

The Oncology Specialist's Role in POLST Form Completion

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Austin J. Lammers, MD¹, Dana M. Zive, MPH²,
Susan W. Tolle, MD, FACP³, and Erik K. Fromme, MD, MCR, FAAHHPM⁴

Abstract

Introduction: Patients with cancer and oncology professional societies believe that advance care planning is important, but we know little of who actually has this conversation. Physician Orders for Life-Sustaining Treatment (POLST) forms can help to document these important conversations to ensure patients receive the level of treatment they want. We therefore sought to determine the specialty of those signing POLST forms for patients who died of cancer to better understand who is having this discussion with patients. **Methods:** Retrospective cohort study including all deaths due to cancer in Oregon between January 1, 2010, and December 31, 2011. Death certificates were matched to POLST forms in the Oregon POLST Registry, and the signing physician's specialty was determined using the Oregon Medical Board's database. **Results:** A total of 14 979 people died of cancer in Oregon in 2010 to 2011. Of which, 6145 (41.0%) had at least 1 POLST form in the Registry. Oncology specialists signed 14.9% of POLST forms, compared to 53.7% by primary care, 15.3% by hospice/palliative care, 12.8% by advanced practice providers, and 2.7% by other specialists; 51.8% of oncology specialists did not sign a POLST form, whereas 12.5% completed 10 or more. **Conclusion:** Oncology specialists play a central role in caring for patients with cancer through the end of their lives, but not in POLST completion. Whether or not they actually sign their patients' POLST forms, oncology specialists in the growing number of POLST states should integrate POLST into their goals of care conversations with patients nearing the end of life.

Keywords

POLST, oncology, oncologist, advance care planning, end of life, cancer

Introduction/Background

The Institute of Medicine (IOM) defines advance care planning (ACP) as "... the whole process of discussion of end-of-life care, clarification of related values and goals, and embodiment of preferences through written documents and medical orders"^{1(p385)}. Patients with cancer believe that advance directives (ADs) are important, and a majority say they want to discuss ADs with their oncologist.² In a recent survey, oncology specialists voiced that they frequently have ACP discussions with their patients and that they believe they were most frequently leading ACP discussions.^{3,4} Underlying patient and family interest in ACP is a desire to have some degree of control over the way end-of-life (EOL) care unfolds. In particular, a majority of patients in the United States wish to die at home.^{5,6}

Professional societies including the American Society of Clinical Oncology, the National Comprehensive Cancer Network, and the IOM have recently published guidelines recommending greater attention to shared decision-making in preparing for EOL care."^{1,7,8} However, the specific elements of primary palliative care in medical oncology practice have yet to be clearly defined. A recent survey of hematologic oncologists found that two-thirds learned to provide EOL care

through trial and error.⁹ Although there have been major advances in communication skills training and communication strategies, there is less clarity about how to document these ACP efforts in ways that are retrievable, actionable, and effective across settings of care.¹⁰⁻¹⁴

Physician Orders for Life-Sustaining Treatment (POLST) is an approach to shared decision-making and ACP that is gaining rapid acceptance in the United States.¹⁵ The POLST forms convert patient care preferences into actionable medical orders

¹ Division of Hematology and Oncology, Department of Medicine, Knight Cancer Institute, Oregon Health & Science University, Portland, OR, USA

² Center for Policy and Research in Emergency Medicine, Department of Emergency Medicine, Oregon Health & Science University, Portland, OR, USA

³ Division of General Internal Medicine and Geriatrics, Center for Ethics in Health Care, Oregon Health & Science University, Portland, OR, USA

⁴ Palliative Care Section, Knight Cancer Institute, Center for Ethics in Health Care, Oregon Health & Science University, Portland, OR, USA

Corresponding Author:

