CHAPTER 12

Hospice services

RECOMMENDATION

12 The Congress should eliminate the fiscal year 2019 update to the Medicare payment rates for hospice services.

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

CHAPTER 12

Hospice services

Chapter summary

The Medicare hospice benefit covers palliative and support services for beneficiaries who are terminally ill with a life expectancy of six months or less if the illness runs its normal course. Beneficiaries may elect the Medicare hospice benefit; in so doing, they agree to forgo Medicare coverage for conventional treatment of their terminal illness and related conditions. In 2016, more than 1.4 million Medicare beneficiaries (including nearly 50 percent of decedents) received hospice services from more than 4,380 providers, and Medicare hospice expenditures totaled about $16.8 billion.

Assessment of payment adequacy

The indicators of payment adequacy for hospices—beneficiaries' access to care, quality of care, provider access to capital, and Medicare payments relative to providers' costs—are positive.

***Beneficiaries' access to care*—**Hospice use among Medicare beneficiaries has grown substantially in recent years, suggesting greater awareness of and access to hospice services. In 2016, hospice use increased across all demographic and beneficiary groups examined. However, rates of hospice use remained lower for minority beneficiaries than for White beneficiaries.

- ***Capacity and supply of providers*—**The number of hospice providers increased by about 4.4 percent in 2016, due to growth in the number of

In this chapter

for-profit hospices, continuing a more than decade-long trend of substantial market entry by for-profit providers.

- ***Volume of services*—**In 2016, the proportion of beneficiaries using hospice services at the end of life continued to grow, and length of stay among decedents increased slightly. Of the total Medicare beneficiary decedents in 2016, 49.7 percent used hospice, up from 48.6 percent in 2015. Between 2015 and 2016, average length of stay among decedents increased from 86.7 days to 87.8 days, and median length of stay increased from 17 to 18 days.

***Quality of care*—**Hospices' performance on seven quality measures related to processes of care at hospice admission is generally high and increased between 2015 and 2016. These measures focus on pain screening, pain assessment, dyspnea (shortness of breath) screening, dyspnea treatment, documentation of treatment preferences, addressing beliefs and values if desired by the patient, and provision of a bowel regimen for patients treated with an opioid. In 2016, most hospices scored high (93 percent or higher) on six of the seven measures, while performance on the pain assessment measure was lower and more varied.

***Providers' access to capital*—**Hospices are not as capital intensive as some other provider types because they do not require extensive physical infrastructure. Continued growth in the number of for-profit providers (a more than 7 percent increase in 2016) suggests capital is available to for-profit providers. Less is known about access to capital for nonprofit freestanding providers, for which capital may be more limited. Hospital-based and home health–based hospices have access to capital through their parent providers.

***Medicare payments and providers' costs*—**The aggregate 2015 Medicare margin, which is an indicator of the adequacy of Medicare payments relative to providers' costs, was 10.0 percent, up from 8.2 percent in 2014. The projected 2018 aggregate Medicare margin is 8.7 percent.

On the basis of strong financial performance and other strong positive indicators of payment adequacy, the Commission recommends no update for the 2019 Medicare hospice payment rates. ■

Background

Medicare began offering the hospice benefit in 1983, pursuant to the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA). The benefit covers palliative and support services for beneficiaries who are terminally ill, with a medical prognosis that the individual's life expectancy is six months or less if the illness runs its normal course. A broad set of services is included, such as nursing care; physician services; counseling and social worker services; hospice aide (also referred to as home health aide) and homemaker services; short-term hospice inpatient care (including respite care); drugs and biologics for symptom control; supplies; home medical equipment; physical, occupational, and speech therapy; bereavement services for the patient's family; and other services for palliation of the terminal illness and related conditions. Most commonly, hospice care is provided in patients' homes, but hospice services are also provided in nursing facilities, assisted living facilities, hospice facilities, and hospitals. In 2016, more than 1.4 million Medicare beneficiaries received hospice services, and Medicare expenditures totaled about $16.8 billion.

Beneficiaries receive the Medicare hospice benefit only if they elect to do so; if they do, they agree to forgo Medicare coverage for conventional treatment of the terminal illness and related conditions. Medicare continues to cover items and services unrelated to the terminal illness and related conditions. For each person admitted to a hospice program, a written plan of care must be established and maintained by an interdisciplinary group (which must include a hospice physician, registered nurse, social worker, and pastoral or other counselor) in consultation with the patient's attending physician, if there is one. The plan of care must identify the services to be provided (including management of discomfort and symptom relief) and describe the scope and frequency of services needed to meet the patient's and family's needs.

Beneficiaries elect hospice for defined benefit periods. The first hospice benefit period is 90 days. For a beneficiary to elect hospice initially, two physicians—a hospice physician and the beneficiary's attending physician—are generally required to certify that the beneficiary has a life expectancy of six months or less if the illness runs its normal course.[1] If the patient's terminal illness continues to engender the likelihood of death within 6 months, the hospice physician can recertify the patient for another 90 days and for an unlimited number of 60-day periods after that, as long as he or she remains eligible.[2] Beneficiaries can disenroll from hospice at any time (referred to as "revoking hospice") and can reelect hospice for a subsequent period as long as the beneficiary meets the eligibility criteria.

Since 2000, hospice spending has grown substantially, increasing at a rapid rate between 2000 and 2012, remaining flat between 2012 and 2014, and growing again between 2014 and 2016. Between 2000 and 2012, Medicare spending for hospice care increased more than 400 percent, from $2.9 billion to $15.1 billion. That spending increase was driven by greater numbers of beneficiaries electing hospice and by growth in length of stay for patients with the longest stays. Occurring simultaneously since 2000 has been a substantial increase in the number of for-profit providers.[3] Between 2012 and 2014, Medicare spending for hospice services was flat at about $15.1 billion each year. The flat spending partly reflects the effect of the across-the-board budget cut known as the sequester, which reduced Medicare payments to providers by 2 percent beginning in April 2013. Between 2014 and 2016, Medicare hospice spending increased again: 5.5 percent in 2015 and an additional 6 percent in 2016. This spending growth between 2014 and 2016 predominantly reflects an increase both in the number of beneficiaries using hospice care and in the Medicare base payment rate. Medicare is the largest payer of hospice services, covering more than 90 percent of hospice patient days in 2016.

Medicare payment for hospice services

The Medicare program pays a daily rate to hospice providers. The hospice provider assumes all financial risk for costs and services associated with care for the patient's terminal illness and related conditions. The hospice provider receives payment for every day a patient is enrolled, regardless of whether the hospice staff visited the patient or otherwise provided a service each day. This payment design is intended to encompass not only the cost of visits but also other costs a hospice incurs for palliation and management of the terminal condition and related conditions, such as on-call services, care planning, drugs, medical equipment, supplies, patient transportation between sites of care that are specified in the plan of care, and short-term hospice inpatient care.

Payments are made according to a fee schedule that has four levels of care: routine home care (RHC), continuous

TABLE 12–1

Medicare hospice payment categories and rates

Category	Description	Base payment rate, FY 2018	Percent of hospice days, 2016
Routine home care*	Home care provided on a typical day: Days 1–60	$193 per day	98.0%
	Home care provided on a typical day: Days 61+	$151 per day	
Continuous home care	Home care provided during periods of patient crisis	$41 per hour	0.3
Inpatient respite care	Inpatient care for a short period to provide respite for primary caregiver	$173 per day	0.3
General inpatient care	Inpatient care to treat symptoms that cannot be managed in another setting	$744 per day	1.5

Note: FY (fiscal year). Payment rates are rounded in the table to the nearest dollar. Payment for continuous home care (CHC) is an hourly rate ($40.68 per hour, with a maximum payment per day equal to about $976) for care delivered during periods of crisis if care is provided in the home for 8 or more hours within a 24-hour period beginning at midnight. In addition, a nurse must deliver more than half of the hours of this care to qualify for CHC-level payment. The above rates are 2 percentage points lower for hospices that do not submit the required quality data. Percentages may not sum to 100 percent due to rounding.
*In addition to the daily rate, Medicare pays $41 per hour for registered nurse and social worker visits (up to four hours per day) that occur during the last seven days of life for beneficiaries receiving routine home care.

Source: Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2017. *Update to hospice payment rates, hospice cap, hospice wage index, and the hospice pricer for FY 2018*. Manual System Pub 100–04 Medicare Claims Processing, Transmittal 3828, August 4.

home care (CHC), inpatient respite care (IRC), and general inpatient care (GIP) (Table 12-1). The four levels are distinguished by the location and intensity of the services provided. RHC is the most common level of hospice care, accounting for 98 percent of all hospice days in 2016. Other levels of care—GIP, CHC, and IRC—are available to manage needs in certain situations. GIP is provided in a facility on a short-term basis to manage symptoms that cannot be managed in another setting. CHC is intended to manage a short-term symptom crisis in the home and involves eight or more hours of care per day, mostly nursing. IRC is care in a facility for up to five days to provide a break to an informal caregiver. Unless a hospice provides CHC, IRC, or GIP on any given day, it is paid at the RHC rate. The level of care can vary throughout a patient's hospice stay as the patient's needs change.

In January 2016, CMS implemented reforms to the hospice payment system that represented the first changes to the payment structure since the benefit's inception in 1983. Formerly, RHC was paid at a single, uniform daily rate. Now, Medicare pays two per diem rates for RHC—a higher rate for the first 60 days of a hospice episode and a lower rate for days 61 and beyond ($193 and $151 per day, respectively, in 2018) (Table 12-1). Medicare pays an additional $41 per hour for registered nurse and social worker visits that occur during the last seven days of life (up to four hours are payable per day) for patients receiving RHC in 2018.

The new RHC payment structure is intended to better align payments with the costs of providing hospice care throughout an episode. Hospices tend to provide more services at the beginning and end of an episode and fewer in the middle. As a result, under a flat per diem payment, long stays are more profitable than short stays. The Commission expressed concern that this misalignment of the payment system led to a number of issues (e.g., making the payment system vulnerable to patient selection, spurring some providers to pursue revenue-generation strategies such as enrolling patients likely to have long stays who may not meet the eligibility criteria, and generating wide variation in profit margins across providers based on the length of stay) (Medicare Payment Advisory Commission 2015b, Medicare Payment Advisory Commission 2009). In March 2009, the Commission recommended that Medicare move away from the flat per diem to one that is higher at the beginning and end of an episode and lower in the intervening period. The new payment structure that CMS implemented in

2016 moves in this direction and may begin to address some of the negative consequences resulting from the misalignment of the payment system.

