

Heterogeneity in Billing for Medicare's Advance Care Planning Codes Among Physicians and Advanced Practitioners in 2016 and 2017



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medicine, family practice, geriatric medicine, general practice, hospitalists), specialist physicians, and APs.

INTRODUCTION

Advance care planning (ACP), the process of discussing and recording patient preferences for goals of care in the event of the patient losing capacity has been widely acknowledged as key to ensuring care delivery concordant with patient preferences.^{1, 2} Provider-perceived barriers to ACP have been documented, such as lack of time or reimbursement.³ Medicare began reimbursing providers for ACP in 2016. Previous studies found overall low rates of ACP billing, with wide variation by patient socio-demographics and physician specialty.^{4, 5} Very little is known about the physician or practice characteristics associated with ACP billing, and no study has examined ACP billing among non-physician providers. We used a nationally representative sample to identify the characteristics of physicians and advanced practitioners (APs) associated with billing for ACP.

METHODS

We used a 20% nationwide random sample of Medicare Part B claims for 2016 and 2017 merged with the Medicare Data on Provider Practice and Specialty, Medicare Shared Savings Program Provider Accountable Care Organization (ACO) Provider file, Medicare Electronic Health Records (EHR) Incentive Program (Meaningful Use) Public Use File, and IQVIA Physician Database.⁶ Our study population included physicians and APs (nurse practitioners and physician assistants) with 100 or more Part B claims in 2016 and in 2017. ACP billing was identified by current procedural terminology code 99497 or 99498. We conducted logistic regression analyses predicting the probability of ACP billing using the following characteristics: age, gender, Meaningful Use participation, foreign medical school training, Medicare ACO participation, practice size, and rural location. We estimated the regressions separately for generalist physicians (internal

RESULTS

Our study population included 551,441 physicians (179,356 generalists and 372,085 specialists) and 150,045 APs. Overall, 10.3% of generalists, 0.7% of specialists, and 4.2% of APs billed for ACP between 2016 and 2017, with small increases among each group (Table 1).

For physicians, and especially among generalists, ACP billing was significantly higher among those who participated in an ACO (adjusted odds ratio [aOR], 1.43; 95% CI, 1.38 to 1.48; $P < 0.001$) or in Meaningful Use (aOR, 1.49; 95% CI, 1.44 to 1.55; $P < 0.001$), and for those who were in smaller practices, relative to their counterparts (Table 2). In particular, generalists in practices with fewer than 10 physicians (12.6%; 95% CI, 12.3 to 12.9%), with ACO participation (10.3%; 95% CI, 10.1 to 10.5%), and meaningful use participation (10.1%; 95% CI, 9.9 to 10.3%) had the highest adjusted prevalence of ACP billing. Among specialists, those who were foreign trained (0.9%; 95% CI, 0.8 to 1.0%) and those participating in Meaningful Use (0.8%; 95% CI, 0.7 to 0.8%) had the highest adjusted prevalence of ACP billing. Analyses limited to the specialties with the highest prevalence of ACP billing (hematology/oncology, 1.9%, and pulmonary Disease, 1.5%) yielded similar results. For APs, the predicted prevalence of ACP billing was the highest among those in practices with fewer than 10 physicians (5.4%; 95% CI, 5.1 to 5.6%), with ACO participation (4.4%; 95% CI, 4.2 to 4.6%), and those who were female (4.1%; 95% CI, 4.0 to 4.2%).

