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Association of Billed Advance Care Planning with End-of-Life Care Intensity for 2017 Medicare Decedents

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Abstract

BACKGROUND/OBJECTIVE: The Centers for Medicare & Medicaid Services (CMS) reimburses clinicians for advance care planning (ACP) discussions with Medicare patients. The objective of the study was to examine the association of CMS-billed ACP visits with end-of-life (EOL) healthcare utilization.

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SUPPORTING INFORMATION

Additional Supporting Information may be found in the online version of this article.

DESIGN: Patient-level analyses of claims for the random 20% Medicare fee-for-service (FFS) sample of decedents in 2017. To account for multiple comparisons, Bonferroni adjusted *P* value <.008 was considered statistically significant.

SETTING: Nationally representative sample of Medicare FFS beneficiaries.

PARTICIPANTS: A total of 237,989 Medicare FFS beneficiaries who died in 2017 and included those with and without a billed ACP visit during 2016–17.

INTERVENTION: The key exposure variable was receipt of first billed ACP (none, >1 month before death).

MEASUREMENTS: Six measures of EOL healthcare utilization or intensity (inpatient admission, emergency department [ED] visit, intensive care unit [ICU] stay, and expenditures within 30 days of death, in-hospital death, and first hospice within 3 days of death). Analyses was adjusted for age, race, sex, Charlson Comorbidity Index, expenditure by Dartmouth hospital referral region (high, medium, or low), and dual eligibility.

RESULTS: Overall, 6.3% (14,986) of the sample had at least one billed ACP visit. After multivariable adjustment, patients with an ACP visit experienced significantly less intensive EOL care on four of six measures: hospitalization (odds ratio [OR] = .77; 95% confidence interval [CI] = .74–.79), ED visit (OR = .77; 95% CI = .75–.80), or ICU stay (OR = .78; 95% CI = .74–.81) within a month of death; and they were less likely to die in the hospital (OR = .79; 95% CI = .76–.82). There were no differences in the rate of late hospice enrollment (OR = .97; 95% CI = .92–1.01; *P* = .119) or mean expenditures (\$242.50; 95% CI = –\$103.63 to \$588.61; *P* = .169).

CONCLUSION: Billed ACP visits were relatively uncommon among Medicare FFS decedents, but their occurrence was associated with less intensive EOL utilization. Further research on the variables affecting hospice use and expenditures in the EOL period is recommended to understand the relative role of ACP.

Keywords

advance care planning; Medicare; end of life

Advance care planning (ACP) is increasingly recognized as important for quality end-of-life (EOL) care.^{1–3} It helps patients make important decisions and have control over the care they receive.⁴ ACP is associated with a lower likelihood of dying in the hospital,⁵ intensive care unit (ICU) admission⁶ or hospital admission in the last 30 days,⁷ and receiving life-supporting measures,^{6,8} and with a higher likelihood of hospice enrollment^{5,6,8} and receipt of timely hospice care before death.^{5,6} The associations between ACP and EOL care have generally relied on measures such as completion of advance directives (ADs) or living wills, or assignment of durable power of attorney (DPOA), and they have used proxy interviews to obtain this information about the decedents.^{1,5,9,10}

The paradigm of ACP has evolved over the years. Although historically the documentation of living wills or ADs was considered successful ACP, the current consensus is that ACP “is a process, rather than a singular moment or document, that supports adults at any age or stage of health in understanding and sharing their personal values, life goals, and preferences

regarding future medical care.”¹¹ This “communication-based ACP, not just form-based ACP” has been “shown to have a range of benefits including an increased likelihood that patients’ wishes will be honored at the end of life, as well as decreased stress for surrogate decision makers.”¹¹ To account for this, one study of EOL quality defined ACP broadly as having an AD or DPOA or having discussions with the next of kin.⁵ Another used electronic health records from a small sample of patients to retrieve ACP documentation from the problem list.⁷

Starting in 2016, the Centers for Medicare & Medicaid Services (CMS) began compensating clinicians for time-based ACP services using Common Procedural Technology codes 99497 and 99498.¹² To bill for ACP using the primary code (99497), clinicians are required to speak with their patients, with or without families, for at least 15 to 30 minutes. If the conversation continues beyond 30 minutes, clinicians can bill using an additional secondary code (99498) for every additional 30 minutes. By requiring conversation, the institution of billing codes may impact downstream care more than just the presence of ADs. Recent investigations described the initial uptake of ACP billing codes among Medicare beneficiaries^{13,14} but without examining the impact of these services on EOL care patient outcomes.¹⁴ We used national Medicare claims to examine the association of having billed ACP conversations with EOL care outcomes among Medicare beneficiaries who died in 2017. We hypothesized that patients with billed ACP conversations will receive less intensive EOL care measures.