Hospice payment rates are updated annually by the inpatient hospital market basket index. Beginning fiscal year 2013, the market basket index has been reduced by a productivity adjustment, as required by the Patient Protection and Affordable Care Act of 2010 (PPACA). An additional 0.3 percentage point reduction to the market basket update was required in fiscal years 2013 to 2017 and may be required in fiscal year 2019 if certain targets for health insurance coverage among the working-age population are met. The Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) modified the hospice update amount for fiscal year 2018, setting it at 1 percent. Beginning in fiscal year 2014, hospices that do not report quality data receive a 2 percentage point reduction in their annual payment update.

Daily payment rates for hospice are adjusted to account for geographic differences in wage rates. From 1983 to 1997, Medicare adjusted hospice payments with a 1983 wage index. In 1998, CMS began using the most current hospital wage index to adjust hospice payments and applied a budget-neutrality adjustment each year to make aggregate payments equivalent to what they would have been under the 1983 wage index. This adjustment increased Medicare payments to hospices by about 4 percent. The budget-neutrality adjustment was phased out over seven years, with a 0.4 percentage point reduction in 2010 and an additional 0.6 percentage point reduction in each subsequent year through 2016. Beginning 2017, there are no further reductions to the payment rates associated with this phase-out.

Beneficiary cost sharing for hospice services is minimal. Prescription drugs and inpatient respite care are the only services potentially subject to cost sharing. Hospices may charge coinsurance of 5 percent for each prescription provided outside the inpatient setting (not to exceed $5) and for inpatient respite care (not to exceed the inpatient hospital deductible). (For a more complete description of the hospice payment system, see http://www.medpac.gov/docs/default-source/payment-basics/medpac_payment_basics_17_hospice_final4ea311adfa9c665e80adff00009edf9c.pdf?sfvrsn=0.)

Medicare hospice payment limits ("caps")

The Medicare hospice benefit was designed to give beneficiaries a choice in their end-of-life care, allowing them to forgo conventional treatment (often in inpatient settings) and die at home, with family, according to their personal preferences.

The inclusion of the Medicare hospice benefit in TEFRA was based in large part on the premise that the new benefit would be a less costly alternative to conventional end-of-life care (Government Accountability Office 2004, Hoyer 2007). Studies show that beneficiaries who elect hospice incur less Medicare spending in the last one or two months of life than comparable beneficiaries who do not, but also that Medicare spending for beneficiaries is higher for hospice enrollees than for nonenrollees in the earlier months before death. In essence, hospice's net reduction in Medicare spending decreases the longer the patient is enrolled, and beneficiaries with long hospice stays tend to incur higher Medicare spending than those who do not elect hospice (Medicare Payment Advisory Commission 2008). Studies have been mixed on whether hospice has saved the Medicare program money in the aggregate compared with conventional care. Recent research by a Commission contractor examined the literature and conducted a new market-level analysis of hospices' effect on Medicare expenditures. That study found that while hospice may produce savings for some beneficiaries (such as those with cancer), overall, hospice does not appear to have produced aggregate savings for the Medicare program because of very long stays among some hospice enrollees (Direct Research 2015).

When the Congress established the hospice benefit, it included two limitations, or "caps," on payments to hospices in an effort to make cost savings more likely. The first cap limits the share of inpatient care days that a hospice may provide to 20 percent of its total Medicare patient care days. This cap is rarely exceeded; any inpatient days provided in excess of the cap are reimbursed at the routine home care payment rate.

The second, more visible cap limits the aggregate Medicare payments that an individual hospice can receive. This cap was implemented at the outset of the hospice benefit with the goal of ensuring that Medicare payments did not exceed the cost of conventional care for patients at the end of life. Under the cap, if a hospice's total Medicare payments exceed its total number of Medicare beneficiaries served multiplied by the cap amount ($28,689 in 2018), it must repay the excess to the program.[4,5,6] This cap is not applied individually to the payments received for each beneficiary, but rather to

the total payments across all Medicare patients served by the hospice in the cap year. The number of hospices that exceed the payment cap has been low historically, but we have found that increases in the number of hospices and increases in very long stays have resulted in more hospices exceeding the cap (with the number peaking in 2009 at 12.5 percent and oscillating in recent years). The hospice cap is the only significant fiscal constraint on the growth of program expenditures for hospice care (Hoyer 2007).

Are Medicare payments adequate in 2018?

To address whether payments in 2018 are adequate to cover the costs of the efficient delivery of care and how much providers' payments should change in the coming year (2019), we examine several indicators of payment adequacy. Specifically, we assess beneficiaries' access to care by examining the capacity and supply of hospice providers, changes over time in the volume of services provided, quality of care, providers' access to capital, and the relationship between Medicare's payments and providers' costs. Overall, the Medicare payment adequacy indicators for hospice providers are positive.

Beneficiaries' access to care: Use of hospice continues to increase

In 2016, hospice use among Medicare beneficiaries increased, continuing the trend of a growing proportion of beneficiaries using hospice services at the end of life. Of the Medicare beneficiaries who died that year, 49.7 percent used hospice, up from 48.6 percent in 2015 and 22.9 percent in 2000 (Table 12-2). Hospice use varied in 2016 by beneficiary characteristics—enrollment in traditional fee-for-service (FFS) Medicare or Medicare Advantage (MA); Medicare-only beneficiaries and beneficiaries dually eligible for Medicare and Medicaid; age, race, and gender; and urban or rural residence—but increased in all of these groups.

Hospice use is higher among decedents in MA than in FFS, but the gap has been closing. In 2016, about 49 percent of Medicare FFS decedents and almost 52 percent of MA decedents used hospice. MA plans do not provide hospice services. Once a beneficiary in an MA plan elects hospice care, the beneficiary receives hospice services through a provider paid by Medicare FFS. In March 2014, the Commission urged that this policy be changed, recommending that hospice be included in the MA benefits package (Medicare Payment Advisory Commission 2014).

Hospice use varies by other beneficiary characteristics. In 2016, a smaller proportion of Medicare decedents who were dually eligible for Medicare and Medicaid used hospice compared with Medicare-only decedents (about 44 percent and 51 percent, respectively). Hospice use was least prevalent among Medicare decedents under age 65 (who are also likely to be dually eligible) and most prevalent among those age 85 and older (about 30 percent vs. 59 percent, respectively). Female beneficiaries were also more likely than male beneficiaries to use hospice, which partly reflects the longer average life span for women and greater hospice use among older beneficiaries.

Hospice use also varies by racial and ethnic group (Table 12-2). As of 2016, Medicare hospice use was highest among White decedents, followed by Hispanic, African American, Asian American, and North American Native decedents, in that order. Hospice use grew across all these groups between 2015 and 2016, with Whites and Hispanics showing the largest increase (1.3 and 1.0 percentage points, respectively). Since 2000, hospice use has grown substantially for all racial and ethnic groups, but differences persist across these groups in the rates of use. The reasons for these differences are not fully understood. Researchers have cited a number of possible factors, such as cultural or religious beliefs, preferences for end-of-life care, socioeconomic factors, disparities in access to care or information about hospice, and mistrust of the medical system (Barnato et al. 2009, Cohen 2008, Crawley et al. 2000).

Hospice use is higher for urban than rural beneficiaries, although use has grown across all area categories (Table 12-2).[7] In 2016, the share of decedents residing in urban counties who used hospice was about 51 percent; in micropolitan counties and rural counties adjacent to urban counties, approximately 46 percent; in rural nonadjacent counties, about 40 percent; and in frontier counties, almost 34 percent. Utilization rates for beneficiaries residing in all these areas increased in 2016.

One driver of increased hospice use over the past decade has been growing use by patients with noncancer diagnoses, owing to increased recognition that hospice can care for such patients. In 2016, 73 percent of Medicare decedents who used hospice had a noncancer diagnosis,

TABLE 12–2

Use of hospice continues to increase

	Percent of Medicare decedents who used hospice						
	2000	2013	2014	2015	2016	Average annual percentage point change 2000–2015	Percentage point change 2015–2016
All beneficiaries	22.9%	47.3%	47.9%	48.6%	49.7%	1.7	1.1
FFS beneficiaries	21.5	46.2	46.8	47.6	48.7	1.7	1.1
MA beneficiaries	30.9	50.6	50.9	51.1	51.9	1.3	0.8
Dual eligibles	17.5	42.1	42.6	43.1	44.1	1.7	1.0
Medicare only	24.5	48.9	49.6	50.3	51.4	1.7	1.1
Age							
<65	17.0	29.2	29.5	29.9	30.1	0.9	0.2
65–74	25.4	40.7	40.8	41.2	41.4	1.1	0.2
75–84	24.2	48.2	49.0	49.5	50.7	1.7	1.2
85+	21.4	55.0	56.1	57.1	59.1	2.4	2.0
Race/ethnicity							
White	23.8	49.2	49.8	50.5	51.8	1.8	1.3
African American	17.0	37.3	37.6	38.3	38.8	1.4	0.5
Hispanic	21.1	40.2	41.4	41.9	42.9	1.4	1.0
Asian American	15.2	32.0	33.8	35.4	36.0	1.3	0.6
North American Native	13.0	34.1	34.8	35.0	35.7	1.5	0.7
Sex							
Male	22.4	43.3	43.9	44.5	45.4	1.5	0.9
Female	23.3	50.9	51.5	52.3	53.7	1.9	1.4
Beneficiary location							
Urban	24.2	48.5	49.1	49.7	50.7	1.7	1.0
Micropolitan	18.3	43.6	44.1	44.9	46.3	1.8	1.4
Rural, adjacent to urban	17.5	42.8	43.4	44.5	45.7	1.8	1.2
Rural, nonadjacent to urban	15.0	37.3	38.1	38.9	40.2	1.6	1.3
Frontier	13.1	32.3	32.5	33.6	33.8	1.4	0.2

Note: FFS (fee-for-service), MA (Medicare Advantage). Beneficiary location reflects the beneficiary's county of residence in one of four categories (urban, micropolitan, rural adjacent to urban, or rural nonadjacent to urban) based on an aggregation of the urban influence codes. This chart uses the 2013 urban influence code definition. The frontier category is defined as population density equal to or less than six people per square mile and overlaps with the beneficiary county of residence categories. Yearly figures presented in the table are rounded, but figures in the percentage point change columns were calculated using unrounded data.