Erik K. Fromme, MD, MCR, FAAHHPM, Palliative Care Section, Knight Cancer Institute, Center for Ethics in Health Care, Oregon Health & Science University, L586, 3181 SW Sam Jackson Park Rd, Portland, OR 97239, USA.
Email: frommee@ohsu.edu

including resuscitation (attempt cardiopulmonary resuscitation vs do not resuscitate), scope of treatment (including full treatment, limited treatment, and comfort measures only), and artificial nutrition options to ensure that patient preferences are honored. Studies have demonstrated clear associations between the POLST Scope of Treatment orders and transitions near the EOL and location of death.¹⁶⁻²² For example, when patients have POLST orders for comfort measures only, they receive fewer unwanted treatments, are less likely to die in the hospital, and are more likely to die at home.¹⁶⁻²¹

Little is known about POLST use in patients with cancer and specifically the role that oncology specialists play. We therefore undertook a retrospective cohort study to investigate the frequency and timing of POLST completion by oncology specialists.

Methods

We matched Oregon death certificates for decedents from 2010 through 2011 with any listed first cause of death as “malignant neoplasm” to patients with POLST forms in the Oregon POLST Registry, an electronic database of POLST forms. While no patient is required to complete a POLST form, if one is completed, the signing health-care professional or their designee is mandated by Oregon statute to submit the form to the Registry unless the patient specifically opts out. The Oregon POLST Registry receives forms from all counties in the state and from all care settings, including long-term care, health systems, hospitals, clinics, hospice, home-based care, and individuals.

Each signing medical practitioner’s name and medical license number were verified and searched in the Oregon Medical Board’s (OMB) central database that contains all MD/DO physicians licensed in the state of Oregon, separated into 181 different specialties. The physician’s most specialized position was recorded in our data set, that is, if listed as both internal medicine and oncology, oncology was listed as the primary specialty. The specialties were recorded for each signing physician and grouped into hospice and palliative care, primary care (“family medicine,” “general medicine,” “internal medicine,” “internal medicine and pediatrics,” “pediatrics,” and “geriatrics”), oncology specialists (“oncology,” “hematology,” “surgical oncology,” “radiation oncology,” “therapeutic radiation,” and “gynecology-oncology”), and other specialists (all remaining subspecialists, both medical and surgical specialties). Physician assistants (PAs) and nurse practitioners (NPs) were grouped together as advanced practice providers (APPs). Although some were identified on their practice’s website as practicing oncology or hospice/palliative care, we did not feel we could reliably characterize APPs practice specialty.

We included registered POLST forms signed or submitted on or after January 1, 2010, and on or before December 31, 2011 (noting that statewide registry implementation and the legislative mandate to submit forms did not begin until December 3, 2009). These POLST forms were matched to death certificates. If a decedent had more than 1 POLST form in that

Table 1. Sample Characteristics of 2010 to 2011 Oregon Cancer Decedents (N = 14 979) With and Without POLST Form(s).

	Cancer Decedents With POLST (n = 6145)	Cancer Decedents With No POLST (n = 8834)	P Value
Sex, n (%)			
Female	3084 (50.2)	4170 (47.2)	.000
Male	3061 (49.8)	4664 (52.8)	
Age at death, years			
Mean (SD)	72.38 (13.264)	71.21 (13.618)	.000
Median (IQR)	74 (19)	72 (20)	.000
Race, n (%)			
Caucasian	5889 (95.8)	8354 (94.6)	.001
African American	84 (1.4)	111 (1.3)	
Asian, Hawaiian, or Pacific Islander	82 (1.3)	167 (1.9)	
American Indian or Alaskan Native	39 (0.6)	65 (0.7)	
More than 1 race	20 (0.3)	52 (0.6)	
Other or unknown	31 (0.5)	85 (1.0)	
Ethnicity, n (%)			
No	6039 (98.3)	8648 (97.9)	.097
Yes	106 (1.7)	186 (2.1)	
Educational attainment, n (%)			
≤HS or GED	3280 (53.9%)	4943 (56.6%)	.002
≥Some college	2802 (46.1%)	3796 (43.4%)	

Abbreviations: GED, general educational development; HS, high school; IQR, interquartile range; POLST, Physician Orders for Life-Sustaining Treatment; SD, standard deviation.

time frame, only the form completed closest to death was analyzed. Variables from the Oregon POLST Registry included orders for scope of treatment (section B on the Oregon form), name and license number of the signer, and date each form was signed. Variables obtained from death records included dates of birth and death, race, ethnicity, educational attainment, sex, age at death, location of death, and primary cause of death.