METHODS

Data Set and Study Population

We used the CMS administrative enrollment and claims data to select a 20% random sample of fee-for-service (FFS) Medicare beneficiaries from 2016 to 2017, excluding patients with managed care coverage. In our cohort, we identified beneficiaries aged 65 and older who died in 2017 but were continuously enrolled in Medicare Parts A and B plan coverage in the full calendar year 2016 and up until death in 2017. Claims for these individual patients were linked with the Medicare Beneficiary Summary file, Inpatient, Outpatient, Skilled Nursing Facility (SNF), Hospice, and Carrier files for 2 years using the Beneficiary Identification Code. Beneficiaries with their first ACP claims within 30 days of death were excluded from analysis to ensure temporality of the exposure (billed ACP) and EOL outcomes. For example, the emergency department (ED) visit may have prompted the ACP visit, thus reversing the direction of causality. In other words, if ACP claims from within 30 days of death are included in analyses, the time period of exposure measurement will overlap with the measurement time period for EOL outcomes, impeding our ability to confirm that the exposure preceded the outcome.

Advance Care Planning Billed Visits

The exposure variable was receipt of ACP identified via ACP claims using either the primary code 99497 (first 30 minutes) or the secondary code 99498 (extended time beyond 30 minutes) or both. Multiple billing codes for the same visit on the same day were counted only once for analysis. After excluding beneficiaries who received their first ACP within 30

days of death, the remaining beneficiaries were classified into “no billed ACP” (if neither the primary nor the secondary billing code was used in any visit from 2016 to 2017) and “had billed ACP” (if at least one billing code was used in any visit from 2016 to 2017, until 30 days before the death). Beneficiaries with multiple ACP claims were classified as “had ACP,” and only their first ACP claim was used for analyses.

End-of-Life Utilization Measures

We used six measures of EOL healthcare utilization or intensity based on the literature and those that were endorsed by the National Quality Forum.^{15–17} (1) “Inpatient admission,” defined as at least one hospital admission within the last 30 days of life; (2) “in-hospital death,” defined as a death that occurred in the hospital; (3) “ED visit,” defined as at least one ED visit within the last 30 days of life; (4) “ICU stay,” defined as at least one admission to ICU within the last 30 days of life; (5) “late hospice,” defined as first hospice referral within the last 3 days before death⁵; and (6) “expenditures,” calculated as total costs including all the inpatient, outpatient, SNF, and hospice expenses in the last 30 days of life.

Confounding Variables

Analyses were adjusted for the following potential confounders based on the previous literature on EOL outcomes and EOL care intensity^{18–20}: sex (male, female), age (65–69, 70–74, 75–79, 80–84, 85–89, 90–94, and 95 years), race/ethnicity (non-Hispanic white, non-Hispanic black, Hispanic, Asian, other, or unknown), Charlson Comorbidity Index (CCI) using a 12-month look-back period in 2016 (0, 1, 2, 3, 4, 5, or more), and dual-eligibility status for Medicare and Medicaid. Because EOL intensity is known to exhibit geographic variation, we assigned patients to hospital referral regions (HRRs), a standard geographic unit for assessing variation in health services used by the Dartmouth Institute.²¹ Total Medicare spending by HRR was computed by averaging the age, sex, and race-adjusted expenses for all Medicare beneficiaries over a 5-year period from 2012 to 2016 (https://atlasdata.dartmouth.edu/static/general_atlas_rates#spending). Each HRR was then categorized into “high” (>75th percentile), medium (25th to 75th percentile), or low (<25th percentile) level of spending.

