



**Medicare Hospice
Payment Reform: A
Review of the
Literature
(2014 Update)**

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1. Background

In 2012, the Abt team submitted a comprehensive review of existing literature on topics related to hospice payment reform.¹ In mid-2014, the team submitted an update to the review that identified and summarized relevant articles published from December 2, 2012 to December 31, 2013.² This document updates the literature review further, by identifying and reviewing additional scholarly articles published between January 1, 2014 and December 31, 2014.

2. Methodology

As noted, this review includes peer-reviewed English language journal articles published between January 1, 2014 and December 31, 2014, select reports published during the same time period by the Medicare Payment Advisory Committee (MedPAC), U.S. Government Accountability Office (GAO), and the Health and Human Services (HHS) Office of the Inspector General (OIG), and select reports published in early 2015.

To ensure continuity, the team utilized the same database as in previous reviews (PubMed), searched using the same terms and phrases, and applied the same exclusion criteria to articles as it had previously done for prior reviews. For a comprehensive list of search terms and discussion of the parameters applied when excluding articles, please see the initial literature review from 2012.

3. Findings

The size of the U.S. hospice market continues to expand, with an increasing number of Medicare beneficiaries electing the hospice benefit at the end-of-life. However, there is significant variation in how the benefit is used. Our literature review shows that hospice characteristics, beneficiary care needs and preferences, and the site of hospice services continue to play a role in patterns of care and access to and utilization of the hospice benefit.

3.1 Changes in the Hospice Provider Market

The total number of organizations offering hospice services continues to grow, with an increasing number of beneficiaries served by for-profit hospices. Echoing its prior publications, MedPAC noted in its March 2014 Report to Congress that the total number of hospice providers increased by approximately 4% from 3,585 providers in 2011 to 3,720 in 2012, with the majority of those entering the market being for-profit hospices.³ A retrospective study of Medicare cost report data similarly found the total number of non-chain, for-profit hospices more than doubled between 2000 and 2011, as did their total market share, rising from 13% to 32% of all active hospice market providers. Their not-for-profit counterparts' growth, by contrast, largely stagnated and their total market share fell dramatically (from 50% to 26% total market share).⁴

Correspondingly, chain hospices served an increasingly larger proportion of beneficiaries in the last decade (rising from 19% to 41% of total market share in 2011).⁵ Chain, for-profit hospices have been found to be larger, on average, and more geographically diverse than chain not-for-profit hospices, with the two largest chains "each [serving] more enrollees than did the five largest not-for-profit chains combined" between 2000 and 2011.⁶ Similarly, and perhaps as a result, other researchers

discovered that the biggest gains in the total number of beneficiaries served between 2000 and 2010 were among for-profit hospices, “large” hospices, and hospices in the South Atlantic region.⁷

In addition, the aggregate Medicare margin, or “indicator of the adequacy of Medicare payments relative to providers’ costs,” has fluctuated, rising from 7.4% in 2010 to 8.7% in 2011, and then dipping to a projected 7.8% in 2014.⁸ The lower projected margin is in part due to higher cost growth in 2013 and 2014. MedPAC assumed administrative costs of hospices would increase due to, “new claims data reporting requirements, new quality reporting initiatives, and a potentially revised cost report.” The percentage of hospice providers exceeding the aggregate reimbursement cap also declined from 2010 to 2011, and those that exceeded the cap did so in smaller amounts.⁹ The behavior of hospices above the aggregate cap remains problematic, however, as at least one study found that beneficiaries treated by providers that exceeded the cap had higher rates of live discharge, and longer average lengths of stay.¹⁰

Researchers have noted that such market shifts may pose challenges to policymakers and federal stakeholders who wish to anticipate and/or reform providers’ behavior, as an increasingly commercialized hospice market also increases the “monetary and business incentives [present in] the care network that used to work toward patient welfare.”¹¹ Moving forward, however, policymakers should acknowledge that “corporate governance structures, overlapping directors, and cross-sector alliances and partnerships” contribute more to hospice providers’ performance and behavior than their profit structure alone.¹²

3.2 Variations in Hospice Utilization over Time

Recent research also points to changes over time in who uses the hospice benefit and how they use the hospice benefit. As previously noted, a greater proportion of Medicare beneficiaries are enrolling in hospice across all age, race/ethnicity, gender, and regional cohorts.¹³ That said, studies suggest more “older” adults (65 years or older) are enrolling in hospice, and a greater proportion of hospice users are “very old” adults (85 years old or older).¹⁴ Between 2000 and 2010, for example, the “percentage of Medicare decedents older than 65 years who received care from a Medicare-certified hospice” doubled (from 15.9% to 32.3%), and the proportion of hospice users 85+ also increased by over 203%.¹⁵