The institutional review boards of the Oregon Health & Science University and the Oregon Health Authority reviewed this study and deemed it exempt.

Descriptive univariate statistics (χ^2) were used to characterize the full decedent sample as well as decedents with and without POLST forms completed and registered in the 2 years prior to death. The POLST-matched subset was compared to other cancer decedents, and associations of POLST form timing, signer group, and location of death were analyzed. The POLST signer groups were assessed for volume of POLST form completion and timing of form completion in relationship to death using analysis of variance to determine significant variation. Analyses were conducted using SPSS (IBM SPSS Statistics for Windows, version 22.0, IBM Corp Released 2013; IBM Corp, Armonk, New York).

Results

Of the 14 979 people who died with a primary cancer-related cause of death in Oregon in 2010 or 2011, 6145 (41.0%) were able to be matched to a POLST form in the Oregon POLST

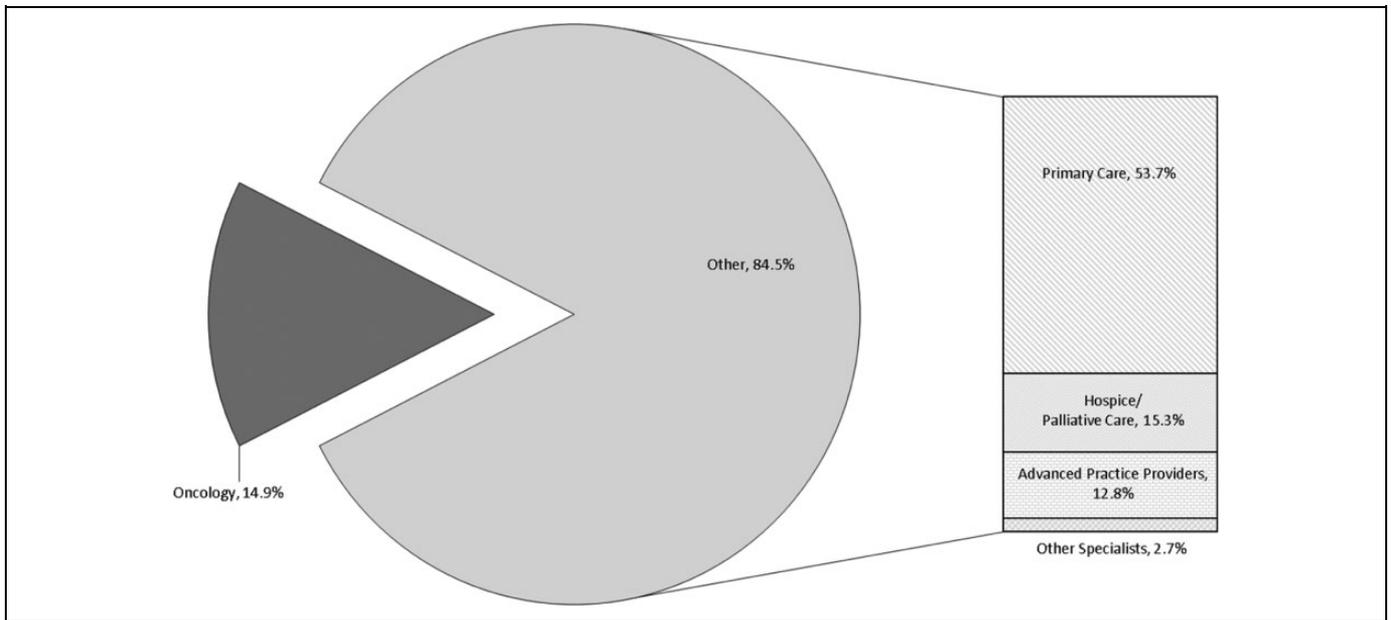


Figure 1. Final Physician Orders for Life-Sustaining Treatment (POLST) forms (n = 6145) by signer specialty.