Source: MedPAC analysis of data from the denominator file and the Medicare Beneficiary Database from CMS.

compared with 72 percent in 2015 and 48 percent in 2000 (data not shown). As of 2016, the most common noncancer primary diagnoses reported among hospice decedents were heart and circulatory disorders (28 percent) and neurological conditions (23 percent).[8]

Capacity and supply of providers: Supply of hospices continues to grow, driven by growth in the number of for-profit providers

In 2016, 4,382 hospices provided care to Medicare beneficiaries, a 4.4 percent increase from the prior year,

TABLE 12–3 **Increase in total number of hospices driven by growth in for-profit providers**

Category	2000	2007	2014	2015	2016	Average annual percent change 2000–2007	Average annual percent change 2007–2015	Percent change 2015–2016
All hospices	2,255	3,250	4,092	4,199	4,382	5.4%	3.3%	4.4%
For profit	672	1,676	2,588	2,730	2,938	13.9	6.3	7.6
Nonprofit	1,324	1,337	1,305	1,294	1,273	0.1	–0.4	–1.6
Government	257	237	199	175	171	–1.2	–3.7	–2.3
Freestanding	1,069	2,103	3,024	3,163	3,369	10.1	5.2	6.5
Hospital based	785	683	535	517	501	–2.0	–3.4	–3.1
Home health based	378	443	510	494	487	2.3	1.4	–1.4
SNF based	22	21	23	25	25	–0.7	2.2	0.0
Urban	1,455	2,237	3,102	3,235	3,449	6.3	4.7	6.6
Rural	757	965	944	920	904	3.5	–0.6	–1.7

Note: SNF (skilled nursing facility). Some categories do not sum to total because of missing data for some providers. The rural and urban definitions used in this chart are based on updated definitions of the core-based statistical areas (which rely on data from the 2010 census).

Source: MedPAC analysis of Medicare cost reports, Medicare Provider of Services file, and the 100 percent hospice claims standard analytical file from CMS.

continuing more than 10 years of growth in the number of hospices providing care to Medicare beneficiaries (Table 12-3). For-profit hospices accounted entirely for the net increase in the number of hospices. Between 2015 and 2016, the number of for-profit hospices increased by more than 7 percent, while the number of nonprofit hospices and government hospices declined by roughly 2 percent. As of 2016, about 67 percent of hospices were for profit, 29 percent were nonprofit, and 4 percent were government.

Between 2015 and 2016, freestanding hospices (which are highly correlated with for-profit ownership status) accounted for all of the net increase in the number of providers (Table 12-3). During this period, the number of freestanding providers increased by roughly 7 percent, while the number of hospital-based hospices and home health–based hospices declined by roughly 3 percent and 1 percent, respectively.[9] The number of skilled nursing facility (SNF)-based hospices was unchanged. As of 2016, about 77 percent of hospices were freestanding, 11 percent were hospital based, 11 percent were home health based, and less than 1 percent were SNF based.

Overall, the supply of hospices increased substantially between 2000 and 2016 in both urban and rural areas. The number of rural hospices has declined since its peak in 2007, with a decline of about 2 percent in 2016 (Table 12-3). As of 2016, 79 percent of hospices were located in urban areas and 21 percent were located in rural areas. The number of hospices located in rural areas is not necessarily reflective of hospice access for rural beneficiaries for several reasons. A count of the number of rural hospices does not capture the size of those hospice providers, their capacity to serve patients, or the size of their service area. Furthermore, a count of hospices located in rural areas does not take into account hospices with offices in urban areas that also provide services in rural areas. While the number of hospices located in rural areas has declined in the last several years, the share of rural decedents using hospice grew over this same period.

In 2016, substantial changes in the number of hospices were concentrated in a few states, while other states generally experienced modest changes. Since 2013, California and Texas have experienced the largest growth in the number of hospices. Between 2013 and 2016, the

TABLE 12–4

Hospice utilization and spending increased in 2016

Category	2000	2014	2015	2016	Average annual change, 2000–2014	Change, 2014–2015	Change, 2015–2016
Total spending (in billions)	$2.9	$15.1	$15.9	$16.8	12.4%	5.5%	6.0%
Number of hospice users (in millions)	0.534	1.324	1.381	1.427	6.7%	4.3%	3.3%
Number of hospice days for all hospice beneficiaries (in millions)	25.8	91.9	95.9	101.2	9.5%	4.3%	5.5%
Average length of stay among decedents (in days)	53.5	88.2	86.7	87.8	3.6%	–1.7%	1.3%
Median length of stay among decedents (in days)	17	17	17	18	0 days	0 days	1 day

Note: Average length of stay is calculated for decedents who were using hospice at the time of death or before death and reflects the total number of days the decedent was enrolled in the Medicare hospice benefit during his or her lifetime. Total spending, number of hospice users, number of hospice days, and average length of stay displayed in the table are rounded; the percent change for number of users and total spending is calculated using unrounded data.

Source: MedPAC analysis of the denominator file, the Medicare Beneficiary Database, and the 100 percent hospice claims standard analytical file from CMS.

number of hospices in California has grown at an average rate of roughly 20 percent per year (with the state gaining an additional 90 hospices in 2014, an additional 101 hospices in 2015, and an additional 110 hospices in 2016). Texas, which gained 38 hospices in 2014 and an additional 24 hospices in 2015 (a 9 percent and 5 percent increase, respectively), gained another 46 hospices in 2016 (an additional 9 percent increase). In 2016, Arizona, Georgia, Kansas, Missouri, and Nevada experienced the next largest growth in raw numbers of providers (an increase of six or eight providers per state), while Mississippi, Nebraska, and Pennsylvania saw the largest decline (a decrease of three or four providers). With the exception of Pennsylvania, all of the states with the largest growth or decline in the number of hospice providers had an above-average number of hospices per 10,000 Medicare decedents.[10]

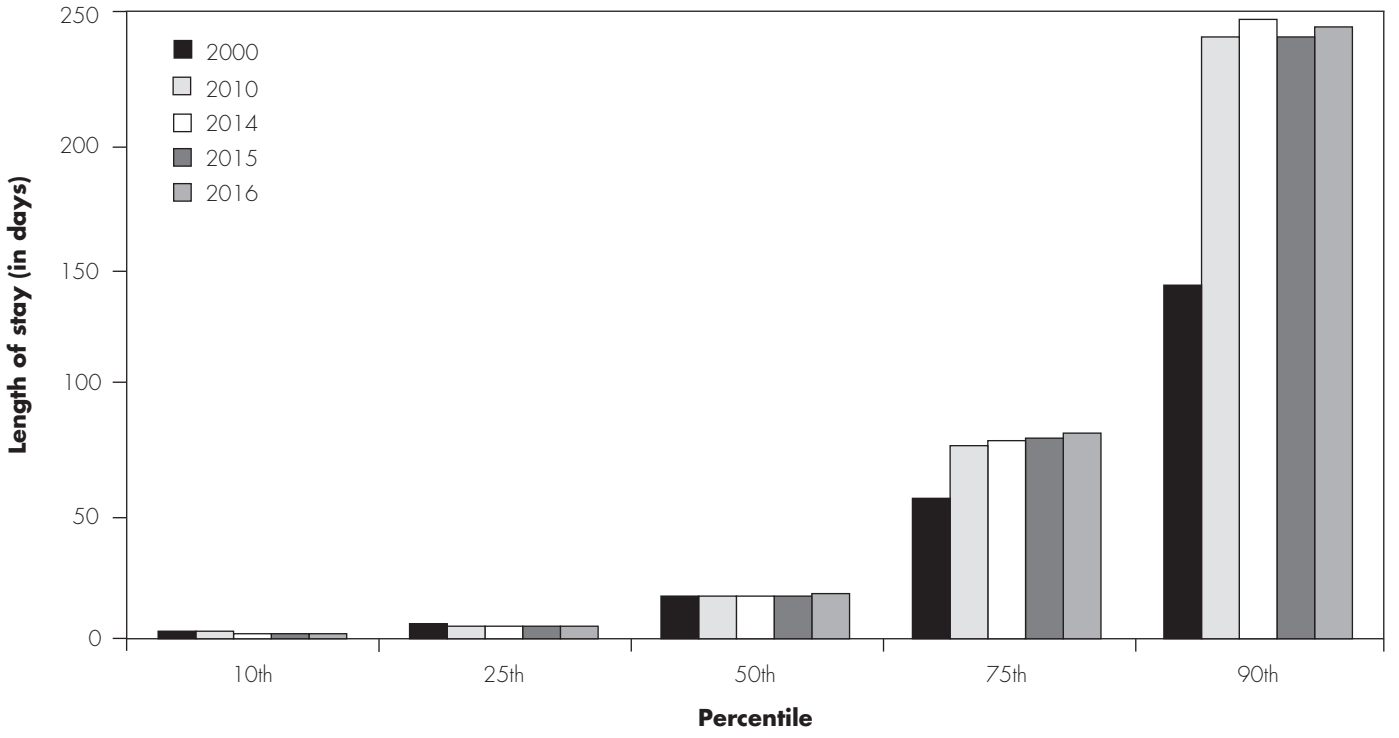
The number of hospice providers is not necessarily an indicator of beneficiary access to hospice. The supply of providers—as measured by the number of hospices per 10,000 Medicare decedents—varies substantially across states. In the past, we have concluded that there is no relationship between the supply of hospice providers and the rate of hospice use across states (Medicare Payment Advisory Commission 2010).

Volume of services: Hospice use and length of stay increased in 2016

In 2016, the number of Medicare beneficiaries receiving hospice services continued to increase. About 1.43 million beneficiaries used hospice services, up 3.3 percent from about 1.38 million in 2015 (Table 12-4). The number of hospice days furnished to Medicare beneficiaries also increased 5.5 percent from about 96 million days in 2015 to 101 million days in 2016. The mix of hospice days by level of care shifted some between 2015 and 2016. The share of RHC days increased from 97.8 percent to 98.0 percent because the number of RHC days increased 6 percent, while the number of GIP and CHC days declined (3 percent and 9 percent, respectively) (data not shown).

In 2016, hospice average length of stay among decedents was 87.8 days, up slightly from 86.7 days in the prior year (Table 12-4). Between 2015 and 2016, length of stay increased among decedents in the upper half of the length of stay distribution. The median increased from 17 to 18 days, the 75th percentile increased from 80 days to 82 days, and the 90th percentile increased from 240 days to 244 days (Figure 12-1, p. 332). Length of stay at the 10th percentile (two days) and 25th percentile (five days) were unchanged in 2016.

FIGURE 12–1 **Length of stay among hospice patients with the longest stays increased slightly in 2016**



Note: Length of stay is calculated for decedents who were using hospice at the time of death or before death and reflects the total number of days the decedent was enrolled in the Medicare hospice benefit during his or her lifetime.

Source: MedPAC analysis of the Medicare Beneficiary Database from CMS.

In the last few years, hospice length of stay among decedents with the longest stays has oscillated. The slowdown of growth in length of stay among decedents with the longest stays follows a period of substantial growth in very long stays (Figure 12-1). Between 2000 and 2010, hospice length of stay at the 90th percentile grew substantially, from 141 days to 240 days. Since 2010, hospice length of stay at the 90th percentile has oscillated between 240 days and 247 days, with the 2016 level at 244 days. In contrast, since 2000, the median length of stay has remained 17 or 18 days, the 25th percentile has been 5 or 6 days, and at the 10th percentile has been 2 or 3 days.

