-term care benefit (Government Accountability Office 1996). Further, many of the services provided were believed to be improper. For example, in one analysis of 1995 to 1996 data, the Office of Inspector General found that about 40 percent of the services in a sample of Medicare claims did not meet Medicare requirements for payment (mostly because services did not meet Medicare's standards for a reasonable and necessary service, patients did not meet the homebound coverage requirement, or the medical record did not document that a billed service was provided) (Office of Inspector General 1996).

The trends of the early 1990s prompted increased program integrity actions, refinements of coverage standards, and temporary spending caps through an interim payment system (IPS). Between 1997 and 2000, the number of

## Revisions to the home health prospective payment system in 2020

The Bipartisan Budget Act of 2018 requires CMS to implement two major changes to the home health prospective payment system (PPS) in 2020: a new 30-day unit of payment in place of the current 60-day unit of payment and the elimination of the number of 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 home health payment. The elimination of the therapy thresholds is consistent with a recommendation the Commission first made in 2011 (Medicare Payment Advisory Commission 2011).

The current payment system has a series of nine payment thresholds that increase payment as the number of therapy visits in an episode increases; in effect, providing more therapy visits increases payments. Such an adjustment encourages agencies to consider financial incentives when providing therapy services. The Commission has noted that home health agencies (HHAs) appear to adjust their services to maximize financial results under these thresholds (Medicare Payment Advisory Commission 2011). An investigation by the U.S. Senate Committee on Finance found that many agencies were targeting therapy services based on financial incentives and called

for Medicare to move away from using therapy as a payment factor (U.S. Senate Committee on Finance 2011). Eliminating the thresholds in 2020 will mitigate the adverse incentives in the home health PPS.

CMS also plans to implement a new case-mix system, the Patient-Driven Groupings Model (PDGM), in 2020. The PDGM categorizes episodes into 432 payment groups based on the following characteristics:

- **Episode timing**—Services in the first 30 days of a spell of home health would be classified as "early," while services in the subsequent 30-day period would be classified as "late." For example, if a beneficiary had two consecutive 60-day payment episodes under the current system, the first 30-day period would be classified as early, while the three subsequent 30-day periods would be classified as late 30-day periods. Though the unit of payment will move to a 30-day episode, beneficiaries receiving home health care would continue to be assessed for payment purposes at the beginning of care and at the beginning of each subsequent 60day period of service.
- Referral source—Cases would be categorized based on the services received before the beginning

(continued next page)

beneficiaries using home health services fell by about 1 million, and the number of visits fell by 65 percent (Table 9-1, p. 234). The mix of services changed from predominantly aide services in 1997 to predominantly skilled nursing visits in 2000, and therapy visits increased between 1997 and 2000 from 10 percent to 19 percent of visits. Between 1997 and 2000, total spending for home health services declined by 52 percent. The reduction in payments had a swift effect on the supply of HHAs, and by 2000, the number of HHAs had fallen by 31 percent. However, after the PPS was implemented in 2000, service use and agency supply rebounded at a rapid pace. Between 2001 and 2017, the number of home health episodes rose

from 3.9 million to 6.3 million (data not shown). In 2017, the number of HHAs was 11,844, higher than the level of supply during the 1990s. Almost all the new agencies since implementation of the PPS have been for-profit providers (data not shown).

The steep declines in services under the IPS did not appear to adversely affect the quality of care beneficiaries received; one analysis found that patient satisfaction with home health services was mostly unchanged in that period (McCall et al. 2004, McCall et al. 2003). In 2004, the Commission also concluded that the quality of care did not decline between use of the IPS and the implementation of

## Revisions to the home health prospective payment system in 2020 (cont.)

of the episode: prior hospitalization or institutional post-acute care on the one hand, or admission from the community on the other.

- Clinical category—The new system would create 12 clinical categories based on patients' reported conditions or treatments: need for musculoskeletal rehabilitation; neuro/stroke rehabilitation; wound care; behavioral health care; complex care; and medication management, teaching, and assessment.
- Functional/cognitive level—Similar to the existing system, the PDGM would classify patients' cognitive and physical functioning using information from the Outcomes Assessment Information Set, known as OASIS, home health patient assessment.
- Presence of comorbidities— The PDGM will adjust payment for commonly occurring comorbidities in home health care. There would be a three-tiered adjustment for selected comorbidities.

CMS analyzed the PDGM's likely impact in the 2019 home health payment rule, finding that, in general, funds would be redistributed from HHAs that provide more therapy to those that provide relatively more nursing. Specifically:

- Payments in 2020 would increase by 2.9 percent for nonprofit agencies and 3.9 percent for facilitybased HHAs.
- Payments would fall by 0.4 percent for freestanding agencies and fall by 1.2 percent for for-profit HHAs.
- HHAs in urban areas would see a 0.6 percent payment decrease, while those in rural areas would see a 4.0 percent increase.
- Payments would rise for smaller providers and fall for larger providers. For example, payments would increase by 1.9 percent for the 2,841 HHAs with less than 100 episodes in annual volume and would drop 0.2 percent for larger HHAs with more than a 1,000 episodes a year. ■

the PPS (Medicare Payment Advisory Commission 2004). The similarity in quality of care under the IPS and the PPS suggests that the payment reductions in the Balanced Budget Act of 1997 led HHAs to reduce costs and utilization without a measurable difference in the quality of patient care.