Since 2011, a Medicare beneficiary’s average length of stay (LOS) has increased slightly (from 86 days to 88 days in 2012). However, outside the average, there are several indicators showing potentially problematic utilization trends. For example, one study found that 48.5% of Medicare hospice users in 2000 experienced stays of less than 7 days, stays greater than 180 days, and/or were discharged alive from the benefit.¹⁶ As of 2010, that percentage had risen to 53.4%. Additionally, in a sample of beneficiaries 66 years older with ovarian cancer, researchers noted an increased use of hospice services over time, but also noted an increase and parallel use of hospital-based services over time, “suggesting the use of hospice did not offset [those beneficiaries’] intensive end-of-life care.”¹⁷ Between 2008 and 2012, an increasing number of hospice beneficiaries died in inpatient settings (from 18.5% to 32.7%), and this mirrored an increasing preference for dying in inpatient settings (from 7.9% to 27.5%).¹⁸

3.3 Variations in Hospice Utilization across the Care Episode

Several studies reaffirmed the U-shaped cost curve (previously identified by MedPAC) in resource utilization across a hospice episode. For example, researchers examined approximately three million Medicare decedents who received hospice services between 2008 and 2011 and noted increased resource use during beneficiaries' first days in hospice and a dip in resource use in the middle of the care episode, regardless of the beneficiary's length of stay. Among beneficiaries with stays of thirty days or longer, an increase in resource use was also reported in the final days of life. Tellingly, all beneficiaries reported increased use of skilled nursing services during the beneficiary's first and last days on the benefit.¹⁹

Similarly, researchers examined approximately 750,000 Medicare hospice claims from 2010 and found spikes in visit intensity for routine home care (RHC) days during the first and last two weeks of the beneficiary's care episode.²⁰ Though RHC visit intensity followed a U-shaped curve for all beneficiaries, individuals who required continuous home care (CHC) or general inpatient care (GIP) during their hospice stay were more likely to have higher visit intensity needs on RHC days as well.²¹

3.4 Variations in Utilization by Episode Disposition (Live Discharge)

Examining live discharges continues to be an area of interest for researchers, with many struggling to identify and address the underlying factors contributing to disenrollment from the hospice benefit. Teno et al found that nearly 40% of beneficiaries discharged alive from hospice were discharged within their first seven days on the benefit (13.5%) or after 180 days on the benefit (27.3%).²² Other researchers have reported that individuals discharged alive were associated with longer average lengths of stay and lower RHC visit intensity needs.²³

Acute hospitalization and death are common outcomes that quickly follow live discharges. Nearly 25% of those discharged alive in 2010 were hospitalized within the first 30 days after disenrollment from the benefit.²⁴ Among those who experienced a hospitalization following discharge, 75% were hospitalized within the first 24 hours of disenrolling from the hospice benefit.²⁵ Using medical record data for approximately 80 beneficiaries disenrolled from a single hospice facility between 2006 and 2011, LeSage, Borgert and Rhee confirmed that over one-third of those discharged died within six months of disenrollment, and those who voluntarily revoked the benefit on average died sooner than those who did not voluntarily revoke.²⁶

3.5 Variations in Utilization by Beneficiary Characteristics

Utilization of the hospice benefit continues to vary substantially based upon beneficiary characteristics and preferences. In multiple studies, older age was associated with both enrollment in hospice and the likelihood of remaining on the benefit.^{27,28} Pediatric beneficiaries, by contrast, were associated with an increased likelihood of disenrollment.²⁹

Age was also associated with the variation in LOS. Aldridge et al., reported that older beneficiaries were less likely to have very short enrollment periods, and more likely to have very long enrollment periods.³⁰ Dingfield and colleagues, however, reported that in a sample of youth and adult hospice users, the pediatric patients had longer average lengths of stay, suggesting that patients' diagnostic complexity may contribute to their LOS.³¹ A study assessing the utilization of bereavement support services by family members of hospice decedents found that the younger the beneficiary's age at

death, the more at-risk family members were for developing a bereavement-related mental health disorder. Although younger age at death was associated with higher bereavement service use, individuals who lost a child were *least* likely to use hospice bereavement services, suggesting service gaps and/or social barriers may inhibit access.³²

Echoing past research findings, racial and ethnic minorities continue to enroll in hospice at a lower rate than their white peers,^{33,34} and may be more likely to revoke the benefit once enrolled.³⁵ Additionally, a study of Medicare fee-for-service beneficiaries in 2010 noted that black and Hispanic beneficiaries were not only more likely to be discharged alive from the benefit, but also more likely to experience “complicated” care transitions (e.g., acute hospitalizations).³⁶

