

Palliative Care Needs in Oncology, Cardiology, and Neurology Clinic Patients in the USA

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INTRODUCTION

The Institute of Medicine's 2014 report *Dying in America* calls for all clinicians to provide symptom-oriented palliative care to patients, especially for the growing population of older adults with advanced illness.¹ Oncology, cardiology, and neurology professional societies all recommend their members complement usual disease-oriented care with symptom-oriented palliative care services for patients with advanced illness.^{2–4} However, the proportion of oncology, cardiology, and neurology patients who have advanced illness and are most likely to benefit from symptom-oriented palliative care is unclear.

METHODS

We conducted a cross-sectional analysis of the National Ambulatory Medical Care Surveys (NAMCS) (2009–2011), a nationally representative survey of ambulatory care patient visits to non-federal office-based physicians. We used chi-square tests to compare differences across US oncology, neurology, and cardiology clinics among adults 65 years and older with advanced illness. Advanced illness was defined by ICD-9 codes from the NCQA Palliative and End-of-Life Care Physician Performance Measurement Set.⁵ We examined sociodemographic characteristics and prevalence of multimorbidity. Results were adjusted for survey weights and design factors to provide nationally representative estimates. This study was exempted from review by the IRB of the University of California, San Francisco.

RESULTS

Between 2009 and 2011, 14.0% of visits among adults 65 and older to US oncology, neurology, and cardiology clinics were by patients with advanced illness (Table 1). The rates of advanced illness visits across clinics were different for neurology (22.1%), oncology (19.2%), and cardiology (9.6%)

($p < 0.001$). There were substantial differences in the proportion of advanced illness visits by age and gender. Among adults 65–74, a higher proportion of oncology (20.8%) visits were advanced illness visits; among adults 75+, a higher proportion of neurology (28.3%) visits were advanced illness visits. For both men and women, the highest proportion of advanced illness visits occurred in neurology clinics (both $p < 0.001$).

Other characteristics related to advanced illness visits were socioeconomic factors, insurance, and prevalence of multimorbidity. For Hispanic patients, nearly 1 in 3 neurology (29.4%) visits were advanced illness visits. In contrast to non-Hispanic Black patients, only 1 in 6 neurology (16.6%) visits were advanced illness visits. For insurance, Medicaid oncology patients had the highest rates of advanced illness (41.6%, 95%CI 25.9, 59.1). This was substantially higher than the rates of advanced illness among Medicare oncology patients (18.5%, 95%CI 15.9, 21.5), Medicaid neurology patients (22.5%, 95%CI 9.2, 45.5), and Medicaid cardiology patients (4.3%, 95%CI 1.3, 13.1). Patients with multimorbidity, defined as three or more chronic conditions, had nearly twice the rate of cardiology advanced illness visits than patients without multimorbidity (13.1% vs. 6.1%; $p < 0.001$). Rural patients had high rates of oncology advanced illness visits compared to non-rural patients (33.6% vs. 18.7%). Although differences are noted in advanced illness visits across oncology, neurology, and cardiology clinics, overall, our results show that advanced illness visits are common to these practices.

DISCUSSION

With 14.0% (or 1 in 7) of patient visits to oncology, neurology, and cardiology clinics involving individuals with advanced illness, our results suggest that many patients seen in these clinics would benefit from symptom-oriented palliative care in conjunction with usual disease-oriented care.⁶ Specifically, our results suggest that 1 in 5 patients seen in oncology and neurology clinics have advanced illness and would likely benefit from a symptom-oriented palliative approach. One in 10 patients in cardiology clinics have advanced illness and would likely benefit from a palliative approach. In addition, the

Table 1 Characteristics of Adults Age 65+ Seen in US Medical Specialty Clinics With Advanced Illness, NAMCS 2009–2011 (Weighted (95% CI))