Statistical Analysis

A retrospective patient-level analysis was conducted to examine EOL care among those who “had billed ACP” as compared with patients with “no billed ACP.” Chi-square tests were used to report bivariate results. Multivariable logistic regression models were computed for binary outcomes to produce the odds of an outcome among “had billed ACP” patients compared with “no billed ACP” patients, adjusting for confounders. For EOL expenditures, a multivariable linear regression model was computed to produce adjusted mean expenditures. All significance tests were two sided. To adjust for multiple hypothesis testing for the six outcomes, the *P* value was adjusted using Bonferroni correction²² to consider *P* < .008 as statistically significant. SAS software, v.9.4 (SAS Institute, Cary, NC) was used to conduct all analyses. The study was approved by the institutional review board at Partners Healthcare. Data were provided by the CMS and used under an appropriate Data Use Agreement.

RESULTS

Sample Characteristics

A total of 269,646 FFS Medicare beneficiaries in the 20% sample died in 2017. Excluding 9,209 individuals who received the first billed ACP within the last 30 days of death, 22,108 who were younger than 65 years, and 340 who had any missing variables of interest or confounding variables, the final analytic sample consisted of 237,989 decedents. Most were females (54.3%), 85 to 89 years of age (19.8%), and non-Hispanic white (87.2%). A total of 55% of the patients were assigned to the medium intensity HRRs based on their Medicare spending. Approximately 24% of the patients had a CCI of 5 or above, and 26.9% had dual eligibility (Table 1). Among decedents, 6.3% had a first ACP claim before the last 30 days of life. There was an average of 209.7 days between first billed ACP and death (median = 166), and an average of 169.1 days between most recent billed ACP and death (median = 120). Also, 34.4% of beneficiaries who had billed ACP had more than one ACP visit before death. Table 1 provides the proportion of patients within each of the two groups (“no billed ACP” and “had billed ACP”) who have the listed demographic, comorbidity, and dual-eligibility characteristics. The groups were dissimilar in all listed characteristics ($P < .05$), and the difference ranged from .0 to 8.5 percentage points. As compared with the beneficiaries without a billed ACP, those with a billed ACP visit were more likely to be female (55.8% vs 54.2%), older, such as 80 to 84 years (17.6% vs 17.1%), 85 to 89 years (21.4% vs 19.7%), and 90 to 94 years (17.6% vs 17.0%), non-Hispanic black (8.7% vs 7.9%), Hispanic (1.6% vs 1.4%), Asian (2.0% vs 1.4%), belonging to the high-intensity spending HRRs (30.7% vs 26.9%), with four comorbidities (16.0% vs 14.5%), and with five or more comorbidities (32.1% vs 23.7%).

Association of Advance Care Planning with End-of-Life Outcomes

Among decedents, 21.7% died in the hospital, 48.0% were admitted to a hospital in the last 30 days, 18.5% were admitted to an ICU in the last 30 days, 16.9% received late hospice care, and 52.8% visited an ED in the last 30 days. The average expenditures in the last 30 days were \$15,310.9 (\pm \$21,059.8) (Table 2). In unadjusted bivariate analyses, compared with those with no billed ACP, beneficiaries with an ACP claim were less likely to die in the hospital (20.0% vs 21.8%), to be admitted to an ICU in the last 30 days (17.0% vs 18.6%), or have an ED visit in the last 30 days (51.5% vs 52.9%) (all $P < .008$).

After adjusting for confounders, beneficiaries who received a billed ACP were significantly less likely to die in the hospital (odds ratio [OR] = .79; 95% confidence interval [CI] = .76–.82; $P < .0001$), to be admitted to a hospital in the last 30 days (OR = .77; 95% CI = .74–.79; $P < .0001$), to visit an ICU in the last 30 days (OR = .78; 95% CI = .74–.81; $P < .0001$), or to have visited an ED in the last 30 days (OR = .77; 95% CI = .75–.80; $P < .0001$). Late hospice care (OR = .97; 95% CI = .92–1.01; $P = .119$) was not significantly associated with a billed ACP (Figure 1 and Supplementary Tables 1–7 show the complete results of multivariable models).