#### Medicare has always overpaid for home health services under the PPS

Payments for home health care have substantially exceeded costs since Medicare established the PPS. In 2001, the first full year of the PPS, average Medicare margins for freestanding HHAs equaled 23 percent (Figure 9-1, p. 235). The high margins in the first year suggest that the PPS established a base rate well in excess of costs. The base rate assumed that the average number of visits

per episode between 1998 and 2001 would decline about 15 percent, while the actual decline was about 32 percent (Table 9-2, p. 235). Between 2001 and 2017, the number of visits per episode declined. The number of therapy services per episode increased, but this increase has been more than offset by the decline in all other service types (nursing, home health aide, and medical social services). In addition, HHAs have been able to hold the rate of episode cost growth below 1 percent in many years, lower than the rate of inflation assumed in the home health payment update (data not shown). Consequently, HHAs were able to garner extremely high average payments relative to the cost of services provided. Between 2001 and 2016, freestanding HHA margins averaged 16.3 percent (Figure 9-1, p. 235).

#### Changes in supply and utilization of home health care, 1997-2017

	1997	2000	2016	2017	1997- 2000	2000- 2016	2016- 201 <i>7</i>
Home health agencies	10,917	7,528	12,204	11,844	-31%	62%	-3%
Total spending (in billions)	\$17.7	\$8.5	\$18.1	\$17.7	-52	113	-2
Users (in millions)	3.6	2.5	3.4	3.4	-31	38	-2
Number of visits (in millions)	258.2	90.6	108.3	104.8	-65	20	-3
Visit type (percent of total)							
Skilled nursing	41%	49%	49%	48%	20	-1	-2
Home health aide	48	31	10	9	<b>-37</b>	-68	-11
Therapy	10	19	41	43	101	112	5
Medical social services	1	1	1	1	1	-25	<-0.1
Number of visits per user	73	37	31	31	-49	-15	-2
Percent of FFS beneficiaries who used home health services	10.5%	7.4%	8.9%	8.8%	9.4	22	-1

Note: FFS (fee-for-service). Medicare did not pay on a per episode basis before October 2000. Yearly figures presented in the table are rounded, but figures in the percent change columns were calculated using unrounded data.

Source: Home health standard analytical file 2017; Health Care Financing Review, Medicare and Medicaid Statistical Supplement 2002.

#### Reductions mandated in 2010 legislation have not significantly lowered payment for home health services

In 2010, the Commission recommended that Medicare lower home health payments to make them more consistent with costs, a process referred to as payment rebasing. The Patient Protection and Affordable Care Act of 2010 (PPACA) included several reductions intended to address home health care's high Medicare payments, including rebasing the payment system. However, these policies have not achieved the goal of making payments more consistent with actual costs.

PPACA offset the annual rebasing adjustment by the payment update for each year from 2014 through 2017.<sup>2</sup> CMS set the rebasing reduction to the maximum amount permitted under the PPACA formula, which was equal to 3.5 percent of the 2010 base rate, or an annual reduction of \$81 per 60-day episode.<sup>3</sup> However, the size of the base rate has increased since 2010, so this reduction averaged 2.8 percent in each year from 2014 through 2017 (Table

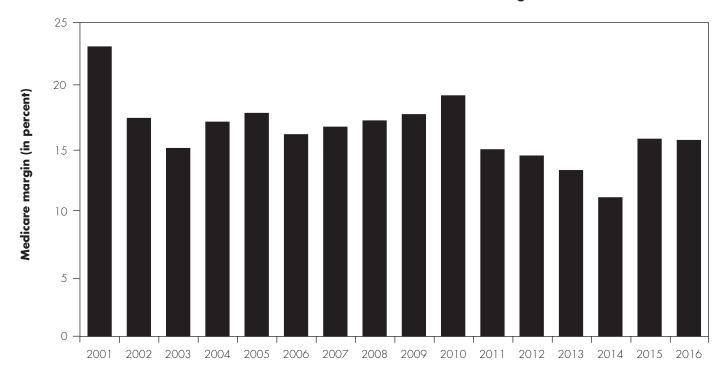
9-3, p. 236). In addition, the annual payment update offset these reductions. The cumulative effect of the PPACA reduction and the payment update resulted in a payment reduction of 2.6 percent for the four years of rebasing. This modest decrease is smaller than the payment reductions the industry has weathered in the past; since the implementation of PPS in 2000, Medicare margins for freestanding HHAs have always exceeded 10 percent.

#### Ensuring appropriate use of home health care is challenging

Policymakers have long struggled to define the role of the home health benefit in Medicare (Benjamin 1993). From the outset, there was a concern that setting a narrow policy could result in beneficiaries using other, more expensive services, while a policy that was too broad could lead to wasteful or ineffective use of the home health benefit (Feder and Lambrew 1996). Medicare relies on the skilled care and homebound requirements as primary determinants of home health eligibility, but these broad coverage criteria permit beneficiaries to receive

# FIGURE

#### Medicare margins of freestanding home health agencies remained high between 2001 and 2016



Source: Medicare cost reports.

services in the home even though they are capable of leaving home for medical care, which most home health beneficiaries do (Wolff et al. 2008). Medicare does not provide any incentives for beneficiaries or providers

to consider alternatives to home health care, such as outpatient services. Beneficiaries who meet program coverage requirements can receive an unlimited number of home health episodes and face no cost sharing. In

#### Medicare visits per episode before and after implementation of PPS

	Visits per episode				Percent change in:		
Type of visit	1998	2001	2016	2017	1998-2001	2001-2016	2016-201 <i>7</i>
Skilled nursing	14.1	10.5	8.6	8.4	-25%	-18%	-3%
Therapy (physical, occupational,							
and speech-language pathology)	3.8	5.2	7.3	7.7	39	40	5
Home health aide	13.4	5.5	1.8	1.6	-59	-68	-11
Medical social services	0.3	0.2	0.1	0.1	-36	-33	-0.2
Total	31.6	21.4	17.8	17.8	-32	-17	-0.2

PPS (prospective payment system). The PPS was implemented in October 2000. Data exclude low-utilization episodes. Yearly figures presented in the table are rounded, but figures in the percent change columns were calculated using unrounded data.