DISCUSSION

We saw small absolute increases in ACP billing from 2016 to 2017. While generalist physicians accounted for over half of all providers who billed for ACP during this period, APs accounted for 23%. The overall low prevalence of ACP billing masks substantial heterogeneity by provider and practice characteristics. ACO participation and Meaningful Use was associated with higher prevalence of ACP billing among physicians, especially generalists, suggesting that incentives and infrastructure for quality improvement and cost-saving may

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Table 1 Number and Percentage of Providers with ACP Billing, by Year and Provider Type

Provider type	No. of total unique physicians or APs	2016	2017	Percent increase from 2016 to 2017	Total
		Billed ACP, no. (%)	Billed ACP, no. (%)		Billed ACP, no. (%)
Generalist physicians ^a	179,356	10,264 (5.7)	15,206 (8.5)	48.1%	18,384 (10.3)
Specialist physicians ^b	372,085	1367 (0.4)	1977 (0.5)	44.6%	2585 (0.7)
Advanced practitioners	150,045	3014 (2.0)	5186 (3.5)	72.1%	6350 (4.2)

^aGeneralist physicians include physicians in internal medicine, family practice, geriatric medicine, general practice, or hospitalists

^bSpecialist physicians include all physicians other than generalist physicians

Table 2 Characteristics of Physicians and Advanced Practitioners and Advance Care Planning Billing

Variables	Generalist physicians ^a		Specialist physicians ^b		Advanced practitioners (PAs and NPs)	
	No. (%)	Adjusted prevalence of ACP billing ^c , % (95% CI)	No. (%)	Adjusted prevalence of ACP billing ^c , % (95% CI)	No. (%)	Adjusted prevalence of ACP billing ^c , % (95% CI)
Sex						
Female	66,375 (37.01)	8.71 (8.49 to 8.93)	92,934 (24.98)	0.6 (0.55 to 0.65)	119,659 (79.75)	4.09 (3.97 to 4.20)
Male	112,981 (62.99)	8.54 (8.37 to 8.7)	279,151 (75.02)	0.52 (0.5 to 0.55)	30,386 (20.25)	2.01 (1.86 to 2.17)
Age						
≤ 39	39,729 (22.15)	10.22 (9.88 to 10.56)	71,570 (19.23)	0.68 (0.61 to 0.75)	66,071 (44.03)	3.22 (3.09 to 3.36)
40–49	49,008 (27.32)	9.12 (8.86 to 9.38)	103,181 (27.73)	0.63 (0.58 to 0.67)	40,395 (26.92)	3.84 (3.65 to 4.03)
50–59	43,945 (24.5)	8.82 (8.57 to 9.08)	97,361 (26.17)	0.48 (0.44 to 0.52)	27,614 (18.40)	4.28 (4.04 to 4.51)
≥ 60	46,674 (26.02)	6.84 (6.62 to 7.07)	99,973 (26.87)	0.43 (0.39 to 0.47)	15,965 (10.64)	3.92 (3.62 to 4.22)
Foreign trained ^d						
Yes	60,722 (33.86)	9.34 (9.11 to 9.57)	77,883 (20.93)	0.89 (0.83 to 0.96)	NA	NA
No	118,634 (66.14)	8.22 (8.07 to 8.38)	294,202 (79.07)	0.45 (0.43 to 0.47)	NA	NA
Participated in an ACO ^e						
Yes	74,741 (41.67)	10.28 (10.06 to 10.5)	121,971 (32.78)	0.61 (0.56 to 0.65)	100,010 (66.65)	4.39 (4.20 to 4.58)
No	104,615 (58.33)	7.45 (7.30 to 7.61)	250,114 (67.22)	0.51 (0.48 to 0.54)	50,035 (33.35)	3.33 (3.22 to 3.44)
Meaningful use ^f						
Yes	93,152 (51.94)	10.11 (9.91 to 10.31)	182,946 (49.17)	0.75 (0.71 to 0.79)	149,891 (99.90)	3.57 (0.77 to 6.37)
No	86,204 (48.06)	7.03 (6.86 to 7.2)	189,139 (50.83)	0.35 (0.32 to 0.38)	154 (0.10)	3.66 (3.56 to 3.75)
Practice size ^g						
1–9	54,520 (30.4)	12.59 (12.28 to 12.89)	109,300 (29.38)	0.63 (0.58 to 0.68)	31,604 (21.06)	5.35 (5.09 to 5.60)
10–49	28,082 (15.66)	9.37 (9.03 to 9.72)	82,200 (22.09)	0.55 (0.5 to 0.6)	36,876 (24.58)	3.98 (3.78 to 4.19)
50–99	16,979 (9.47)	7.25 (6.87 to 7.64)	33,931 (9.12)	0.65 (0.56 to 0.73)	17,187 (11.45)	4.16 (3.86 to 4.46)
≥ 100	79,775 (44.48)	6.32 (6.16 to 6.49)	146,654 (39.41)	0.46 (0.43 to 0.49)	64,378 (42.91)	2.61 (2.49 to 2.73)
Rural ^h						
Yes	21,837 (12.18)	7.27 (6.93 to 7.61)	27,853 (7.49)	0.6 (0.51 to 0.7)	20,898 (13.93)	2.73 (2.52 to 2.95)
No	157,519 (87.82)	8.8 (8.66 to 8.94)	344,232 (92.51)	0.54 (0.51 to 0.56)	129,147 (86.07)	3.83 (3.72 to 3.93)
Observations	179,356	179,356	372,085	372,085	150,045	150,045