For expenditures, in unadjusted analyses, decedents with an ACP claim had higher EOL expenditures in the last 30 days (\$16,406.3 vs \$15,233.8; $P < .0001$) (Table 2). However,

subcategories of EOL expenditures behaved differently. Hospice and SNF expenditures were much higher among beneficiaries who had billed ACP as compared with the “no billed ACP” group. Mean per person hospice expenditures were \$340.41 higher among billed ACP versus not billed patients (\$1,816.80 [\pm \$2,294.76] vs \$1,456.39 [\pm \$2,079.53]), and mean per person SNF expenditures were \$150.98 higher (\$870.74 [\pm \$2,552.93] vs \$719.76 [\pm \$2,671.57]). Inpatient and outpatient expenditures were higher for beneficiaries who did not have a billed ACP. Mean per person expenditures for inpatient setting were \$7,417.41 (\pm \$13,289.69) among those with billed ACP and \$7,994.08 (\pm \$14,499.95) among those without billed ACP ($P < .0001$). Mean expenditures for the outpatient setting were \$405.97 (\pm \$1,282.11) among those with billed ACP and \$511.11 (\pm \$1,504.14) among those without billed ACP ($P < .0001$) (results not shown in table). After adjusting for the potential confounders, the total mean expenditures (\$242.50; 95% CI = -103.63 to 588.61; $P = .169$) were not significantly different among those who were billed versus not billed for ACP. However, among the subcategories of expenditures, those who had ACP had higher hospice expenditures as compared with the “no ACP group” (311.17; 95% CI = \$262.70–\$359.65; $P < .0001$). The inpatient (-934.46; 95% CI = -1,252.60 to -616.32; $P < .0001$) and outpatient expenditures (-123.75, 95% CI = -157.64 to -89.85; $P < .0001$) were significantly less among individuals who had ACP as compared with those who did not have ACP (results not shown in the table).

DISCUSSION

In a nationally representative sample of Medicare decedents, we found that a billed ACP conversation was associated with less intensive healthcare utilization in the last 30 days of life for four of six common EOL measures: dying in the hospital, hospital admission, ICU admission, and ED visit. Although we did not find a significant association of billed ACP with overall expenditures in the last 30 days of life and with the likelihood of late hospice care, we found an evidence of cost shifting from inpatient and outpatient to hospice. The National Quality Forum has endorsed ICU visits, ED visits, hospital admission, death in acute care setting, hospice enrollment, and timely hospice enrollment as EOL care standards.¹⁷ A strength of our study was its use of an objective/standardized measure of ACP (billing codes) on a national sample of Medicare beneficiaries. Although these findings confirm previous studies that have captured ACP by different means,^{1,5,6,8} they also raise new questions about ACP billing, EOL expenditures, and hospice care, as discussed later. Also, ACP billing codes were introduced only recently, and consistent with the previous literature, they have experienced low uptake.^{13,14} Therefore, the findings of this article may represent actions resulting from early adopters of these codes.

Care practices during the EOL period is a significant concern in U.S. healthcare policy. Bereaved family members report care inconsistent with the decedent’s preferences.¹⁵ The initiative of the CMS to reimburse providers for having ACP discussions is an effort to incentivize awareness of these preferences.²³ The default practice of aggressive care is not associated with an improved quality of life.²⁰ Instead, there is a preference for spending the final days at home as opposed to in a hospital or nursing home, as well as for palliative medications and comfort care, as opposed to life-prolonging medications and a ventilator for short extensions of life.^{5,19}

One of the EOL quality indicators that was not associated with billed ACP in our study was timely hospice referral, defined as hospice care more than 3 days before death. Because a preference for “comfort care” is associated with a lower likelihood of hospice stay of 3 days or less,⁵ our findings could be a result of actual differences in stated preferences. Our findings could also be a result of the exclusion of billed ACP visits within the last 30 days of life that may have excluded visits leading to timely hospice care. A study based on patient or proxy interviews among cancer patients found a lower likelihood of hospice stay of less than a week among patients who received EOL discussions.⁶ However, the prevalence of EOL discussions in their sample was much higher (ranging from 61.5% to 16.2%)⁶ than our sample. Others found a lower likelihood of hospice stay of 3 days or less among those whose proxies reported an AD, DPOA, or a discussion with the next of kin for the decedent.