Source: Home health standard analytic file.

#### Impact of PPACA rebasing on payments for 60-day episodes

#### **Annual percent change**

	2014	2015	2016	2017	Cumulative change, 2014–2017
Rebasing adjustment	-2.8%	-2.8%	-2.8%	-2.8%	-10.7%
Legislated payment update	2.3	2.1	1.9	2.5	9.1
Net payment reduction	-0.6	-0.8	-1.0	-0.9	-2.6

PPACA (Patient Protection and Affordable Care Act of 2010). Effects of payment changes are multiplicative. Note:

Source: MedPAC analysis based on home health prospective payment system final rules for 2014 through 2017 from CMS.

addition, the program relies on HHAs and physicians to follow program requirements for determining beneficiary needs, but evidence from prior years suggests that they do not consistently follow Medicare's standards (Cheh et al. 2007, Department of Health and Human Services 2018, Office of Inspector General 2001). Concerns about ensuring the appropriate use of home health episodes not preceded by a hospitalization led the Commission to recommend a copayment for these episodes (Medicare Payment Advisory Commission 2011).

#### Program integrity is a continuing challenge in home health care

In 2010, the Commission made a recommendation to curb wasteful and fraudulent home health services (Medicare Payment Advisory Commission 2010). This recommendation calls on the Health and Human Services Secretary to use the department's authorities under current law to examine providers with aberrant patterns of utilization for possible fraud and abuse. PPACA permits Medicare to implement temporary moratoriums on the enrollment of new HHAs in areas believed to have a high incidence of fraud. In 2017, Medicare implemented statewide moratoriums for HHAs in Florida, Illinois, Michigan, and Texas, expanding previously established local moratoriums in these states. There have also been numerous criminal prosecutions for home health fraud, most notably in Miami and Detroit.

CMS has experimented with prepayment claims review as a means to reduce inappropriate billing. In 2016, CMS operated the Pre-claim Review Demonstration in Illinois

for 10 months. Under the demonstration, Medicare conducted a full review of all home health claims in the state. HHAs were required to submit documentation indicating that the beneficiary met program coverage standards when filing an initial request for payment. Payment would be reduced by 25 percent for episodes for which HHAs did not submit supporting documentation with the initial claim. Though most claims were approved, the Government Accountability Office (GAO) found that payments dropped by about \$100 million for the 10 months the demonstration was in effect. CMS suspended the demonstration in March 2017 (Government Accountability Office 2018).

CMS recently announced plans to implement a revised version of the demonstration. Under the revised demonstration, HHAs in Illinois will have the option of submitting additional supporting documentation before or after payment. HHAs that have acceptable affirmation rates during the review process will be released from the review requirement. HHAs that do not submit any documentation during the demonstration will have their payments reduced by 25 percent and possibly be subject to postpayment review. CMS plans to expand the demonstration to Florida, North Carolina, Ohio, and Texas after gaining experience in Illinois.

#### Are Medicare payments adequate in 2019?

The Commission reviews several indicators to determine the level at which payments will be adequate to cover

#### Number of participating home health agencies declined in 2017 but remained high relative to earlier years

							Percent	change
	2004	2008	2012	2015	2016	2017	2004-2016	2016-2017
Active home health agencies  Number of home health agencies	7,651	9,787	12,311	12,346	12,204	11,844	60%	-3.0%
	2.1	2.8	3.3	3.2	3.2	3.1	51	-2.9

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

Source: CMS's Provider of Service file and 2018 annual report of the Boards of Trustees of the Medicare trust funds.

the costs of an efficient provider in 2019. We assess beneficiary access to care by examining the supply of home health providers, annual changes in the volume of services, and marginal profit. The review also examines quality of care, access to capital, and the relationship between Medicare's payments and providers' costs. Overall, the Medicare payment adequacy indicators for HHAs are positive.

#### 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 2017, over 98 percent of beneficiaries lived in a ZIP code served by at least one HHA, 97 percent lived in a ZIP code served by two or more HHAs, and 84 percent lived in a ZIP code served by five or more agencies. These findings are consistent with our prior reviews of access.<sup>4</sup>

#### Supply of providers: Agency supply remains high despite recent decline

Though the supply of HHAs declined slightly in 2017, supply still remains relatively high. Since 2004, the number of HHAs in Medicare has increased by over 4,000 agencies, reaching 11,844 agencies in 2017 (Table 9-4). The slight decline in 2017 was concentrated in Florida and Texas, states that experienced higher than average increases in supply in prior years. These states have been targeted by a myriad of antifraud measures, including

criminal investigations and moratoriums on the entry of new HHAs. The number of HHAs exiting the program has increased in recent years in these states, and moratoriums have likely stopped the entry of new HHAs. Even with declines in these states, however, the supply of HHAs in the two states is almost three times the supply of HHAs that were available in 2001, with supply exceeding 3,400 HHAs in 2017.