ACP, advance care planning; AP, advanced practitioners; CI, confidence interval; PA, physician assistant; NP, nurse practitioner; NA, not applicable; ACO, accountable care organization

All unique providers from 2016 through 2017 were included in the table. Listed characteristics were from the most recent available year (2017 or 2016). Among generalist physicians, specialists, and advanced practitioners, the probability of billing ACP varied significantly by gender, age (each category compared to the reference group: ≤ 39), foreign-trained/non-foreign-trained status, participation status in an ACO, participation status in the Meaningful Use program, practice size (each category compared to the reference group: 1–9 providers), and rural/urban status at 1% level with the following exceptions: (1) among generalist physicians, there was no significant difference by gender ($P = 0.21$); (2) among specialists, there was no significant difference between those aged 40 to 49 years old and those aged below 40 years old ($P = 0.20$), between those in practices with 50 to 99 physicians and those in practices with 1 to 9 physicians ($P = 0.78$), or between those in the rural area and those in the non-rural area ($P = 0.15$); (3) among advanced practitioners, there was no significant difference by participation in the Meaningful Use program ($P = 0.95$)

^aGeneralist physicians include physicians in internal medicine, family practice, geriatric medicine, general practice, or hospitalists

^bSpecialist physicians include all physicians other than generalist physicians

^cThe adjusted prevalence is the predicted probability calculated using the postestimation margins command following multivariable logistic regression analysis where any advance care planning billing is a function of all the variables listed in the table

^dThe IQVIA Physician Database was used to identify medical schools attended by physicians. Foreign trained indicates physicians who attended medical school (not including postgraduate training) outside the USA

^eThe Medicare Shared Savings Program Accountable Care Organization Provider file was used to identify clinicians participating in Accountable Care Organizations

^fThe Medicare EHR Incentive Program Public Use File was used to identify meaningful use stage 1 certification

^gPractice size was defined as the number of unique National Provider Identifiers in the practice

^hRural-Urban Continuum Codes 2013 from Area Health Resources Files (AHRF) was used to define rural. Providers were categorized as non-rural if the code was in 01, 02, 03 and as rural otherwise

be conducive to ACP billing. Additionally, providers in small practices across all types had higher prevalence of ACP billing, possibly reflecting closer and longer-term patient-provider relationships in those practices.

Our findings suggest that particular aspects of provider incentives or practice environment may be more conducive to ACP billing. However, the relationships we present are associational, and evidence is still lacking regarding the extent to which providers address ACP without billing for it, or whether ACP billing is associated with improved care quality or lower spending. Further research is needed to address these questions and establish causal mechanisms to inform appropriate incentives and environment for ACP adoption and delivery of preference-concordant care.

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