Registry. Table 1 provides characteristics of both the POLST and no POLST groups. While it is evident that those who elect to have POLST forms completed are not random, there is also evidence of the racial and ethnic homogeneity of older Oregonians, with over 90% of all decedents being Caucasian (95.8% in the POLST group and 94.6% in the no POLST group). Educational attainment is associated with POLST completion rates. Those with greater than a high school education are more likely to have a POLST form in the registry ($P = .002$).

Of the POLST forms from the 6145 POLST-matched cancer decedents, the largest proportion (53.7%) were signed by primary care physicians, while 14.9% were signed by an oncology specialist. Figure 1 summarizes POLST form completion by signer specialty groups. Greater than 99% of physician specialties were identifiable in the OMB database that does not include some Veterans Administration (VA)-licensed physicians or specialties for physicians in their first year of postgraduate training. The 14.9% of forms signed by an oncology specialist were signed by a total of 135 different physicians. Given that there were 280 practicing oncology specialists in Oregon in 2010 and 2011, this indicates that more than half (51.8%) of practicing oncology specialists did not complete a POLST form or did not submit one to the registry. At the same time, 35 (12.5%) oncology specialists completed 10 or more forms in the same time period. Figure 2 demonstrates the range in number of POLST forms completed as a percentage of practicing oncology specialists.

For all 6145 POLST-matched decedents, the median time to death from final POLST form completion was 4.0 weeks. The median time interval to death from signature ranged from 3.14 week (interquartile range [IQR] 1.14-7.71 [6.57]) for hospice and palliative care physicians to 4.64 weeks (IQR 1.71-10.89 [9.18]) for oncology specialists. Forms signed by primary care physicians were completed a median of 4.14 weeks (IQR 1.29-

11.68 [10.39]) prior to death. When considering Oregon cancer decedents' locations of death in 2010 and 2011, 18.9% died in an acute care (hospital or emergency department [ED]) setting (Table 2). However, when comparing location of death in relationship to POLST presence and Scope of Treatment orders, 26.8% of patients with no POLST died in a hospital or ED compared to 4.8% of those decedents with POLST Scope of Treatment orders for comfort measures only. Similarly, 52.8% of patients with no POLST form died at home compared to 66.5% of patients with a comfort measures only order. Figure 3 describes these results in more detail.

Discussion

There is broad consensus that ACP and shared decision-making are important elements of cancer care, particularly for patients who have incurable cancers. For those nearing the end of their lives, POLST is a document that, when used correctly, supports both processes. We present statewide data on POLST completion in patients with cancer that demonstrate 3 main findings. First, over half of oncologists never completed a POLST in the 2-year window and about half of patients who died of cancer did not have a POLST form in the statewide registry. Second, similar to previous studies, patients with a POLST order for comfort measures only were more likely to die at home (66.5%) than in the hospital (4.8%). Third, the timing of POLST completion is quite near to death, with half of final POLST forms being completed in the last month of life.