From 2004 to 2017, the number of HHAs per 10,000 FFS beneficiaries rose 46.6 percent, from 2.1 to 3.1 (Table 9-4). Most of the new HHAs were for profit. However, supply varies significantly among states. In 2017, Texas averaged 8.7 HHAs per 10,000 beneficiaries, while New Jersey averaged less than 1.0 HHA per 10,000 beneficiaries. The extreme variation demonstrates that the number of providers is a limited measure of capacity 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.

#### Episode volume declined slightly in 2017

Episode volume in 2017 declined by 3.1 percent (Table 9-5, p. 238). This decline is part of a trend that began in 2012, but this period of decline was preceded by a period of rapid growth (Figure 9-2, p. 239). Between 2002 and 2011, total episodes increased by 67 percent from 4.1

#### Fee-for-service home health care services have increased significantly since 2002

			2013	2016		Percent change	
	2002	2011			2017	2002- 2016	2016- 201 <i>7</i>
Home health users (in millions)	2.5	3.4	3.5	3.5	3.4	37.5%	-1.7%
Share of beneficiaries using home health care	7.2%	9.4%	9.2%	8.9%	8.8%	24.0	-1.4
Episodes (in millions):	4.1	6.8	6.7	6.5	6.3	59.4	-3.1
Per home health user	1.6	2.0	1.9	1.9	1.9	16.0	-1.4
Per FFS beneficiary	0.12	0.19	0.18	0.17	0.16	44.1	-2.8
Payments (in billions)	\$9.5	\$18.3	\$17.8	\$18.0	\$17.7	88.8	-1.6
Per home health user	3,783	5,312	5,132	5,196	5,202	37.4	0.1
Per home health episode	2,645	2,916	2,896	2,988	3,039	13.0	1.4

FFS (fee-for-service). Percent change is calculated on numbers that have not been rounded; payment per episode excludes low-utilization payment adjustment cases.

Source: MedPAC analysis of home health standard analytical file.

million episodes to 6.8 million episodes (Table 9-5). The decline since 2011 has been concentrated in a few states, with five states (Florida, Illinois, Louisiana, Tennessee, and Texas) accounting for most of the decline in episodes. However, utilization in these five states had more than doubled between 2002 and 2011, higher than in most other areas (Figure 9-2).

Changes in average payment per full episode (defined as comprising more than four visits) underscore the limited impact of the PPACA rebasing policy that was implemented in 2014 through 2017.<sup>5</sup> The average payment per episode in 2017 was 5 percent higher than the average payment per episode for 2013, the year before the PPACA adjustments were implemented (Table 9-5). The per episode payment growth is even more remarkable since Medicare implemented additional payment reductions during this period, such as reductions for changes in coding practices.

The decline in home health utilization since 2011 reflects changes in both the demand for home health services and the supply of HHAs. The number of hospital discharges, a common source of referrals, declined by 11 percent from 2011 to 2014 and has not changed significantly since, indicating that demand for PAC services has not increased since 2011. In addition, several actions have

been taken to curb fraud, waste, and abuse in Medicare home health care.

Percent change

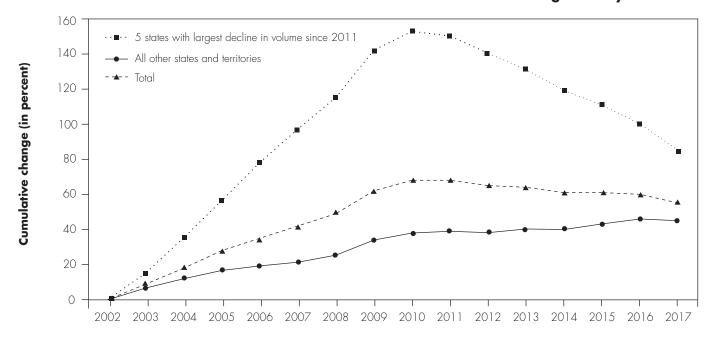
The decline in episode volume since 2011 has not been uniform across the country. Since 2011, Florida, Illinois, Louisiana, Tennessee, and Texas (the five states with the fastest growing episode volume before 2011) have seen a decline of about 25 percent. The remaining 44 states experienced aggregate growth of 4.1 percent, though there was a range of increases and declines across these states. This geographic variation emphasizes that many areas continue to see growth despite the overall drop in episode volume since 2011. The volume decrease in areas that have been targeted by program integrity efforts suggests that these efforts can address excessive or unwarranted services, and the expansion of these efforts to other areas with excessive growth rates would be beneficial.

#### Home health care spells of service have increased in length and shifted in focus to episodes not preceded by a hospitalization

Between 2002 and 2016, the average number of episodes per user increased by 16 percent, rising from 1.6 to 1.9 episodes per user (Table 9-5). Though the average number of episodes declined slightly in 2017, the trend since 2002

# **FIGURE**

#### Volume of fee-for-service home health care services have increased significantly since 2002



The five states with the largest decline in volume since 2011 include Florida, Illinois, Louisiana, Tennessee, and Texas. Note:

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

indicates that beneficiaries have been receiving home health care for longer periods. The increase in episodes coincides with Medicare's PPS incentives that encourage additional volume: The per episode unit of payment in the PPS encourages longer periods of home health use (more episodes per beneficiary).