Hospice length of stay is generally similar for hospice decedents in Medicare FFS and MA. The most significant difference is that very long stays in hospice are slightly shorter for beneficiaries in MA than for those in FFS (241 days for MA beneficiaries compared with 246 days for FFS beneficiaries at the 90th percentile of stays as of 2016). There are also slight differences at the median (18 days for MA beneficiaries vs. 17 days for FFS beneficiaries) and 75th percentile (80 days for MA beneficiaries vs. 83 days for FFS beneficiaries).

With growing use of hospice, rates of patients dying in the hospital have declined, but evidence is mixed on the extent to which the decline has been accompanied by a reduction in the overall intensity of care in the last months of life. One study found that between 2000 and 2009, the share of Medicare decedents ages 65 and older dying in the hospital declined (from 32.6 percent to 24.6 percent), and the average number of hospital days in the last 30 days of life also declined (from 4.9 days to 4.6 days) (Teno et al. 2013). At the same time, the study found that other indicators of intensity of care in the last months of life

TABLE 12–5

Hospice length of stay among decedents by beneficiary and hospice characteristics, 2016

Characteristic	Average length of stay (in days)	Percentile of length of stay				
		10th	25th	50th	75th	90th
Beneficiary						
Diagnosis						
Cancer	53	3	6	17	52	129
Neurological conditions	148	4	8	35	169	435
Heart/circulatory	94	2	5	16	88	280
COPD	118	2	6	27	127	348
Other	53	2	3	8	35	146
Main location of care						
Home	90	4	9	26	88	239
Nursing facility	106	3	6	20	98	309
Assisted living facility	152	5	13	51	185	430
Hospice						
Hospice ownership						
For profit	106	3	6	22	98	308
Nonprofit	66	2	5	13	56	180
Type of hospice						
Freestanding	91	2	5	18	80	255
Home health based	69	2	5	15	61	186
Hospital based	55	2	4	12	48	147

Note: COPD (chronic obstructive pulmonary disease). Length of stay is calculated for Medicare beneficiaries who died in 2016 and used hospice that year and reflects the total number of days the decedent was enrolled in the Medicare hospice benefit during his or her lifetime. "Main location" is where the beneficiary spent the largest share of his or her days while enrolled in hospice. "Diagnosis" reflects primary diagnosis on the beneficiary's last hospice claim.

Source: MedPAC analysis of the 100 percent hospice claims standard analytical file, the Medicare Beneficiary Database, Medicare hospice cost reports, and Medicare Provider of Services file from CMS.

have increased. For example, the share of beneficiaries receiving treatment in an intensive care unit during the last month of life increased between 2000 and 2009 (from 24.3 percent to 29.2 percent), and the share of beneficiaries with 3 or more hospitalizations in the last 90 days of life increased slightly (from 10.3 percent to 11.5 percent) (Teno et al. 2013). This increase in the intensity of some aspects of end-of-life care may in part reflect referrals to hospice occurring only in the last few days of life for some beneficiaries.

The Commission has previously expressed concern about very short hospice stays. More than one-quarter of hospice decedents enroll in hospice only in the last week of life, a length of stay that is commonly thought to be of less benefit to patients and their families than enrolling somewhat earlier. Very short hospice stays (e.g., 25th percentile) occur across a wide range of diagnoses (Table 12-5). These very short stays stem largely from factors unrelated to the Medicare hospice payment system: Some physicians are reluctant to have conversations about hospice or tend to delay such discussions until death is imminent; some patients and families have difficulty accepting a terminal prognosis; and financial incentives in the FFS system encourage increased volume of clinical services (compared with palliative care) (Medicare Payment

TABLE 12–6

More than half of Medicare hospice spending in 2016 was for patients with stays exceeding 180 days

	Medicare hospice spending, 2016 (in billions)
All hospice users in 2016	$16.8
Beneficiaries with LOS > 180 days	9.5
Days 1–180	3.2
Days 181–365	3.0
Days 366+	3.3
Beneficiaries with LOS ≤ 180 days	7.4

Note: LOS (length of stay). "LOS" indicates the beneficiary's lifetime LOS as of the end of 2016 (or at the time of discharge in 2016 if the beneficiary was not enrolled in hospice at the end of 2016). All spending presented in the chart occurred only in 2016. Components may not sum to total because of rounding.

Source: MedPAC analysis of the 100 percent hospice claims standard analytical file and the common Medicare enrollment file from CMS.

Advisory Commission 2009). In addition, some point to the requirement that beneficiaries forego intensive conventional care to enroll in hospice as a factor that contributes to deferring hospice care, resulting in short hospice stays.

A number of initiatives seek to address concerns about potentially late hospice enrollments and the quality of end-of-life care more generally. CMS launched a demonstration program (called the Medicare Care Choices Model) that permits certain FFS beneficiaries who are eligible for hospice (but not enrolled in the Medicare hospice benefit) to enroll in the demonstration and receive palliative and supportive care from a hospice provider while continuing to receive "curative" care from other providers.[11] Beginning in 2016, under the physician fee schedule, Medicare pays for advance care planning conversations between a beneficiary and his or her physician, advanced practice registered nurse, or physician assistant. In March 2014, the Commission recommended that hospice be included in the Medicare Advantage benefits package, which would give plans greater incentives to develop and test new models aimed at improving end-of-life care and care for beneficiaries with advanced illnesses (Medicare Payment Advisory Commission 2014). The Institute of Medicine also issued a report on end-of-life care in the United States, reviewing the challenges and making recommendations for changes (Institute of Medicine 2014).

The Commission has also expressed concern about very long hospice stays. In 2016, Medicare spent about $9.5 billion, more than half of all hospice spending that year, on patients with stays exceeding 180 days (Table 12-6). About $3.3 billion of that spending was on additional hospice care for patients who had already received at least one year of hospice services. The flat per diem payment system, which was in effect before 2016, made long stays more profitable than short stays. In response to the higher profitability of long stays, some hospices appear to have pursued revenue-generation strategies by focusing on patients with long stays, some of whom may not have met the eligibility criteria. Although the 2016 payment changes reduced payments for long stays and increased payments for short stays, it remains to be seen the extent to which these payment changes lessened the differential in profitability between short and long stays.

Hospice lengths of stay vary by observable patient characteristics, such as patient diagnosis and location, which has made it possible for some providers that wish to do so to identify and enroll patients likely to have long, more profitable stays (Table 12-5, p. 333). For example, Medicare decedents in 2016 with neurological conditions and chronic obstructive pulmonary disease had substantially higher average lengths of stay (148 days and 118 days, respectively) compared with decedents with cancer (53 days). In addition, length of stay varies by the setting where care is provided. In 2016, average length of stay was higher among Medicare decedents whose main care setting was an assisted living facility (ALF) (152 days) or a nursing facility (106 days) compared with home (90 days) (Table 12-5, p. 333). In particular, hospice patients in ALFs had markedly longer stays compared with other settings, even for the same diagnosis, which warrants further monitoring and investigation in CMS's medical review efforts.

Differences in length of stay by patient characteristics are also reflected in differences in length of stay by provider ownership type (Table 12-5, p. 333). In 2016, average length of stay was substantially longer among for-profit hospices than among nonprofit hospices (106 days compared with 66 days). The reason for longer length of stay among for-profit hospices has two components: (1) for-profit hospices have more patients with diagnoses

TABLE 12–7 **Hospices that exceeded Medicare's annual payment cap, selected cap years**

	2002	2012	2013	2014	2015
Percent of hospices exceeding the cap	2.6%	11.0%	10.7%	12.2%	12.3%
Average payments over the cap per hospice exceeding it (in thousands)	$470	$510	$460	$370	$320
Payments over the cap as percent of overall Medicare hospice spending	0.6%	1.4%	1.3%	1.2%	1.0%
Total Medicare hospice spending (in billions)	$4.4	$15.0	$15.1	$15.0	$15.7

Note: The cap year is defined as the period beginning November 1 and ending October 31 of the following year. Total spending for 2002 reflects the fiscal year; total spending for years 2012 to 2015 reflects the cap year.

Source: MedPAC analysis of 100 percent hospice claims standard analytical file, Medicare hospice cost reports, and Medicare Provider of Services file from CMS. Data on total spending are from the CMS Office of the Actuary or MedPAC estimates.

that tend to have longer stays, and (2) for-profit hospice beneficiaries have longer stays for all diagnoses than those of nonprofit hospices. For example, among decedents with a neurological diagnosis, the average length of stay was 174 days in for-profit hospices and 117 days in nonprofits (data not shown).

Among the hospices with very long stays are those that exceed the hospice aggregate cap. In 2015, about 12.3 percent of hospices exceeded the aggregate payment cap, about the same percentage as the prior year (12.2 percent in 2014) (Table 12-7).[12] On average, above-cap hospices exceeded the cap by about $320,000 in 2015. As shown in prior reports, above-cap hospices have substantially higher lengths of stay and rates of discharging patients alive than other hospices.[13] This may suggest that above-cap hospices are admitting patients who do not meet the hospice eligibility criteria, which merits further investigation by the Office of Inspector General and CMS.

With the variation in practice patterns across hospices and concerns about potential for some hospices to focus on patients likely to have long stays and high profitability, the Commission has advocated over the years for a targeted approach to auditing hospice providers, focusing the most resources on providers for which such scrutiny is warranted. In March 2009, the Commission recommended that CMS conduct medical reviews of all hospice stays exceeding 180 days among those hospice providers for which these long stays exceeded a specified share of the provider's caseload. Similarly, in this report and prior reports, the Commission has expressed concern about very long hospice stays in ALFs among some hospice providers, and long stays and high live-discharge rates among above-cap hospices. The Commission has suggested that more program integrity scrutiny is warranted in those areas.

Another targeted auditing approach that could be considered is to focus on providers that receive a high share of their payments for hospice patients before the last year of life. As discussed in detail in our March 2017 report, the share of payments hospice providers receive for a beneficiary's care before the last year of life varies across providers. A provider with an unusually high share of payments derived from care furnished to patients earlier in the disease trajectory—for example, before the last year of life—could signal questionable admitting practices and warrant further program integrity scrutiny of those providers (Medicare Payment Advisory Commission 2017).