It is difficult to compare our results with these studies because of the difference of more than a decade in the data analyzed. It is possible that the awareness for and the availability of hospice care have changed since then. Another reason making it difficult to compare results is that our study examined billed ACP visits versus proxy interviews in the referenced study. In a more recent study examining the association between ACP billing codes and discharge status for Medicare inpatients from a large national physician practice, it was found that mandatory education in the use of ACP billing codes and physician priming to think about the risk of dying for all patients in the next year at the time of admission increased the rate of billed ACP, and the group with a billed ACP visit was significantly more likely to be discharged to hospice.²⁴ Our study was based on a national sample and not restricted to in-patient ACP, which might have diluted the likelihood of hospice referral. The timeliness of hospice enrollment is as important as the efforts to increase the number of individuals who access hospice because without timely hospice use, we will miss “opportunities to leverage the benefits of hospice care in mitigating high end-of-life care intensity.”²⁰

In addition to care practices, spending during the EOL period is another concern in U.S. health policy because the default is expensive.²⁵ We did not find an overall significant association between billed ACP and total expenditures in the last 30 days of life. However, our analyses of the subcomponents of expenditure showed that having an ACP discussion significantly reduced the inpatient and outpatient expenditures, and the simultaneous increase in hospice expenditures following ACP might have balanced the overall expenditures to produce a null effect. This implies that cost shifting might be in play as a result of ACP discussions. Although it is also possible that SNF expenditures could increase as a result of ACP discussion, our analyses did not find a significant increase in SNF expenditures. Our results are aligned with previous studies that found no association between ADs and healthcare expenditures in the EOL period.^{26–32} Regardless of these associations, it is important to note that the “primary purpose of ADs is to convey patient preferences and instructions to guide future care during a period of mental incapacity, not to save scarce societal resources.”^{28,29} Irrespective of the impact on the overall healthcare costs, the impact on patients’ health and well-being is an important measure of the effectiveness of EOL policies.³

Our study has several limitations. First, we were not able to assess if the EOL outcomes were concordant with the discussed goals of care for the patients. Although the use of

billed ACP standardizes the measurement of ACP as compared with the previous studies that used interviews, billed ACP might be a poor proxy of actual ACP practice.¹⁴ The use of billed ACP can vary with hospital policies and physician awareness/training on the use of codes. Therefore, it is likely that our measure of exposure underestimated the extent of ACP in real practice. It is possible that the beneficiaries who did have an ACP discussion but were not billed for ACP have different outcomes than those who were billed for their ACP discussions.

Second, we were not able to account for the quality or the content of ACP discussions. For example, ACP discussions could include a preference for a treatment-limiting versus all-care directive, that is, a preference for either limiting the type of care provided or a preference for requesting all care during the EOL period.⁹ Such preferences could have had a different influence on our EOL care intensity outcomes.

Third, our study could be subject to decedent-analysis bias.³³ Our inclusion of decedents precludes a population-level conclusion about ACP by selecting beneficiaries who died and ascertaining a look-back period for outcome measurement. However, this bias is likely to affect our results minimally because the use of ACP billing code is not tied to any diagnosis of illness, and all Medicare beneficiaries are expected to have these conversations. Irrespective of the reason for death, the results show the differences in EOL care outcomes between those who were billed and not billed for ACP. Inclusion of decedents hence offered the best possible risk adjustment in our sample.

Fourth, by excluding beneficiaries who received a billed ACP in the last 30 days before death, our findings did not capture the impact of in-the-moment discussions on the EOL care decisions. These in-the-moment first ACP discussions could also be a result of the critically ill stage of the beneficiaries that, if included in the analyses, could have confounded the associations with the EOL outcomes. Fifth, the possibility of residual confounding due to factors such as education level and social support cannot be negated. Sixth, although our study could not analyze data on non-FFS Medicare beneficiaries, we would hypothesize that non-FFS delivery modes would prioritize value over services, and hence non-FFS Medicare beneficiaries might be more likely to have ACP conversations and a more value-based care plan. Finally, as with any administrative data set, the findings are subject to the accuracy of the claims data.