The rise in the average number of episodes per home health user coincides with a relative shift away from using home health care after a hospitalization or institutional PAC service. Between 2001 and 2011, episodes not preceded by a hospitalization or institutional PAC stay increased by about 127 percent, while episodes preceded by a prior PAC stay or hospitalization increased by 14.8 percent (Table 9-6, p. 240). Between 2011 to 2017, the volume of episodes not preceded by a hospital or institutional PAC stay dropped by 11.2 percent, while in the same period, episodes preceded by a hospitalization or PAC stay continued to increase slightly in recent years. However, this increase has not significantly changed the

share of episodes not preceded by inpatient or institutional PAC, which in 2017 accounted for 66 percent of episodes.

#### **Episodes that qualify for additional payment** based on therapy services account for an increasing share of volume

Since the October 2000 implementation of the home health PPS, Medicare has used the number of therapy visits as a factor in payment, and, not surprisingly, episodes that qualify for these payments have increased faster than episodes that do not. Under the current PPS, additional therapy visits increase payments once six or more visits are provided in an episode, and the share of these episodes increased between 2008 and 2017 from 37 percent to 49 percent. In past work, the Commission has found that agencies that provide more therapy episodes tend to be more profitable. The higher profitability and rapid growth in the number of these episodes suggest that financial incentives are causing agencies to favor therapy

#### Home health episodes not preceded by hospitalization or PAC stay increased at a higher rate than other episodes

	Episodes			Cumulative percent chang		
	2001	2011	<b>2017</b>	2001-2011	2011-201 <i>7</i>	
Number of episodes preceded by a hospitalization or PAC stay (in millions)	1.9	2.2	2.2	14.8%	2.2%	
Number of episodes not preceded by a hospitalization or PAC stay (in millions)	2.1	4.6	4.2	127.4	-11.2	
Share of episodes not preceded by a hospitalization or PAC stay	53%	67%	66%	26	-1.5	
Total (in millions)	3.9	6.8	6.3	74.0	-7.0	

Note: PAC (post-acute care). "Episodes preceded by a hospitalization or PAC stay" indicates the episode occurred fewer than 15 days after a stay in a hospital (including a long-term care hospital), skilled nursing facility, or inpatient rehabilitation facility. "Episodes not preceded by a hospitalization or PAC stay" indicates that there was no hospitalization or PAC stay in the 15 days before the episode began. Numbers may not sum to totals due to rounding.

Source: Home health standard analytical file and Medicare Provider and Analysis Review file for 2001, 2011, and 2017.

services when possible. Consistent with this finding, the Bipartisan Budget Act of 2018 requires CMS to remove therapy visits as a factor in determining payments under the PPS.

#### New rural payment targets supplemental payments to low-use rural areas

In general, the Commission has not found systemic issues with rural access to care, and Medicare margins of rural HHAs are generally above 10 percent a year, comparable with urban HHAs. Average utilization is not significantly different between HHAs in urban and rural areas, but some variation exists around this average, with high-use and low-use areas found in both urban and rural counties.

The Bipartisan Budget Act of 2018 implemented a 3 percent payment increase for home health episodes provided in rural areas in 2018. For later years, the Act establishes three categories of rural counties and ties the duration and size of the payment add-on for each category to the population density and utilization levels of rural counties. The categories include:

High-utilization rural counties—Services furnished in rural counties in the top quartile of utilization will receive a payment add-on of 1.5 percent in 2019

and one-half percent in 2020. CMS computed the ratio of home health episodes to FFS beneficiaries in 2015 for all counties (both urban and rural); based on this distribution, rural counties with 17.8 or more episodes per 100 beneficiaries were classified as highutilization areas.

- Low-population rural counties—Counties that have a population density of six individuals or fewer per square mile and do not have high utilization are classified as low-population counties and receive a 4 percent add-on in 2019. The add-on will decrease by 1 percentage point each year and end after 2022.
- All other rural counties—Rural counties not in either of the above categories will receive a 3 percent add-on in 2019, also decreasing by 1 percentage point each year to end after 2021.

The rural payment add-on policy for 2019 better targets Medicare's scarce resources. The policy targets payments to areas with lower population density and limits payments to rural areas with higher utilization. This policy is consistent with our June 2012 report to the Congress, which noted that Medicare should target rural payment adjustments to areas that may have access challenges.

#### Average home health agency performance on select quality measures

	2014	2015	2016	2017
During an episode, the share of an agency's beneficiaries who:				
Used emergency department care	12.0%	12.2%	12.1%	12.7%
Had to be admitted to the hospital	15.4	15.5	16.2	15.4
Share of an agency's beneficiaries with improvement in:				
Transferring	55%	59%	65%	72%
Walking	61	63	69	74

All data are for fee-for-service beneficiaries only and are risk adjusted for differences in patient condition among home health patients.

Source: MedPAC analysis of data provided by the University of Colorado.

#### **Marginal profits**

Another factor we consider when evaluating access to care is whether providers have any financial incentive 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 are larger than 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. 6 In 2017, the marginal profit, on average, for freestanding HHAs was 17.5 percent. This substantial marginal profit indicates that these HHAs have an incentive to serve Medicare beneficiaries.

#### Quality of care: Divergent trends between claims-based and provider-reported measures

The Commission relies on data from two principal sources to measure home health care quality: data from patient assessment information collected by HHA staff, and Medicare claims submitted by HHAs and other provider types.<sup>7</sup> The Commission has observed that performance for quality measures that rely on claims has not changed significantly in 2014 to 2017, while performance for measures that rely on patient assessment data reported by HHAs has improved significantly. These divergent trends raise concerns about the objectivity of the measures that

rely on patient assessment data, particularly because the measures showing improvement are most sensitive to HHA coding practices. The use of patient assessment data to determine Medicare payments may also distort these data, as in some cases more severe debility in function can yield higher payments.