Visits in the last days of life

One feature of the new hospice payment system implemented in 2016 is that it provides additional payment for certain visits in the last days of life. The purpose of these additional payments is to compensate hospices for the higher patient need and visit intensity in the last days of life. Under the new payment system, the hospice provider is eligible for additional payments for registered nurse and social worker visits that occur during

TABLE 12–8

The frequency and length of nurse and social worker visits during the last seven days of life among beneficiaries receiving routine home care, 2015–2016

Number of days from death	Average number of nurse visits per day			Average length of nurse visit (in number of 15-minute increments)		
	2015	2016	Change	2015	2016	Change
0	0.73	0.71	–0.01	4.7	4.3	–0.4
1	0.74	0.77	0.04	5.1	5.3	0.1
2	0.63	0.66	0.03	4.9	5.1	0.2
3	0.56	0.58	0.02	6.1	4.9	–1.1
4	0.51	0.53	0.02	4.7	4.6	–0.1
5	0.47	0.49	0.02	4.6	5.0	0.3
6	0.45	0.46	0.01	4.7	4.6	–0.2
Last 7 days total	0.59	0.61	0.02	5.0	4.8	–0.2

Number of days from death	Average number of social worker visits per day			Average length of social worker visit (in number of 15-minute increments)		
	2015	2016	Change	2015	2016	Change
0	0.06	0.07	0.01	4.3	4.9	0.6
1	0.11	0.12	0.02	4.9	4.2	–0.7
2	0.10	0.11	0.01	4.1	4.1	0.0
3	0.09	0.10	0.01	4.1	4.0	–0.1
4	0.09	0.09	0.00	4.0	4.1	0.0
5	0.08	0.08	0.00	4.0	4.1	0.1
6	0.08	0.08	0.00	3.9	5.1	1.2
Last 7 days total	0.09	0.09	0.01	4.2	4.3	0.1

Note: For 2015 and 2016, nurse visits include both registered nurse (RN) and licensed practical nurse (LPN) visits. Although the new payment system makes additional payments only for RN (not LPN) visits in the last days of life, we have included both types of visits in this chart because data specific to RNs are not available for 2015. Due to rounding, the number in the change column may not always equal the difference between the numbers displayed in the 2015 and 2016 columns.

Source: MedPAC analysis of 100 percent hospice claims standard analytical file data.

the last seven days of life for patients receiving routine home care. These payments are additional to the base payment that the hospice receives for each day of care. These visits are paid at an hourly rate (up to four hours per day) as a means of targeting the payments toward those hospices that provide more visits in the last days of life. We estimate that, in 2016, Medicare paid hospice providers roughly $120 million for registered nurse and social worker visits in the last seven days of life. We examined the visit patterns in the 2016 claims data to see the frequency and length of visits that occurred in the last days of life and whether they changed between 2015 and 2016, the first year of the new payment system. The prevalence and length of visits in the last days of life changed modestly in 2016 (Table 12-8). Overall, between 2015 and 2016, the average number of nurse visits per day appears to have increased slightly (from 0.59 visits per day to 0.61 visits per day) during the last 7 days of life. At the same time, the average length of nurse visits during the last days of life appears to have declined slightly, from about 75 minutes (5.0 fifteen-minute increments) to 72 minutes (4.8 fifteen-minute increments) per visit. Social worker visits in the last days of life were less frequent and changed little during this period.

Quality of care: Limited quality data are now available

CMS has had a hospice quality reporting program underway for several years. In the fall of 2017, through Hospice Compare, CMS released the first public hospice quality data for individual hospice providers. The publicly reported quality data include seven measures that seek to gauge whether appropriate processes of care occurred at hospice admission. Most hospices scored very high on six of the seven quality measures, which is encouraging but raises questions about the ability of the measures to distinguish quality across providers. CMS has established some additional quality measures that will be available on Hospice Compare in the future, including a composite measure of the seven original process measures, a measure of visits at the end of life, and a Consumer Assessment of Healthcare Providers and Systems® (CAHPS®) survey of bereaved family members of hospice patients.

Background on hospice quality reporting program

In accord with PPACA, beginning in fiscal year 2014, hospices that do not report quality data receive a 2 percentage point reduction in their annual payment update. Since July 2014, hospices have been required to report data on seven process measures that address important aspects of care for patients newly admitted to hospice, using a reporting tool called the Hospice Item Set. These measures focus on pain screening, pain assessment, dyspnea screening, dyspnea treatment, documentation of treatment preferences, addressing beliefs and values if desired by the patient, and provision of a bowel regimen for patients treated with an opioid. Hospices were required to report on these measures during the second half of calendar year 2014 to receive a full payment update in fiscal year 2016. Hospices continue to be required to report on these measures.

CMS added two quality measures effective April 2017. The first consists of a pair of indicators related to hospices' provision of visits when death is imminent: (1) the share of patients receiving a registered nurse, physician, nurse practitioner, or physician assistant visit in the last three days of life and (2) the share of patients receiving at least two visits from a social worker, chaplain or spiritual counselor, licensed practical nurse, or hospice aide in the last seven days of life. The second measure is a composite measure that gauges the share of patients who received all seven of the original process measures on admission to hospice.

In 2015, the hospice quality reporting program began requiring hospice providers (except very small providers) to participate in a CAHPS hospice survey. Hospices are required to contract with a CMS-approved vendor to administer the survey. The survey gathers information from the patient's informal caregiver (typically a family member) after the patient's death. The survey addresses aspects of hospice care that are thought to be important to patients and for which informal caregivers are positioned to provide information. In particular, the survey collects information on how the hospice performed in the following areas: communicating, providing timely care, treating patients with respect, providing emotional support, providing help for symptom management, providing information on medication side effects, and training family or other informal caregivers in the home setting. Participation in the CAHPS hospice survey and the Hospice Item Set will affect payment updates for fiscal year 2017 and thereafter.[14]

Hospice process measures related to care at admission

Hospices' performance on seven quality measures related to processes of care at hospice admission is generally high and increased between 2015 and 2016. On six of the seven individual process measures, most hospices scored very high in 2016 (Table 12-9, p. 338). In 2016, for all measures except pain assessment, at least three-quarters of hospices performed the activity appropriately about 93 percent or more of the time. Performance was extremely high on a few measures (documenting treatment preferences and dyspnea screening), with at least three-quarters of hospices having scores of about 98 percent or higher. For a pain assessment process measure—which indicates the share of patients who received a comprehensive pain assessment within one day of screening positive for pain—performance was lower and more varied. Scores ranged from about 68 percent at the 25th percentile to about 95 percent at the 75th percentile. Although scores for pain assessment were lower than for the other measures, they also improved between 2015 and 2016 (i.e., the median increased from about 79 percent to about 85 percent).

Since most hospices score high on most of the seven process measures, the ability of these individual measures to distinguish quality across hospices seems limited. As one way to address this concern, CMS has adopted a composite of the seven process measures for future years that shows some variation in performance across providers. The composite measures reflect the share of

TABLE 12–9 **Scores on the seven hospice quality measures suggest most are topped out**

	2015				2016			
Measure	**Aggregate average**	**25th percentile**	**50th percentile**	**75th percentile**	**Aggregate average**	**25th percentile**	**50th percentile**	**75th percentile**
Treatment preferences	97.9%	98.8%	100.0%	100.0%	98.5%	99.1%	100.0%	100.0%
Beliefs and values	92.6	92.3	98.2	100.0	94.2	94.1	98.8	100.0
Dyspnea screening	97.4	97.4	99.4	100.0	98.1	97.7	99.4	100.0
Dyspnea treatment	95.6	92.5	97.8	100.0	96.6	94.1	98.4	100.0
Pain screening	93.7	92.1	97.3	99.6	94.9	93.2	97.8	100.0
Pain assessment	70.3	63.2	79.4	92.7	76.7	68.4	84.6	95.2
Bowel regimen	93.3	89.7	97.1	100.0	95.4	92.7	98.4	100.0
Composite of all 7 measures	73.3	62.7	77.8	88.2	78.7	68.0	82.1	91.8

Note: The numbers in the chart refer to the share of times a hospice appropriately performed a process measure at admission (among patients for whom the process measure was relevant). The composite of all seven process measures represents the share of patients for whom the hospice appropriately performed all seven process measures (or all of the subset of process measures relevant to the patient) at admission. The aggregate average is a beneficiary-level estimate and reflects the share of all patients nationally for whom the process measure was appropriately performed at admission. The percentiles reflect provider-level performance scores.

Source: MedPAC analysis of Hospice Item Set data from CMS.

admitted patients for whom the hospice performed all seven activities appropriately (or performed appropriately all the activities relevant to the patient). We modeled this future composite measure using 2015 and 2016 data to see how hospices would have fared on the measure. Composite measure scores ranged from about 63 percent at the 25th percentile to about 88 percent at the 75th percentile in 2015. Hospices' performance on the composite measure improved in 2016, with scores increasing to 68 percent at the 25th percentile and about 92 percent at the 75th percentile (Table 12-9).

The high scores for most hospices on most of the quality measures and the improvement in hospices' performance on all of the measures from 2015 to 2016 is encouraging. However, the Commission has several concerns about these measures. Because they are process measures, it is uncertain how much they affect quality from the perspective of patients and families. In addition, concern exists that these measures either are, or will become, "topped out" (meaning that everyone performs well on these measures) and thus not helpful for differentiating performance across hospice providers.

CMS has also indicated that it will release the first provider-level hospice CAHPS data on Hospice Compare in February 2018. Although individual provider-level data were not available at the time this report was finalized, in 2016, CMS released some data on national average performance scores on the hospice CAHPS domains (Centers for Medicare & Medicaid Services 2016). On average, hospices scored highest in the areas of treating family members with respect (90 percent) and providing emotional and religious support (89 percent). The national average scores were lowest in the areas of giving hospice care training to family members (72 percent) and getting help for symptoms (75 percent).

CMS has also indicated that it is considering adopting a measure that gauges whether a provider offers high-acuity care to patients. As discussed in prior reports, concern exists that some hospice providers do not provide high-acuity care, such as general inpatient care or continuous home care to any patients. In addition, CMS has stated that it is considering adopting a measure related to live discharges and burdensome transitions across sites of care.

With quality measurement in general, it has been the Commission's view that outcome measures are preferable to process measures. Although outcome measures for hospice are particularly challenging, the Commission believes outcome measures such as patient-reported pain and other symptom-management measures merit further

TABLE 12–10 **Rates of hospice live discharge and reported reason for discharge, 2013–2016**

Category	2013	2014	2015	2016
Live discharges as a share of all discharges, by reason for live discharge				
All live discharges	18.4%	17.2%	16.7%	16.9%
No longer terminally ill	7.8	7.3	6.9	6.8
Beneficiary revocation	7.3	6.6	6.3	6.4
Transferred hospice providers	2.0	2.0	2.1	2.1
Moved out of service area	0.9	0.9	1.0	1.2
Discharged for cause	0.4	0.3	0.3	0.3
Providers' overall rate of live discharge as a share of all discharges, by percentile				
10th percentile	9.3%	8.5%	8.4%	8.3%
25th percentile	13.2	12.3	12.0	12.2
50th percentile	19.4	18.7	18.4	19.1
75th percentile	30.2	30.2	29.6	31.3
90th percentile	47.2	50.0	50.0	53.3

Note: Percentages may not sum to total due to rounding. "All discharges" includes patients discharged alive or deceased.