While such variations in utilization may suggest differences in access, variations in patient preferences have also been reported. For example, in a sample of Medicare beneficiaries dying of cancer between 2003 and 2009, a lower proportion of American Indian patients enrolled in hospice than their non-Hispanic white counterparts, and during this time period, the American Indian patients did not have an increase in their total enrollment in the last six months of life (as non-Hispanic white patients did). Researchers attributed this lack of utilization to the “relative lack of CMS-accredited or Indian Health Service and tribally operated hospice programs in or near American Indian reservations,” beneficiaries’ rural location, and “culturally-based barriers to provision of effective end-of-life care for American Indians.”³⁷

Veteran status may also impact hospice utilization. Using data from the 2007 National Home and Hospice Care Survey (NHHCS), Wachterman and colleagues reported that veterans receiving hospice care were more likely to receive services at home, and also “received significantly fewer visits from hospice home health aides than non-veterans.”³⁸ Veterans in the sample were also older, on average, than non-veterans, and more likely to have a primary diagnosis of cancer.³⁹

In at least one study, rural geography was negatively associated with hospice enrollment.⁴⁰

3.6 Variations in Utilization by Hospice Diagnosis

Beneficiaries’ primary hospice diagnoses and relative comorbidities continue to shape their use of hospice services. In a review of Medicare beneficiaries using hospice services in 2012, MedPAC reported that individuals with neurological conditions and chronic obstructive pulmonary disorder (COPD) had significantly longer average lengths of stay than those with primary hospice diagnoses of cancer, heart or circulatory conditions.⁴¹ Another review of Medicare hospice data from 2000 to 2010 found “problematic utilization”—defined as enrollment periods of less than seven or greater than 180 days, or episodes resulting in live discharge—was strongly associated with having a non-cancer primary hospice diagnosis.⁴² Similarly, Teno et al reported that beneficiaries with a non-cancer primary hospice diagnosis were more likely to be discharged alive from the benefit, and more likely to experience one or more hospice/hospital care transitions.⁴³

Diagnostic characteristics may also contribute to a beneficiary’s enrollment in hospice. In two studies of patients with terminal cancer, individuals with higher comorbidity levels were less likely to enroll in hospice.^{44,45} Additionally, though inpatient psychiatric treatment remains rare among nursing home residents with advanced dementia (less than 1% are reported to experience this type of hospitalization in their last year of life), one study found that among nursing home residents whose “next to last” site of service before death was an inpatient psychiatric unit, only 8% of those residents were referred to

hospice, suggesting clinicians may be missing opportunities for discussions about end-of-life care planning and options.⁴⁶

Visit intensity and care requirements may also vary by primary hospice diagnosis. In a study of claims for approximately 750,000 Medicare hospice episodes in 2010, researchers noted that individuals with a primary diagnosis of breast cancer reported 33% higher RHC visit intensity levels than hospice beneficiaries with Alzheimer's disease and related disorders or heart failure.⁴⁷

Correspondingly, a sample of over three million Medicare beneficiaries served by the hospice benefit between 2008 and 2011 noted similar resource utilization patterns for beneficiaries with Alzheimer's and cancer, but noted that the cancer patients used a higher proportion of skilled nursing services (when compared to home health aides) in the middle of their hospice episode than Alzheimer's patients.⁴⁸

3.7 Variations in Utilization by Site of Service

Hospice utilization also still varies by provider facility characteristics. In a retrospective analysis of long-stay nursing home residents enrolled in Medicare, Zheng and colleagues noted increased hospice penetration (i.e., the total number of nursing home residents receiving Medicare hospice services in said facilities) was associated with a reduction in *all* residents' risk for hospitalization, suggesting that efficiencies may exist in these types of mixed care settings.⁴⁹

However, several studies continue to report longer average lengths of stay for hospice beneficiaries receiving care in a nursing home or assisted living facility when compared to other care settings.^{50,51,52} Between 2007 and 2012, for example, the OIG found approximately 36% of beneficiaries receiving hospice care in an assisted living facility reported stays of greater than 180 days.⁵³

While other factors such as beneficiary age and primary hospice diagnosis undoubtedly contribute to this variation, one review found that beneficiaries receiving care in assisted living facilities were associated with significantly higher Medicare costs, despite the fact that these beneficiaries had primary hospice diagnoses associated with less complex care.⁵⁴ Troublingly, a review of beneficiaries enrolled in hospice between 1999 and 2008 found that, in addition to longer average lengths of stay for nursing home residents, Medicare beneficiaries who "moved into or out of a nursing home setting while enrolled in hospice" were more likely to report lengths of stay of six months or more, while those who spent time 30 days *prior* to hospice enrollment in a nursing home setting were more likely to report lengths of stay of less than one week and receipt of intensive inpatient hospice services.⁵⁵