A comparison of trends for 2014 to 2017 illustrates these concerns (Table 9-7). Measures of hospitalization and emergency department use rely on Medicare claims; these measures indicate mixed or modest changes with no substantial change over this period. In contrast, the rates of beneficiaries' functional improvement have risen substantially, with the share of beneficiaries improving in transferring and walking increasing 17 percentage points and 13 percentage points, respectively, over the four-year period. The higher rates of improvement for the functional measures may reflect agency coding practices and should be interpreted cautiously.

It is also notable that functional improvement data are collected only for beneficiaries who do not have their home health care stays terminated by a hospitalization, which means that beneficiaries included in the measure may be healthier and more likely to have positive outcomes.

#### Medicare's home health value-based purchasing program had a limited impact in the first year

In 2017, Medicare initiated a value-based purchasing (VBP) model for home health care. The model is designed to test whether HHAs in nine states (Arizona, Florida, Iowa, Maryland, Massachusetts, Nebraska, North Carolina, Tennessee, and Washington) improve or maintain high quality when they are subject to a VBP incentive. Under the demonstration, HHAs with higher performance receive bonuses, while those with lower scores receive penalties. HHA performance is evaluated against separate improvement and attainment scores, with payment tied to the higher of these two scores. The first payment adjustment was implemented January 1, 2018.

The program determines quality through a composite of 20 measures of process, outcomes, and patient satisfaction. In the first year, performance in 2016 was compared with the prior year. The scores are combined into a composite Total Performance Score (TPS), following an approach similar to that used in the hospital VBP program.

A CMS-contracted report concluded that the impact of the VBP program on quality was mixed in 2017, the first year payments were adjusted under the program. This analysis compared the TPS values for patients served by HHAs in the nine VBP test states with a comparison group of home health patients from other states. The analysis found that TPS values increased in both VBP states and the comparison states, but that the increase in the average TPS value was 7.4 percent greater in the VBP states. The report made a caveat with reference to this result, noting that the higher annual increase for the VBP states was principally attributable to better performance on several process and outcome measures based on the Outcomes Assessment Information Set (OASIS), which are reported by HHAs and not independently verified. The VBP report also noted that several HHAs subject to VBP had revised patient assessment practices in response to the program and that changes in these practices could have contributed to the higher rates of improvement on the OASIS-based measures.

Performance on other measures, which relied on data from Medicare claims or beneficiary surveys, was mixed. Spending on and utilization of skilled nursing facilities declined slightly, but emergency department use increased. There was no statistically significant difference between VBP states and non-VBP states in rates of hospitalization or spending. The analysis also found no statistically meaningful differences between VBP states and non-VBP states for the rates of patient satisfaction collected through the Home Health Consumer Assessment of Healthcare Providers<sup>®</sup>.

#### Providers' access to capital: Access to capital for expansion is adequate

In 2017, the overall (all-payer) margins for freestanding HHAs averaged 4.5 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.

Information on publicly traded home health care companies provides some insight into access to capital but has limitations. Publicly traded companies may have other lines of business in addition to Medicare home health care, such as hospice, Medicaid-covered services, and privateduty 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 for-profit companies indicates that these companies had adequate access to capital in 2017. Publicly traded firms continued to invest in home health capacity. For example, LHC Group merged with Almost Family. Encompass (formerly known as HealthSouth) acquired a multistate hospice and home health company. These capacity-driven expansions by publicly traded companies suggest that access to capital remains adequate.

#### Medicare payments and providers' costs: Payments rose while cost per episode remained low in 2017

In 2017, average Medicare payments per episode increased by 1.4 percent for freestanding HHAs. Meanwhile, low or no cost growth has been typical for home health care, and in some years, cost per episode has declined. In 2017, the average cost per episode increased by 0.9 percent, slightly greater than the annual decrease of about 0.1 percent for the previous five years. The ability of freestanding HHAs to keep costs low in most years has contributed to their high margins under the Medicare PPS. In 2017, Medicare accounted for about 56 percent of revenue for freestanding HHAs.

#### **Medicare margins for freestanding HHAs** remained high in 2017

In 2017, HHA Medicare margins in aggregate were 15.2 percent for freestanding HHAs (Table 9-8). For these

#### Medicare margins for freestanding home health agencies, 2016 and 2017

	Medicare margin		Share of			
	2016	2017	home health agencies, 2017	Share of episodes, 2017		
All	15.5%	15.2%	100%	100%		
Geography						
Majority urban	16.0	15.8	83	84		
Majority rural	13.8	13.4	17	16		
Type of ownership						
For profit	16.8	16.4	88	79		
Nonprofit	12.0	10.9	12	21		
Volume quintile						
First (smallest)	8.5	7.4	20	3		
Second	10.8	9.8	20	6		
Third	11.6	11.5	20	11		
Fourth	14.5	13.6	20	19		
Fifth (largest)	17.4	17.0	20	62		

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. Components may not sum to totals due to rounding.

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

HHAs, the aggregate Medicare margins varied from 0.7 percent for those at the 25th percentile of the margin distribution to 24.1 percent for those at the 75th percentile (not shown in Table 9-8). For-profit HHAs had higher margins than nonprofit HHAs, and urban HHAs had slightly higher margins than rural HHAs. Agencies with higher volume had better financial results, likely reflecting the economies of scale possible for larger operations. For example, HHAs in the bottom quintile of Medicare volume had margins of 7.4 percent while HHAs in the top quintile had margins of 17.0 percent.