Source: MedPAC analysis of the 100 percent hospice claims standard analytical file, Medicare hospice cost reports, and Medicare Provider of Services file from CMS.

exploration. Rate of live discharge is another measure that in some ways could be considered an outcome measure. The rate at which hospice providers discharge patients alive could signal quality issues. Hospice providers are expected to have some rate of live discharges because some patients change their mind about using the hospice benefit and disenroll from hospice or their condition improves and they no longer meet the hospice eligibility criteria. However, analyses showing providers with substantially higher rates of live discharge than their peers signal a potential problem with quality of care or program integrity. An unusually high rate of live discharges could indicate that a hospice provider is not meeting the needs of patients and families or is admitting patients who do not meet the eligibility criteria.

Live discharges occur for patients with short and long stays. In our June 2013 report, we conducted an analysis of patients discharged alive in 2010 and followed them through the next year. Among patients discharged alive, 18 percent were discharged after a stay of 14 days or less, 22 percent after a 15-day to 60-day stay, 32 percent after a 61-day to 180-day stay, and 29 percent after a stay greater than 180 days (Medicare Payment Advisory Commission 2013). Patients discharged alive after a long hospice stay were more likely to be alive 180 days after discharge and to have lower average Medicare spending per day post–hospice discharge than those discharged after a short hospice stay.

The rate of live discharge (that is, live discharges as a share of all discharges) increased slightly between 2015 and 2016 from 16.7 percent to 16.9 percent (Table 12-10). This slight increase follows a period of several years (2013 to 2015) when the live-discharge rate was declining (from 18.4 percent to 16.7 percent). Hospice providers report the reason for live discharge on claims. The rate of live discharge by reason for discharge experienced small changes between 2015 and 2016. The rate of live discharge associated with the beneficiary moving out of the service area and the beneficiary revoking

TABLE 12–11 **Total hospice costs per day varied by type of provider, 2015**

		Percentile		
	Average	25th	50th	75th
All hospices	$150	$116	$141	$179
Freestanding	143	112	134	165
Home health based	159	125	154	194
Hospital based	213	150	194	255
For profit	134	109	130	161
Nonprofit	176	141	167	206
Above cap	129	110	131	158
Below cap	151	117	145	181
Urban	151	117	142	178
Rural	139	111	140	181

Note: Data reflect aggregate costs per day for all types of hospice care combined (routine home care, continuous home care, general inpatient care, and inpatient respite care). Data are not adjusted for differences in case mix or wages across hospices.

Source: MedPAC analysis of Medicare hospice cost reports and Medicare Provider of Services file from CMS.

hospice increased slightly (0.2 percentage points and 0.1 percentage point, respectively). The rate of live discharge due to the beneficiary no longer being terminally ill decreased slightly (0.1 percentage point).

Live-discharge rates vary by patient diagnosis. In 2016, the rate was higher for hospice beneficiaries with heart and circulatory conditions (19 percent), neurological conditions (22 percent), and chronic obstructive pulmonary disease (25 percent) than for those with cancer (12 percent) or other diagnoses (14 percent) (data not shown). The diagnoses that tend to have higher live-discharge rates are the same diagnoses that tend to have longer stays (lengths of stay by diagnosis are shown in Table 12-5, p. 333).

Some providers have unusually high live-discharge rates. In 2016, about 25 percent of providers had a live-discharge rate of 31 percent or more, and 10 percent of providers had live-discharge rates of 53 percent or more (Table 12-10, p. 339). These data reflect providers of all sizes.[15] Hospices with very high live-discharge rates are disproportionately for profit, small, and recent entrants to the Medicare program (entered in 2010 or after), and have an above-average prevalence of exceeding the aggregate payment cap.[16]

Our analysis focuses on the broadest measure of live discharges, including live discharges that are initiated by the hospice (because the beneficiary is no longer terminally ill or because the beneficiary is discharged for cause) and live discharges that are initiated by the beneficiary (because the beneficiary revokes his or her hospice enrollment, transfers hospice providers, or moves out of the area). Some stakeholders argue that live discharges initiated by the beneficiary—such as when the beneficiary revokes his or her hospice enrollment—should not be included in a live-discharge measure because they assert that these discharges reflect beneficiary preferences and are not in the hospice's control. Because beneficiaries may choose to revoke hospice for a variety of reasons, which in some cases may be related to the hospice provider's business practices or quality of care, we include revocations in our analysis. A CMS contractor, Abt Associates, found that rates of live discharges, both beneficiary revocations and discharges because beneficiaries are no longer terminally ill, increase as hospice providers approach or surpass the aggregate cap (Plotzke et al. 2015). The contractor report suggested this pattern may reflect hospice-encouraged revocations or inappropriate live discharges and merit further investigation.

Providers' access to capital: Access to capital appears to be adequate

Hospices in general are not as capital intensive as other provider types because they do not require extensive physical infrastructure (although some hospices have built their own inpatient units, which require significant capital). Overall, access to capital for hospices appears adequate, given the continued entry of for-profit providers into the Medicare program.

In 2016, the number of for-profit providers grew by more than 7 percent, indicating that capital is accessible to these providers. In addition, most publicly traded hospice companies reported favorable financial performance in their fall 2017 filings, with favorable admissions, net revenue growth, or both. According to financial analysts, hospice mergers and acquisitions have been somewhat

slower in the 2015 to 2017 period, but private equity investors remain interested in the sector. In addition, some analysts report that post-acute care providers and hospitals are interested in acquiring or developing joint ventures with hospice providers. Also, some publicly traded hospice companies have expressed interest in further acquisitions in the sector. It is also notable that CMS's changes to the hospice payment system for 2016 have been viewed by some financial analysts as modest and a sign of stability in the sector.

Among nonprofit freestanding providers, less is known about access to capital, which may be limited. Hospital-based and home health–based nonprofit hospices have access to capital through their parent providers, which currently appear to have adequate access to capital in both sectors.

Medicare payments and providers' costs

As part of our assessment of payment adequacy, we examine the relationship between Medicare payments and providers' costs by considering whether current costs approximate what providers are expected to spend on the efficient delivery of high-quality care. Medicare margins illuminate the relationship between Medicare payments and providers' costs. Specifically, we examined margins through the 2015 cost reporting year, the latest period for which complete cost report and claims data are available.[17] To understand the variation in margins across providers, we also examined the variation in costs per day across providers.

Hospice costs

Hospice costs per day vary substantially by type of provider (Table 12-11), which is one reason for differences in hospice margins across provider types. In 2015, hospice costs per day across all hospice providers were about $150 on average, an increase of about 0.5 percent from the previous year.[18] Freestanding hospices had lower costs per day than provider-based hospices (i.e., home health–based hospices and hospital-based hospices). For-profit, above-cap, and rural hospices also had lower average costs per day than their respective counterparts.

Many factors contribute to variation in hospices' costs across providers. One factor is length of stay. Hospices with longer stays have lower costs per day on average. Freestanding and for-profit hospices have substantially longer stays than other hospices and as a result have lower costs per day (Table 12-5, p. 333). Another factor that contributes to cost differences across providers relates to overhead costs. Included in the costs of provider-based hospices are overhead costs allocated from the parent provider, which contributes to provider-based hospices having higher costs than freestanding providers. The Commission believes payment policy should focus on the efficient delivery of services to Medicare's beneficiaries. If freestanding hospices are able to provide high-quality care at a lower cost than provider-based hospices, payment rates should be set accordingly, and the higher costs of provider-based hospices should not be a reason for increasing Medicare payment rates.

The total cost per day estimates discussed above reflect the total cost per day averaged across the four levels of hospice care. CMS has recently restructured the hospice cost report to provide information on cost per day by level of care. With the restructured cost report, for the first time, we are able to estimate how hospice costs per day differ by level of care. The new cost report is effective for freestanding providers beginning cost report year 2015. These data will also be available for provider-based cost reports for the 2016 cost report year.

Table 12-12 (p. 342) presents estimates of hospice costs by level of care for freestanding providers in 2015. As expected, costs vary by level of care. The average cost per day is lowest for RHC, the typical level of hospice care, and is higher for the more specialized levels of care. RHC, which accounts for the vast majority of days, had an average cost per day of $124 and a median cost per day of $125, while the Medicare RHC payment rate was substantially higher in 2015 at $159 per day. Medicare's payment rate for the other, less frequent levels of care appears to be lower than the average and median costs per day for freestanding providers. The cost per day for general inpatient care was $793 on average and $882 at the median, compared with a payment rate of $709. The cost per day for inpatient respite care was $481 on average and $343 at the median compared with a payment rate of about $165.[19] The cost per hour for continuous home care was $48 on average and $51 at the median compared with a payment rate of about $39 per hour in 2015. These data suggest that a rebalancing of the payment rates for the four levels of care may be warranted. We plan to continue to explore this issue with future data and analysis.

Hospice margins

Between 2014 and 2015, the aggregate hospice Medicare margin increased from 8.2 percent to 10.0 percent (Table

TABLE 12–12

Hospice costs and payment rates by level of care for freestanding providers, 2015

Category	2015 cost per day*				FY 2015 payment rate per day*	Percent of days 2015
	Average	25th percentile	50th percentile	75th percentile		
Routine home care	$124	$106	$125	$150	$159	97.8%
General inpatient care	793	572	882	1,255	709	1.6
Inpatient respite care	481	223	343	552	165	0.3
Continuous home care* (dollars per hour)	48	18	51	94	39	0.3

Note: FY (fiscal year). Medicare payment rates and costs are rounded to the nearest dollar.
*Cost estimates and payment rates reflect dollars per day except for continuous home care, which is dollars per hour.

Source: MedPAC analysis of Medicare hospice cost reports, 100 percent hospice claims data, and Provider of Services file from CMS.

12-13).[20] In 2015, Medicare margins varied widely across individual hospice providers: –10.6 percent at the 25th percentile, 8.8 percent at the 50th percentile, and 22.5 percent at the 75th percentile (data not shown). Our estimates of Medicare margins from 2009 to 2015 exclude overpayments to above-cap hospices and are calculated based on Medicare-allowable, reimbursable costs, consistent with our approach in other Medicare sectors.[21]

We excluded nonreimbursable bereavement costs from our margin calculations. The statute requires that hospices offer bereavement services to family members of their deceased Medicare patients (Section 1861(dd)(2)(A)(i)); however, the statute prohibits Medicare payment for these services (Section 1814(i)(1)(A) of the Social Security Act). Hospices report the costs associated with bereavement services on the Medicare cost report in a nonreimbursable cost center. If we included bereavement costs from the cost report in our margin estimate, it would reduce the 2015 aggregate Medicare margin by, at most, 1.3 percentage points. This estimate is likely an overestimate of the bereavement costs associated with Medicare hospice patients because, in addition to bereavement costs associated with hospice patients, the estimate could also include the costs of community bereavement services offered to the family and friends of decedents who were not enrolled in hospice. Also, some hospices fund bereavement services through donations. Hospice revenues from donations are not included in our margin calculations.