In conclusion, this is the first study to examine the association of billed ACP visits with healthcare utilization at EOL for Medicare beneficiaries. Given the low uptake in the first few years, it is possible that the positive results we found for four of six measures may be due to behaviors by early adopters. Future studies to examine the factors associated with the timeliness of hospice referral will be important to understand how ACP discussions could be structured to inform decisions for hospice referral. In addition, future studies should explore the impact of billed ACP on the specific components of EOL care expenses, to help manage the high total EOL care costs.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Adjusted Odds Ratios of Healthcare Utilization among patients with billed ACP vs no billed ACP

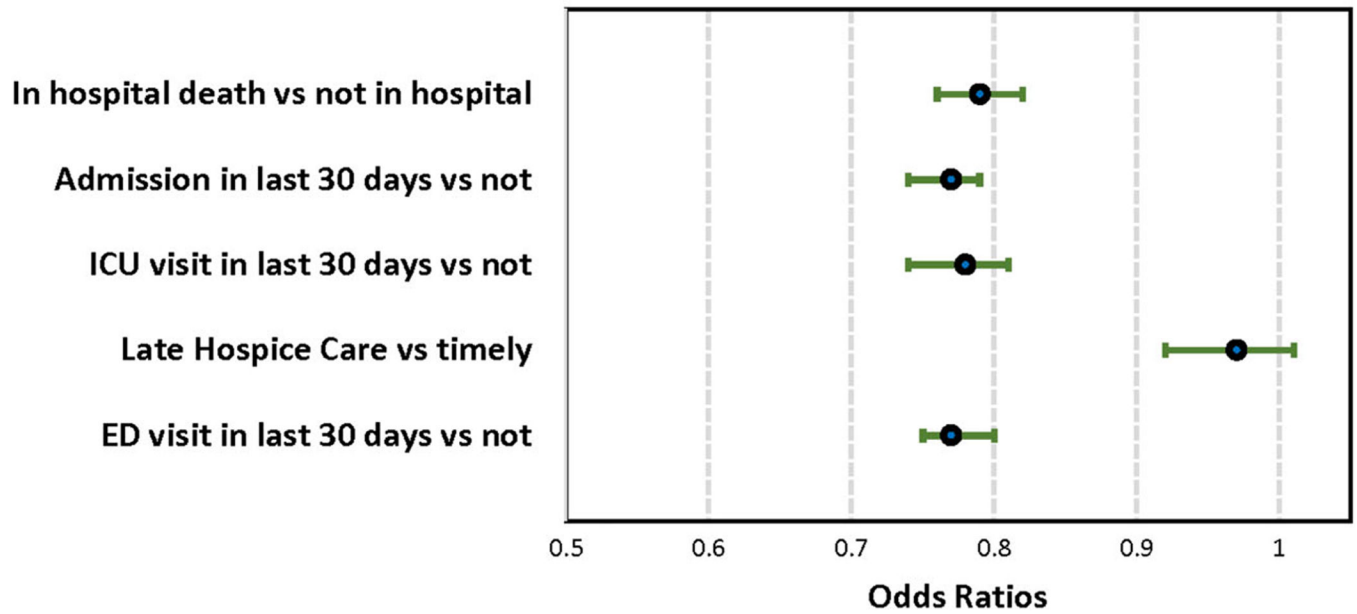


Figure 1. Adjusted odds ratios of healthcare utilization in the last 30 days of life for Medicare patients who died in 2017 with a billed advanced care planning (ACP) status. ED, emergency department; ICU, intensive care unit.

Table 1.

Characteristics of Medicare Patients Who Died in 2017 (N = 237,989)