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 2017, margins for hospital-based HHAs were –16.0 percent. The lower margins of hospitalbased 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 most costly setting.

HHAs' financial performance in 2016 and 2017 permits an examination of the financial impact of the third and fourth years of rebasing under PPACA. In both years, the margins for freestanding HHAs remained high, reflecting the Commission's concerns that the PPACA policy would not make sufficient reductions. The actual performance contrasts starkly with the home health industry's predictions. In 2013, the industry predicted that Medicare margins for freestanding agencies in 2016 would be -0.3 compared with the actual aggregate margins of 15.5 percent.

#### Relatively efficient HHAs serve patients similar to patients of all other HHAs

Across all health care sectors, the Commission applies a two-step process when identifying efficient providers. First, the providers must do relatively well across cost

#### Performance of relatively efficient home health agencies in 2016

Provider characteristics	All	Relatively efficient providers	All other providers
Number of home health agencies	4,604	318	4,286
Share that are for profit	89%	89%	89%
Median:			
Medicare margin	15.6%	24.4%	15.0%
Hospitalization during first 60 days of stay (percent)	16.5%	14.7%	16.7%
Cost per episode	\$2,409	\$2,056	\$2,445
Patient severity case-mix index	0.99	1.02	0.99
Visits per episode			
Average visits per episode	16.6	15.4	16.8
Share of visits by type			
Skilled nursing visits	47%	47%	48%
Aide visits	8%	7%	8%
MSS visits	1%	1%	1%
Therapy visits	44%	43%	44%
Size (number of 60-day payment episodes)			
Median	504	653	494
Mean	905	1,399	868
Share of episodes			
Low-use episode	8%	9%	8%
Outlier episode	3%	3%	3%
Share of episodes provided to rural beneficiaries	23%	15%	25%

Note: MSS (medical social services). Sample includes freestanding agencies with complete data for three consecutive years (2014–2016). A home health agency is classified as relatively efficient if it is in the best third of performance for quality or cost and is not in the bottom third of either measure for three consecutive years. Low-use episodes are those with 4 or fewer visits in a 60-day episode. Outlier episodes are those that receive a very high number of visits and qualify for outlier payments. Components may not sum due to rounding.

Source: Medicare cost reports and standard analytic file.

and quality metrics. Second, the performance has to be consistent, meaning that the provider cannot have poor performance on any metric over a three-year period. The Commission's approach is to develop a set of criteria and then examine how many providers meet them. It does not establish a set share of providers to be considered efficient and then define criteria to meet that pool size.

We examined the quality and cost efficiency of freestanding HHAs to identify a cohort that demonstrated better performance on these metrics relative to its peers (Table 9-9).8 The cost measure was on a per episode

basis, adjusted for risk (patient's health status) and local wages; the quality measures were risk-adjusted rates of hospitalizations and improvement in walking. 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 showing improvement in walking) and was not in the worst performing third of any of these measures for three consecutive years (2014 to 2016). About 7 percent of freestanding HHAs met these criteria in this period.

In 2016, relatively efficient agencies compared with other HHAs had median margins that were about 9 percentage points higher, a median hospitalization rate that was 2 percentage points lower, and a median cost per episode that was 16 percent lower. Relatively efficient HHAs provided more episodes but 1.4 fewer visits per episode. The mix of nursing, therapy, aide, and social services visits did not differ significantly between relatively efficient and other HHAs. Efficient providers tended to provide fewer episodes in rural areas.

#### The Commission estimates that Medicare margins will remain high in 2019

In modeling 2019 payments and costs, we incorporate policy changes that will go into effect between the year of our most recent data, 2017, and the year for which we are making the margin projection, 2019. The major changes are:

- a 1 percent payment update for 2018 offset by a 0.97 percent coding adjustment,
- a 2.2 percent payment update for 2019,
- assumed nominal case-mix growth of 0.5 percent in 2018 and 2019.
- rural add-on for 2018 and 2019, and
- assumed episode cost growth of 1 percent per year.

On the basis of these policies and assumptions, the Commission projects a margin of 16.0 percent in 2019.

## How should Medicare payments change in 2020?

Our review of payment adequacy for Medicare home health service indicates that access is more than adequate in most areas and that Medicare payments are substantially in excess of costs. On the basis of these findings, the Commission has concluded that home health payments should be significantly reduced. Though PPACA included a provision intended to lower payments, the impact of this provision has been modest, and substantial margins for many agencies are likely to remain.

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 overpayments diminish the service's value as a substitute for more costly services. There are also some indications that utilization under fee-for-service is not always efficient, as suggested by the broad geographic variation in the use of the benefit. In another example, a recent analysis of home health care utilization in the Medicare's Shared Savings Program found that utilization dropped significantly for patients enrolled in a Medicare accountable care organization (McWilliams et al. 2017).

The Bipartisan Budget Act of 2018 requires that the policy changes implemented in 2020 be budget neutral and provides CMS with the authority to adjust payments in 2020 through 2026 to maintain budget neutrality. CMS has projected that behavioral responses by HHAs to the new policies will increase payments by 6.42 percent in 2020 (about \$1 billion), and the agency plans to implement an offsetting percentage reduction in 2020. This reduction is necessary to offset the spending increase expected in 2020 resulting from the behavioral changes; it does not reflect any assessment of the adequacy of Medicare's payments. Further reductions are necessary to better align payments with the costs of services.

#### RECOMMENDATION 9

For 2020, the Congress should reduce the calendar year 2019 Medicare base payment rate for home health agencies by 5 percent.