We also exclude nonreimbursable volunteer costs from our margin calculations. As discussed in our March 2012 report, the statute requires Medicare hospice providers to use some volunteers in the provision of hospice care. Costs associated with recruiting and training volunteers are generally included in our margin calculations because they are reported in reimbursable cost centers. The only volunteer costs that would be excluded from our margins are those associated with nonreimbursable cost centers. It is unknown what costs are included in the volunteer nonreimbursable cost center. If nonreimbursable volunteer costs were included in our margin calculation, it would reduce the aggregate Medicare margin by 0.3 percentage point.

Hospice margins vary by provider characteristics, such as type of hospice (freestanding or provider based), type of ownership (for profit or nonprofit), patient volume, and urban or rural location (Table 12-13). Because our margin estimates predate the implementation of the new payment system in 2016, they do not reflect any distributional effects resulting from the new payment system. In 2015, freestanding hospices had higher margins (13.8 percent) than home health–based or hospital-based hospices (3.3 percent and –22.9 percent, respectively) (Table 12-13). Provider-based hospices have lower margins than freestanding hospices for several reasons, including their shorter stays and the allocation of overhead costs from the parent provider to the provider-based hospice. The aggregate Medicare margin was considerably

TABLE 12–13 **Hospice Medicare margins by selected characteristics, 2009–2015**

Category	Percent of hospices 2015	2009	2010	2011	2012	2013	2014	2015
All	100%	7.4%	7.4%	8.7%	10.0%	8.5%	8.2%	10.0%
Freestanding	75	10.2	10.7	11.8	13.3	12.0	11.6	13.8
Home health based	12	6.2	3.4	6.1	5.5	2.5	3.7	3.3
Hospital based	12	–12.7	–17.1	–17.0	–17.1	–17.4	–20.8	–22.9
For profit (all)	65	11.8	12.3	14.7	15.4	14.7	14.6	16.4
Freestanding	60	12.9	13.4	15.9	16.5	15.7	15.4	17.7
Nonprofit (all)	31	3.6	2.9	2.3	3.6	0.9	–0.9	0.1
Freestanding	15	6.6	7.6	6.4	7.7	5.2	3.5	5.0
Urban	79	7.9	7.7	9.0	10.3	8.8	8.7	10.5
Rural	21	3.2	4.6	5.2	7.3	5.9	3.3	4.9
Patient volume (quintile)								
Lowest	20	–6.2	–4.8	–3.8	–2.3	–0.4	–4.9	–5.7
Second	20	2.0	4.1	2.7	5.8	5.9	2.0	3.9
Third	20	4.2	6.8	7.6	9.7	9.3	9.8	10.6
Fourth	20	6.6	7.0	9.3	11.1	10.6	9.9	12.8
Highest	20	9.1	8.2	9.6	10.5	8.2	8.4	10.1
Below cap	87.7	7.9	7.6	8.9	10.3	8.6	8.4	10.0
Above cap (excluding cap overpayments)	12.3	1.5	3.2	4.1	5.2	7.0	6.0	9.9
Above cap (including cap overpayments)	12.3	18.4	17.3	18.4	21.3	20.1	18.8	21.4

Note: Margins for all provider categories exclude overpayments to above-cap hospices, except where specifically indicated. Margins are calculated based on Medicare-allowable, reimbursable costs. The rural and urban definitions used in this chart are based on updated definitions of the core-based statistical areas (which rely on data from the 2010 census).

Source: MedPAC analysis of Medicare hospice cost reports, 100 percent hospice claims standard analytical file, and Medicare Provider of Services file from CMS.

higher for for-profit hospices (16.4 percent) than for nonprofit hospices (0.1 percent). While the overall margin for nonprofits was near zero in 2015, the margin for freestanding nonprofit hospices was higher (5.0 percent). Generally, hospice margins vary by the providers' volume—hospices with more patients have higher margins on average. Hospices in urban areas have a higher overall aggregate Medicare margin (10.5 percent) than those in rural areas (4.9 percent). The difference between rural and urban margins may partly reflect differences in volume.

In 2016, above-cap hospices had favorable margins even after the return of overpayments. Above-cap hospices would have had a margin of about 21.4 percent before the return of overpayments but had a margin of 9.9 percent after the return of overpayments. Notably in 2015, above-cap hospices' margin after the return of overpayments is similar to below-cap hospices' margin. In prior years, above-cap hospices' aggregate margin had been lower than below-cap hospices' margin because of the return of overpayments. As shown in Table 12-7 (p. 335), the amount by which above-cap hospices have been exceeding the cap has been decreasing in recent years, which likely contributes to their increasing margin. This decline suggests that above-cap hospices are becoming better at bringing their utilization closer to the cap in a way that is financially favorable to the hospice.

Hospice profitability is closely related to length of stay. Hospices with longer stays have higher margins. For example, in an analysis of hospice providers based on the share of their patients' stays exceeding 180 days, the

TABLE 12–14

Hospice Medicare margins by length of stay and patient residence, 2015

Hospice characteristic	Medicare margin
Average length of stay	
Lowest quintile	–9.1%
Second quintile	4.2
Third quintile	13.7
Fourth quintile	19.0
Highest quintile	18.5
Percent of stays > 180 days	
Lowest quintile	–8.9
Second quintile	3.6
Third quintile	14.5
Fourth quintile	20.4
Highest quintile	16.7
Percent of patients in nursing facilities	
Lowest quartile	2.4
Second quartile	8.6
Third quartile	11.4
Highest quartile	15.7
Percent of patients in assisted living facilities	
Lowest quartile	1.6
Second quartile	5.5
Third quartile	10.6
Highest quartile	16.3

Note: Margins for all provider categories exclude overpayments to above-cap hospices. Margins are calculated based on Medicare-allowable, reimbursable costs.

Source: MedPAC analysis of Medicare hospice cost reports, Medicare Beneficiary Database, 100 percent hospice claims standard analytical file, and Medicare Provider of Services file from CMS.

average margin ranged from –8.9 percent for hospices in the lowest quintile to 20.4 percent for hospices in the second highest quintile (Table 12-14). Hospices in the quintile with the greatest share of their patients exceeding 180 days had a 16.7 percent average margin after the return of cap overpayments, but without the hospice aggregate cap, these providers' margins would have averaged 20.6 percent (latter figure not shown in table).

Hospices with a large share of patients in nursing facilities and assisted living facilities also have higher margins than other hospices (Table 12-14). For example, in 2015, hospices in the top quartile of share of patients residing in nursing facilities had a margin of about 16 percent compared with a margin of roughly 9 percent to 11 percent in the middle quartiles and a margin of about 2 percent in the bottom quartile. Margins also vary by the share of a provider's patients in assisted living facilities, with a margin in 2015 ranging from 1.6 percent in the lowest quartile to more than 16 percent in the highest quartile. Some of the difference in margins among hospices with different concentrations of nursing facility and assisted living facility patients is driven by differences in their patients' diagnosis profile and length of stay.

However, hospices may find caring for patients in facilities more profitable than caring for patients at home for reasons in addition to length of stay. As discussed in our June 2013 report, there may be efficiencies in treating hospice patients in a centralized location in terms of mileage costs and staff travel time, as well as facilities serving as referral sources for new patients. Nursing facilities may also be a more efficient setting for hospices to provide care because of the overlap in responsibilities between the hospice and the nursing facility. Analyses in our June 2013 report suggest that a reduction to the routine home care payment rate for patients in nursing facilities may be warranted because of the overlap in responsibilities between the hospice and the nursing facility (Medicare Payment Advisory Commission 2013).

Our 2015 margin estimates reflect hospices' financial performance in the year before adoption of the new payment system. In 2016, CMS's payment reforms—which moved away from a single base rate for routine home care to a two-tiered base rate and provide additional payments for certain visits in the last seven days of life—could modestly reduce the variation in profitability across hospices. To illustrate the potential effect of the new payment system in 2016, we calculated actual 2016 payments under the new payment system as reflected in the 2016 claims data and compared them with what we estimate payments would have been in 2016 under the old payment structure.[22]

Under the new payment system, providers with the fewest long-stay patients had higher payments, while those with the most long-stay patients had lower payments than they would have had under the old payment structure (Table 12-15). For example, we estimate aggregate payments increased on average about 3 percent for providers in the lowest length of stay quintile (as measured by percent

of stays greater than 180 days) and decreased about 3 percent for providers in the highest length of stay quintile as a result of the new payment system. The effects remain modest when viewed by hospice type. For example, under the new payment system, provider-based hospices as a group experienced a modest payment increase (2.6 percent for hospital-based hospices and 1.0 percent for home health–based hospices) and freestanding providers experienced a modest payment decrease (–0.6 percent). Similarly, payment changes for nonprofit and for-profit hospices as a group were small—an estimated 1.1 percent increase in payments to nonprofit hospices and a 1.3 percent reduction in payments to for-profit hospices.

We also examined the effect of the new payment system on hospice providers based on the share of the providers' stays that were 7 days or less. As a result of the new payment system, we estimate that 2016 aggregate payments increased by 1.2 percent for the quintile of providers with the most short stays and decreased 2.1 percent for the quintile of providers with the fewest short stays (data not shown). The modest effect of the payment changes on hospices with many short stays may be partly explained by the fact that some patients with short stays receive general inpatient care, which was unaffected by the 2016 payment changes.

Given the magnitude of the estimated effects, the new payment system may reduce some of the variation in margins across providers, but substantial variation is likely to remain. As the Commission noted in its comment letter on the 2016 hospice proposed rule, the initial changes to the hospice payment system are projected to be modest and leave room for additional changes in future years based on further data and experience (Medicare Payment Advisory Commission 2015a). The Commission intends to continue to examine the effects of the new payment system and consider whether additional changes are needed to the RHC payment structure to better match the costs of care for both short and long hospice stays.

Another consideration in evaluating the adequacy of payments is whether providers have a financial incentive to expand the number of Medicare beneficiaries they serve. In considering whether to treat a patient, the provider 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 their volume of Medicare patients. On the other hand, if marginal payments do not cover the marginal costs, the provider may have a disincentive to treat Medicare beneficiaries. If we approximate marginal cost as total Medicare cost minus fixed building and equipment cost, then marginal profit is:

Marginal profit = (payments for Medicare services – (total Medicare costs – fixed building and equipment costs)) / Medicare payments

This formula gives a lower bound on the marginal profit because we ignore any potential labor costs that are fixed. For hospice providers, we find that Medicare payments

TABLE 12–15

The new payment system modestly redistributed payments across providers

Type of hospice	Estimated percent change in hospice payments in 2016 as a result of the new payment system
Percent of stays > 180 days	
Lowest quintile	3.3%
Second quintile	0.9
Third quintile	–0.4
Fourth quintile	–1.8
Highest quintile	–2.9
Freestanding	–0.6
Home health based	1.0
Hospital based	2.6
For profit	–1.3
Nonprofit	1.1
Urban	–0.3
Rural	0.3

Note: The figures in this table reflect the percentage difference between actual 2016 payments under the new payment system and a Commission estimate of what 2016 payments would have been if the old payment structure had remained in effect in 2016. These estimates reflect only the difference in payment rates under the new payment structure compared with the old payment structure and do not account for any behavioral change.