Limited capacity for care coordination of hospice services in nursing home and assisted living settings also remains an issue. In a survey of 316 nursing home Directors of Nursing (DONs), roughly two thirds reported that hospice services were currently available in their facility, but only 42% noted that such services included consult with a hospice or palliative care certified physician, with for-profit nursing homes more likely to report offering hospice care than their non-profit counterparts.⁵⁶ Similarly, in a survey of 1,859 "frontline" nursing home staff (CNAs, LPNs, RNs, and social workers) in Indiana, staff reported positive attitudes towards the provision of hospice services in nursing home settings, but several suggested that care coordination remains lacking when hospice is provided in these settings, and expressed concern that such care may not reflect the unique needs of nursing home residents.⁵⁷ A qualitative survey of 28 bereaved family members of hospice decedents who received care in a nursing home echoed this sentiment, with family members expressing

concerns about care coordination between hospice and nursing home staff, and suggested that channels of clinical authority (i.e., who is responsible for each aspect of the beneficiary's care) must be improved.⁵⁸

Facilities' for-profit status may also impact hospice use by the beneficiaries they serve. In a study of Medicare hospice utilization data from 2000 to 2010, researchers reported beneficiaries treated by for-profit hospice providers "were more likely to be enrolled more than six months, more likely to disenroll [from the benefit], and less likely to enroll for less than one week."⁵⁹ MedPAC also reported that for-profit hospices serving beneficiaries in 2012 documented significantly longer average LOS than nonprofit hospice providers (105 vs. 69 days).⁶⁰ By contrast, a review of Medicare fee-for-service beneficiary data from 2010 found not-for-profit and government-owned hospice programs were less likely to report live discharges and "complicated" care transitions.⁶¹

3.8 Variations in Utilization by Characteristics of Care Provision

Hospice care approaches, including beneficiary care preferences, may also shape utilization of the hospice benefit. In a review of three hospice providers' electronic health record data from 2008 to 2012, researchers noted that beneficiaries with advanced care directives had longer average LOS, were less likely to withdraw from the benefit, and less likely to die in an inpatient setting.⁶² Furthermore, in a study of "adult inpatients requiring medical emergency team activation" (i.e., emergency intervention and resuscitation), individuals with pre-existing Do Not Resuscitate (DNR) orders were more likely to be discharged to hospice than individuals with "medical emergency team-implemented DNR orders."⁶³

In at least two instances, palliative care case management was associated with longer average LOS for hospice beneficiaries. Wang et al found that Medicaid patients enrolled in a palliative care case management intervention between 2004 and 2011 reported longer average LOS than those not receiving case management.⁶⁴ In addition, a study of patients with advanced gastrointestinal cancer who received palliative care consultation were more likely to be enrolled in hospice at two and four months follow-up when compared to similar patients who did not receive a consult.⁶⁵

3.9 Variations in Reported Access to Bereavement Services

In an analysis of data from the 2007 National Home and Hospice Care Survey, researchers noted significant differences in bereaved family members of hospice decedents' self-reported access to bereavement services.⁶⁶ Family members of hospice decedents with advanced care directives, those served by hospice providers specializing in hospice services only, and those served in urban areas of greater than 10,000 but less than 50,000 residents were more likely to report access to bereavement services.⁶⁷ By contrast, family members of deceased beneficiaries who were living alone or in a residential setting were less likely to report access to such services.⁶⁸

3.10 Impact of Hospice Use on Non-Hospice Care Utilization and Costs

Hospice enrollment continues to be associated with a decrease in non-hospice care utilization and costs end of life. Tangeman and colleagues, for example, noted that among 1,004 inpatient palliative care patients treated by two New York hospitals in 2012, patients discharge to "a hospice facility, hospice swing bed, or hospice at home" were less likely to be readmitted to the hospital than those discharged to home or non-hospice service settings.⁶⁹

Publications also reaffirm the cost savings associated with enrolling beneficiaries with terminal cancer to hospice. In a sample of patients with “poor prognosis cancer diagnoses,” for example, individuals who enrolled in hospice had “significantly lower rates of hospitalization, ICU admission, and invasive procedures at the end of life, along with significantly lower total costs during the last year of life.”⁷⁰ Only 14% of those enrolled in hospice died in a hospital, compared to 74% of those not enrolled in the benefit.⁷¹ Similarly, Breitkopf and colleagues found hospice enrollment was associated with a decline in non-hospice healthcare spending in a study of 200 cancer patients treated at the Mayo Clinic between 2005 and 2011.⁷² In a separate review of 1,500 patients with metastatic melanoma, enrollment in hospice for four days or more was associated with lower end-of-life costs.⁷³

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