Patient characteristics	Oncology			Neurology			Cardiology			Across clinics
	Total N (in 1000 s)	Advanced illness (%; CI)	p value	Total N (in 1000 s)	Advanced illness (%; CI)	p value	Total N (in 1000s)	Advanced illness (%; CI)	p value	p value
Unweighted, no.	1329			1602			3117			
Weighted, no.	20,957	19.2% (16.7, 21.9)		13,572	22.1% (19.1, 25.4)		51,834	9.6% (8.3, 11.2)		< 0.001
Age										
65–74	10,933	20.8% (15.9, 26.8)	0.43	6487	15.3% (11.4, 20.4)	< 0.001	22,486	7.1% (5.7, 8.9)	< 0.001	< 0.001
75+	10,024	17.4% (13.5, 22.2)		7086	28.3% (24.6, 32.2)		29,348	11.5% (9.9, 13.5)		< 0.001
Gender										
Female	11,461	16.2% (13.0, 20.0)	0.01	7776	19.3% (16.1, 22.9)	0.01	26,200	9.6% (8.0, 11.5)	0.96	< 0.001
Male	9495	22.8% (19.4, 26.5)		5797	25.9% (21.5, 30.8)		25,634	9.7% (8.0, 11.6)		< 0.001
Race/ethnicity										
Non-Hispanic White	15,432	18.9% (16.1, 22.2)	0.71	10,759	22.1% (18.9, 25.7)	0.08	38,980	9.5% (8.0, 11.3)	0.98	< 0.001
Non-Hispanic Black	1738	21.9% (11.8, 37.0)		982	16.6% (9.0, 28.7)		3935	9.9% (5.2, 17.9)		0.10
Hispanic	3259	20.0% (13.2, 29.1)		1320	29.4% (21.9, 38.2)		5178	9.5% (6.6, 13.5)		< 0.001
Non-Hispanic other	527	12.5% (5.8, 25.0)		512	13.0% (6.6, 24.3)		3740	10.5% (4.8, 21.5)		0.84
Education (% ≥ bachelor)										
Quartile 1 (less than 12.84%)	5686	24.7% (19.2, 31.1)	0.14	3044	17.6% (13.4, 22.7)	0.28	12,307	8.9% (6.8, 11.4)	0.26	< 0.001
Quartile 2 (12.84–19.66%)	4782	18.1% (12.5, 25.6)		3223	23.9% (19.1, 29.5)		10,541	9.6% (6.9, 13.2)		< 0.001
Quartile 3 (19.67–31.68%)	4815	16.2% (11.7, 22.0)		3013	22.2% (18.2, 26.8)		12,915	11.6% (9.2, 14.5)		< 0.001
Quartile 4 (31.69% or more)	4681	15.8% (10.8, 22.4)		3363	21.9% (16.9, 28.0)		14,154	8.5% (6.6, 10.8)		< 0.001
Insurance										
Private	2873	21.9% (16.3, 28.9)	0.01	1995	23.0% (17.0, 30.4)	0.95	7344	8.9% (5.7, 13.6)	0.36	< 0.001
Medicare	17,149	18.5% (15.9, 21.5)		10,581	22.0% (18.7, 25.6)		41,540	10.1% (8.7, 11.7)		< 0.001
Medicaid	379	41.6% (25.9, 59.1)		269	22.5% (9.2, 45.5)		1104	4.3% (1.3, 13.1)		< 0.001
Visits 3+ chronic conditions										
No	14,186	17.9% (15.2, 21.0)	0.15	10,015	22.6% (19.0, 26.6)	0.50	25,785	6.1% (4.8, 7.8)	< 0.001	< 0.001
Yes	6770	21.9% (17.3, 27.3)		3557	20.7% (16.5, 25.6)		26,049	13.1% (11.0, 15.6)		< 0.001
Median household income patient's zip code										
Quartile 1 (below \$32,793)	4777	21.7% (15.9, 28.8)	0.33	2617	22.0% (16.8, 28.3)	0.75	11,150	9.4% (7.7, 11.5)	0.02	< 0.001
Quartile 2 (\$32,794–\$40,626)	4716	21.3% (15.7, 28.2)		3093	19.5% (13.9, 26.6)		10,569	13.3% (10.2, 17.2)		0.03
Quartile 3 (\$40,627–\$52,387)	5866	14.8% (10.1, 21.3)		3634	20.9% (17.3, 25.1)		12,941	7.8% (5.5, 10.9)		< 0.001
Quartile 4 (\$52,388 or more)	4604	19.2% (14.2, 25.3)		3299	23.4% (17.9, 29.9)		15,258	8.8% (6.9, 11.0)		< 0.001
MSA										
Non-rural	20,313	18.7% (16.2, 21.5)	< 0.001	12,630	21.6% (18.5, 25.1)	0.17	48,886	9.8% (8.4, 11.4)	0.14	< 0.001
Rural	644	33.6% (28.6, 39.0)		943	28.2% (19.8, 38.6)		2948	7.1% (4.6, 10.7)		< 0.001

*All estimates (except unweighted) reflect survey-weighted proportions accounting for the complex survey design of the National Medical Care Survey

high rates of advanced illness among rural oncology clinics suggest that interventions such as telehealth may

allow for the cost-effective provision of needed palliative care services to this underserved population.

Our findings have important implications. Patients 65 years and older with advanced illness visits are not rare. Although, some patients with advanced illness may need specialized palliative care requiring referral to palliative care trained physicians, many advanced illness patients may benefit from basic palliative care that can be provided by all clinicians. Thus, there is a huge opportunity to recognize/identify those eligible for palliative care earlier in every clinical practice, and increase palliative care education and resources for all providers, including oncologists, neurologists, and cardiologists. Focused educational interventions in basic palliative care may help oncologists, neurologists, and cardiologists provide optimal symptom-oriented care along with disease-oriented care that is aligned with patient values, goals, and preferences.

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Compliance with Ethical Standards:

This study was exempted from review by the IRB of the University of California, San Francisco.

Conflict of Interest: The authors declare that they do not have a conflict of interest.

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