Source: MedPAC analysis of 100 percent hospice claims standard analytical file, the denominator file, the Medicare Beneficiary Database, and Medicare Provider of Services file from CMS.

exceed marginal costs by roughly 13 percent, suggesting that providers have an incentive to treat Medicare patients. This profit margin is a positive indicator of patient access.

Projecting margins for 2018

To project the aggregate Medicare margin for 2018, we model the policy changes that went into effect between 2015 (the year of our most recent margin estimates) and 2018. The policies include:

- updates of 1.6 percent in 2016 and 2.1 percent in 2017 (which reflects the market basket update, productivity adjustment, and an additional legislated adjustment of –0.3 percentage point each year);
- an update of 1.0 percent in 2018 per the Medicare Access and CHIP Reauthorization Act of 2015;
- year 7 of the seven-year phase-out of the wage index budget-neutrality adjustment factor and additional wage index changes, which reduced payments to hospices by 0.5 percentage point in 2016; and
- implementation of the new structure for routine home care payments beginning January 2016.

We also assume a rate of cost growth in 2016 through 2018 that is consistent with historical rates of cost growth among hospice providers. Taking these factors into account, we project an aggregate Medicare margin for hospices of 8.7 percent in 2018. This margin projection excludes nonreimbursable costs associated with bereavement services and volunteers (which, if included, would reduce margins by at most 1.3 percentage points and 0.3 percentage point, respectively).

How should Medicare payments change in 2019?

The indicators of payment adequacy for hospices—beneficiaries' access to care, quality of care, provider access to capital, and Medicare payments relative to providers' costs—are positive and suggest that current payment rates are adequate.

RECOMMENDATION 12

The Congress should eliminate the fiscal year 2019 update to the Medicare payment rates for hospice services.

RATIONALE 12

Our payment indicators for hospice are positive. The number of hospices increased by more than 4 percent in 2016 because of the entry of for-profit providers. The number of beneficiaries enrolled in hospice increased by more than 3 percent, and the total number of hospice days increased by over 5 percent. Average length of stay among decedents increased slightly. Access to capital appears adequate. Limited quality data are now available. The projected 2018 aggregate Medicare margin is 8.7 percent. Based on our assessment of the payment adequacy indicators, hospices should be able to accommodate cost changes in 2019 without an update to the 2018 base payment rates.

IMPLICATIONS 12

Spending

- Under current law, hospices are projected to receive an update in fiscal year 2019 equal to 1.7 percent (based on a projected market basket of 2.8 percent, a projected productivity adjustment of –0.8 percent, and an additional statutory adjustment of –0.3 percent). Our recommendation to eliminate the payment update for fiscal year 2019 would decrease federal program spending relative to the statutory update by between $250 million and $750 million over one year and between $1 billion and $5 billion over five years.

Beneficiary and provider

- We do not expect this recommendation to have adverse effects on beneficiaries' access to care. This recommendation is not expected to affect providers' willingness and ability to care for Medicare beneficiaries. ■

Endnotes

1 If a beneficiary does not have an attending physician, the beneficiary can initially elect hospice based on the certification of the hospice physician alone.

2 When first established under TEFRA, the Medicare hospice benefit limited coverage to 210 days of hospice care. The Medicare Catastrophic Coverage Repeal Act of 1989 and the Balanced Budget Act of 1997 eased this limit.

3 In 2000, 30 percent of hospice providers were for profit, 59 percent were nonprofit, and 11 percent were government. As of 2016, about 67 percent of hospices were for profit, 29 percent were nonprofit, and 4 percent were government.

4 The 2018 cap year spans from October 1, 2017, to September 30, 2018. Payments for the cap year reflect the sum of payments to a provider for services furnished in that year. The calculation of the beneficiary count for the cap year is more complex, involving two alternative methodologies. For a detailed description of the two methodologies and when they are applicable, see our March 2012 report (Medicare Payment Advisory Commission 2012).

5 This 2018 cap is equivalent to an average length of stay of 173 days of routine home care for a hospice with a wage index of 1.

6 The Improving Medicare Post-Acute Care Transformation Act of 2014 (IMPACT) changed the annual update factor applied to the hospice aggregate cap for cap years 2017 through 2025. Previously, the aggregate cap was updated annually based on the percentage increase in the medical care expenditure category of the consumer price index for all urban consumers. As a result of IMPACT, the aggregate cap will be updated annually by the same factor as the hospice payment rates (market basket net of productivity and other adjustments).

7 Our hospice analyses in this report that break out data for rural and urban beneficiaries or rural and urban providers are based on core-based statistical area definitions (which rely on the 2010 census) or are based on the 2013 urban influence codes.

8 Effective October 1, 2014, CMS no longer allows debility, adult failure to thrive, and certain neurological diagnoses to be reported as the primary hospice diagnosis. If patients with these diagnoses have a life expectancy of six months or less, they still qualify for hospice, but the hospice must report a more specific primary diagnosis. As would be expected, the reported diagnosis mix of hospice patients changed in response to the new requirement. For example, between 2013 and 2016, the primary diagnosis of debility and adult failure to thrive dropped from 9 percent to 1 percent, while primary diagnoses for heart and circulatory conditions rose from 19 percent to 28 percent.

9 Type of hospice reflects the type of cost report filed (a hospice files a freestanding hospice cost report or is included in the cost report of a hospital, home health agency, or skilled nursing facility). The type of cost report does not necessarily reflect where patients receive care. For example, all hospice types may serve some nursing facility patients.

10 Hospice use increased among Medicare decedents in Pennsylvania between 2015 and 2016, even though the number of providers decreased and the number of providers per 10,000 beneficiaries was below the national average.

11 The terms *curative care* and *conventional care* are often used interchangeably to describe treatments intended to be disease modifying.

12 The estimates of hospices over the cap are based on the Commission's analysis. While the estimates are intended to approximate those of the CMS claims processing contractors, differences in available data and methodology have the potential to lead to different estimates. An additional difference between our estimates and those of the CMS contractors relates to the alternative cap methodology that CMS established in the hospice final rule for 2012 (Centers for Medicare & Medicaid Services 2011). Based on that regulation, for cap years before 2012, hospices that challenged the cap methodology in court or made an administrative appeal had their cap payments calculated from the challenged year going forward using a new, alternative methodology. For cap years from 2012 onward, all hospices have their cap liability calculated using the alternative methodology unless they elect to remain with the original method. For estimation purposes, we assume that the CMS contractors used the alternative methodology for cap year 2012 onward. Estimates for cap years 2011 and earlier assumed that the original cap methodology was used.

13 Above-cap hospices are more likely to be for-profit, freestanding providers and to have smaller patient counts than below-cap hospices.

14 In past years, a small fraction of hospices did not report quality data and faced a reduction of their annual update. In 2014, about 6 percent of hospices that provided services to Medicare beneficiaries that year did not report the required Hospice Item Set quality data and faced a 2 percentage point reduction in their update for fiscal year 2016. In 2015, about 9 percent of hospices that provided services to Medicare beneficiaries that year did not report the required CAHPS and/

or Hospice Item Set quality data and faced a 2 percentage point reduction in their update for fiscal year 2017. In 2016, about 14 percent of hospices that provided services to Medicare beneficiaries that year did not report the required CAHPS and/or Hospice Item Set quality data and faced a 2 percentage point reduction in their update for fiscal year 2018. Nonreporters were generally small providers, and it is possible that some of them are no longer operating.

15 The live-discharge rates were calculated for providers regardless of size. If the live-discharge rate is used as a quality or program integrity measure, issues with random variation would dictate limiting the measure to providers with a specified minimum number of discharges. Nonetheless, it is important to include small providers in live-discharge measures because the aggregate live-discharge rate (based on combined data for similarly sized hospices) is higher for small hospice providers than large providers. In 2016, the aggregate live-discharge rate for providers with 30 or fewer discharges annually was about 41 percent compared with just under 17 percent for larger providers. One approach to including small providers in live-discharge rate measures could be to use data for multiple years for small providers that would otherwise not meet sample size criteria. To explore this method, we modeled limiting our analysis to providers that had more than 30 discharges in 2016 and to small providers with more than 30 discharges in 2015 and 2016 combined. With this approach, a live-discharge rate could be calculated for 90 percent of providers (compared with only 83 percent of providers if a single year of data were used for small providers). The live-discharge rate was 46 percent at the 90th percentile and 28 percent at the 75th percentile under this approach.

16 In 2016, the 10 percent of providers with the highest live discharge rates were disproportionately for profit (88 percent), small (71 percent had fewer than 50 discharges in 2016), and newer providers (69 percent first participated in Medicare in 2010 or later). Providers with high live-discharge rates were also more likely to exceed the aggregate cap. In 2015 (the most recent year for which we have cap overpayment estimates), 54 percent of hospices in the top 10 percent for live discharges exceeded the aggregate cap that year.

17 We present margins for 2015 because our margin estimates exclude cap overpayments to providers. To calculate this exclusion accurately, we need the next year's claims data (i.e., the 2015 cap overpayment calculation requires 2016 claims data).

18 The cost per day calculation reflects aggregate costs for all types of hospice care (routine home, continuous home, general inpatient, and inpatient respite care). "Days" reflects the total number of days for which the hospice is responsible to care for its patients, regardless of whether the patient received a visit on a particular day. The cost per day estimates are not adjusted for differences in case mix or wages across hospices and are based on data for all patients, regardless of payer.

19 Wide variation in cost per day exists in the freestanding hospice cost reports for inpatient respite care, including the presence of some high-end outliers that cause a significant divergence between the average and the median. To address the presence of outliers, we explored excluding observations below the 10th percentile and above the 90th percentile. With this approach, the average cost per day was $373 and the median cost per day was $343 for inpatient respite care in 2015.

20 The aggregate Medicare margin is calculated as follows: ((sum of total payments to all providers) – (sum of total costs of all providers) / (sum of total payments to all providers)). Estimates of total Medicare costs come from providers' cost reports. Estimates of Medicare payments and cap overpayments are based on Medicare claims data.

21 Hospices that exceed the Medicare aggregate cap are required to repay the excess to Medicare. We do not consider the overpayments to be part of hospice revenues in our margin calculation.

22 To estimate what 2016 payments would have been under the old payments, we took the 2016 utilization data as fixed (i.e., assumed no behavioral change) and estimated payments under the old payment structure with a single RHC base rate and no additional payments for certain visits at the end of life.

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