#### RATIONALE 9

An immediate reduction of 5 percent in 2020 would represent a significant action to address the magnitude of the overpayments embedded in Medicare's rates. However, this reduction will likely be inadequate to align Medicare payments with providers' actual costs, and further reductions will likely be necessary. In past years, the Commission has recommended that payments be rebased in the year following a payment rate reduction. However, given the congressionally mandated revisions to the home health PPS that are slated for 2020, our recommendation for 2020 addresses only the level of payment. The planned revisions to the home health PPS will likely change the mix of services and number of visits provided in an episode, and the payment rate set under a rebasing policy should reflect the mix and level of services HHAs provide under the new payment policies. These data will not be available until mid-2021.

#### IMPLICATIONS 9

#### **Spending**

The payment reductions would lower payments relative to current law by \$750 million to \$2 billion in 2020 and by \$5 billion to \$10 billion over five years.

#### Beneficiary and provider

Beneficiaries' access to care should not be affected. Lowering payments should not affect providers' willingness to deliver appropriate home health care. ■

#### **Endnotes**

- 1 Freestanding providers accounted for about 90 percent of the episodes provided in 2017.
- 2 Payment updates are typically intended to address annual increases in provider costs (e.g., salary increases or higher prices for other inputs). However, during this period the cost of a home health episode did not increase substantially. In recent years, annual cost growth has averaged less than 1 percent, with some years experiencing no growth or decreases
- The average payment in 2017 was \$3,030.
- As of November 2018, our measure of access is based on data collected and maintained as part of CMS's Home Health Compare database. The service areas listed are postal ZIP codes where an HHA has provided services in the past 12 months. This definition may overestimate access because HHAs need not serve the entire ZIP code to be counted as serving it. At the same time, the definition may understate access if HHAs are willing to serve a ZIP code but did not receive a request in the previous 12 months. The analysis excludes beneficiaries with unknown ZIP codes.
- Medicare makes a case-mix-adjusted 60-day episode payment when more than 4 visits are provided. Low-utilization payment adjustment episodes with four or fewer visits are paid on a per visit basis.

- 6 If we approximate marginal cost as total Medicare costs minus fixed building and equipment costs, then marginal profit can be calculated as follows:
  - Marginal profit = (Medicare payments (total Medicare costs - fixed costs)) divided by Medicare payments
  - This comparison is a lower bound on the marginal profit because we do not consider any potential labor costs that are fixed.
- Medicare collects home health quality data for both fee-forservice and Medicare Advantage beneficiaries. However, the program's publicly reported measures present aggregate results that do not distinguish between the two programs.
- The sample for this analysis is derived from the larger sample of freestanding HHA cost reports used to calculate margins in Table 9-8 (p. 243). Of these agencies, 5,147 of them had three years of cost report data necessary for the analysis (2014 through 2016), while 543 agencies did not have quality data necessary to identify an efficient provider.

#### References

Benjamin, A. E. 1993. An historical perspective on home care policy. Milbank Quarterly 71, no. 1: 129-166.

Cheh, V., N. Duda, B. L. Carlson, et al. 2007. Evaluation of the Home Health Independence Demonstration: Barriers to a successful experiment were multifaceted and difficult policy issues remain. Prepared for the Centers for Medicare & Medicaid Services. Princeton, NJ: Mathematica Policy Research Inc. October.

Department of Health and Human Services. 2018. 2017 Medicare fee-for-service supplemental improper payment data. Washington, DC: HHS.

Feder, J., and J. Lambrew. 1996. Why Medicare matters to people who need long-term care. Health Care Financing Review 18, no. 2 (Winter): 99-112.

Government Accountability Office. 2018. Medicare: CMS should take actions to continue prior authorization efforts to reduce spending. HEHS-18-341. Washington, DC: GAO.

Government Accountability Office. 1996. Medicare: Home health utilization expands while program controls deteriorate. GAO/ HEHS-96-16. Washington, DC: GAO.

McCall, N., J. Korb, A. Petersons, et al. 2004. Decreased home health use: Does it decrease satisfaction? Medical Care Research and Review 61, no. 1 (March): 64-88.

McCall, N., A. Petersons, S. Moore, et al. 2003. Utilization of home health services before and after the Balanced Budget Act of 1997: What were the initial effects? Health Services Research 38, no. 1 part 1 (February): 85-106.

McWilliams, J. M., L. G. Gilstrap, D. G. Stevenson, et al. 2017. Changes in postacute care in the Medicare Shared Savings Program. JAMA Internal Medicine 177, no. 4 (April 1): 518–526.

Medicare Payment Advisory Commission. 2011. Report to the Congress: Medicare payment policy. Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2010. Report to the Congress: Medicare payment policy. Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2004. Report to the Congress: Medicare payment policy. Washington, DC: MedPAC.

Office of Inspector General, Department of Health and Human Services. 2001. The physician's role in Medicare's home health services. OEI-02-00-00620. Washington, DC: OIG.

Office of Inspector General, Department of Health and Human Services. 1996. Review of Medicare home health services in California, Illinois, New York, and Texas. A-04-96-2121. Washington, DC: OIG.

U.S. Senate Committee on Finance. 2011. Staff report on home health and the Medicare therapy threshold. Washington, DC: Government Printing Office.

Wolff, J., A. Meadow, C. Weiss, et al. 2008. Medicare home health and the role of physicians. Presentation at Academy Health, Medicare and Post-Acute Care. June 8.