	Total		No billed ACP		Had billed ACP		P value
	N	%	N	%	N	%	
Sex	237,989	100.0	223,003	93.7	14,986	6.3	
Male	108,835	45.7	102,205	45.8	6,630	44.2	.0002
Female	129,154	54.3	120,798	54.2	8,356	55.8	
Total	237,989	100.0	223,003	100.0	14,986	100.0	
Age categories, y							
65–69	21,623	9.1	20,525	9.2	1,098	7.3	<.0001
70–74	30,622	12.9	28,804	12.9	1,818	12.1	
75–79	34,804	14.6	32,610	14.6	2,194	14.6	
80–84	40,861	17.2	38,218	17.1	2,643	17.6	
85–89	47,191	19.8	43,979	19.7	3,212	21.4	
90–94	40,587	17.1	37,957	17.0	2,630	17.6	
95	22,301	9.4	20,910	9.4	1,391	9.3	
Total	237,989	100.0	223,003	100.0	14,986	100.0	
Race/Ethnicity							
Non-Hispanic white	207,510	87.2	194,645	87.3	12,865	85.9	<.0001
Non-Hispanic black	18,938	8.0	17,633	7.9	1,305	8.7	
Hispanic	3,428	1.4	3,185	1.4	243	1.6	
Asian	3,346	1.4	3,051	1.4	295	2.0	
Other	3,768	1.6	3,536	1.6	232	1.6	
Unknown	999	.4	953	.4	46	.3	
Total	237,989	100.0	223,003	100.0	14,986	100.0	
Medicare spending by HRR							
Low	42,341	17.8	39,986	17.9	2,355	15.7	<.0001
Medium	130,994	55.0	122,969	55.1	8,025	53.6	
High	64,654	27.2	60,048	26.9	4,606	30.7	
Total	237,989	100.0	223,003	100.0	14,986	100.0	

	Total			No billed ACP			Had billed ACP			P value
	N	%	N	%	N	%	N	%		
Charlson Comorbidity Index										
0	22,844	9.6	22,143	9.9	701	4.7	<.0001			
1	34,926	14.7	33,173	14.9	1753	11.7				
2	44,992	18.9	42,450	19.0	2,542	17.0				
3	42,851	18.0	40,070	18.0	2,781	18.6				
4	34,789	14.6	32,396	14.5	2,393	16.0				
5	57,587	24.2	52,771	23.7	4,816	32.1				
Total	237,989	100.0	223,003	100.0	14,986	100.0				
Dual-eligibility status										
No	173,981	73.1	162,916	73.1	11,065	73.8	.0371			
Yes	64,008	26.9	60,087	26.9	3,921	26.2				
Total	237,989	100.0	223,003	100.0	14,986	100.0				

Note: Reported percentages are the proportion of sample with the listed row characteristics among the two exposure groups (“no billed advance care planning [ACP]” and “had billed ACP”).
Abbreviation: HRR, hospital referral region.

Table 2. Healthcare Utilization in the Last 30 Days of Life for Medicare Patients Who Died in 2017, by Advance Care Planning Status

Outcomes	Total		No billed ACP		Had billed ACP		P value
	N	%	N	%	N	%	
Location of death							
Not in hospital	186,346	78.3	174,351	78.2	11,995	80.0	<.001
In hospital	51,643	21.7	48,652	21.8	2,991	20.0	
Total	237,989	100.0	223,003	100.0	14,986	100.0	
Admission in the last 30 d							
No	123,761	52.0	115,894	52.0	7,867	52.5	.212
Yes	114,228	48.0	107,109	48.0	7,119	47.5	
Total	237,989	100.0	223,003	100.0	14,986	100.0	
ICU visit in last 30 d							
No	193,897	81.5	181,463	81.4	12,434	83.0	<.0001
Yes	44,092	18.5	41,540	18.6	2,552	17.0	
Total	237,989	100.0	223,003	100.0	14,986	100.0	
Timely hospice care							
4 d before death	197,667	83.1	185,337	83.1	12,330	82.3	.0085
<4 d before death	40,322	16.9	37,666	16.9	2,656	17.7	
Total	237,989	100.0	223,003	100.0	14,986	100.0	
EOL healthcare expenditures^a							
Mean, SD	\$15,310.92 (\$21,059.78)		\$200,890	\$15,233.87 (\$21,116.92)	\$14,131	16,406.32 (\$20,198.97)	<.001
ED visit in last 30 d							
No	112,351	47.2	105,080	47.1	7,271	48.5	.0009
Yes	125,638	52.8	117,923	52.9	7,715	51.5	
Total	237,989	100.0	223,003	100.0	14,986	100.0	

Abbreviations: ACP, advance care planning; ED, emergency department; EOL, end of life; ICU, intensive care unit; SD, standard deviation.

^aEOL expenditures in the last month of life from all settings including ambulatory, inpatient, skilled nursing, and hospice settings but not Part D drug expenditures.