What is the oncology specialist's role in POLST form completion (in POLST using states¹⁵)? Our data give a snapshot of how POLST is being used (or not used) in the care of patients with cancer that can inform a discussion about future and optimal use. We found that oncology specialists signed only 14.9% of registered POLST forms for patients who died of cancer. In

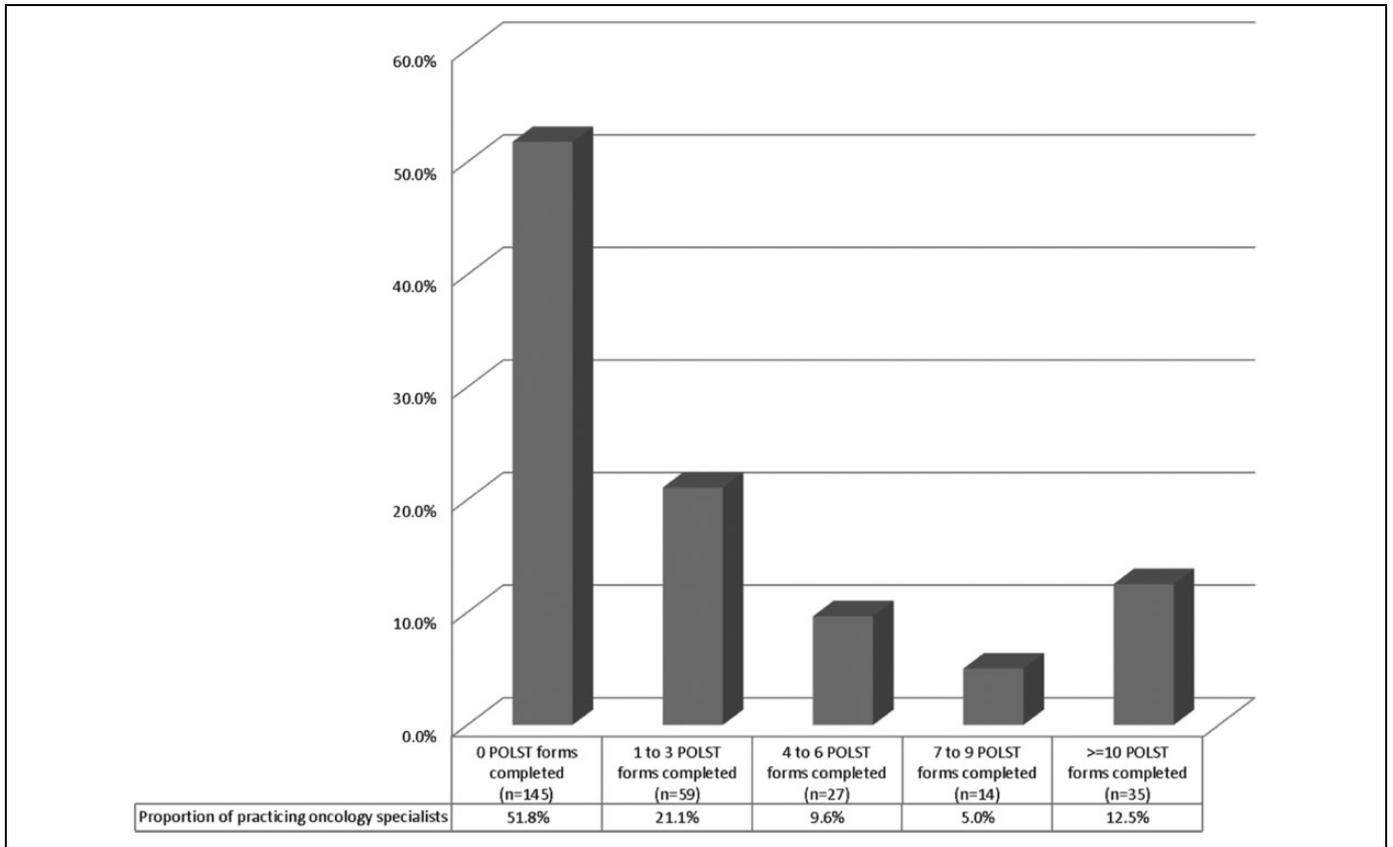


Figure 2. Proportion of 280 practicing oncology specialists completing Physician Orders for Life-Sustaining Treatment (POLST) forms in 2010 to 2011.

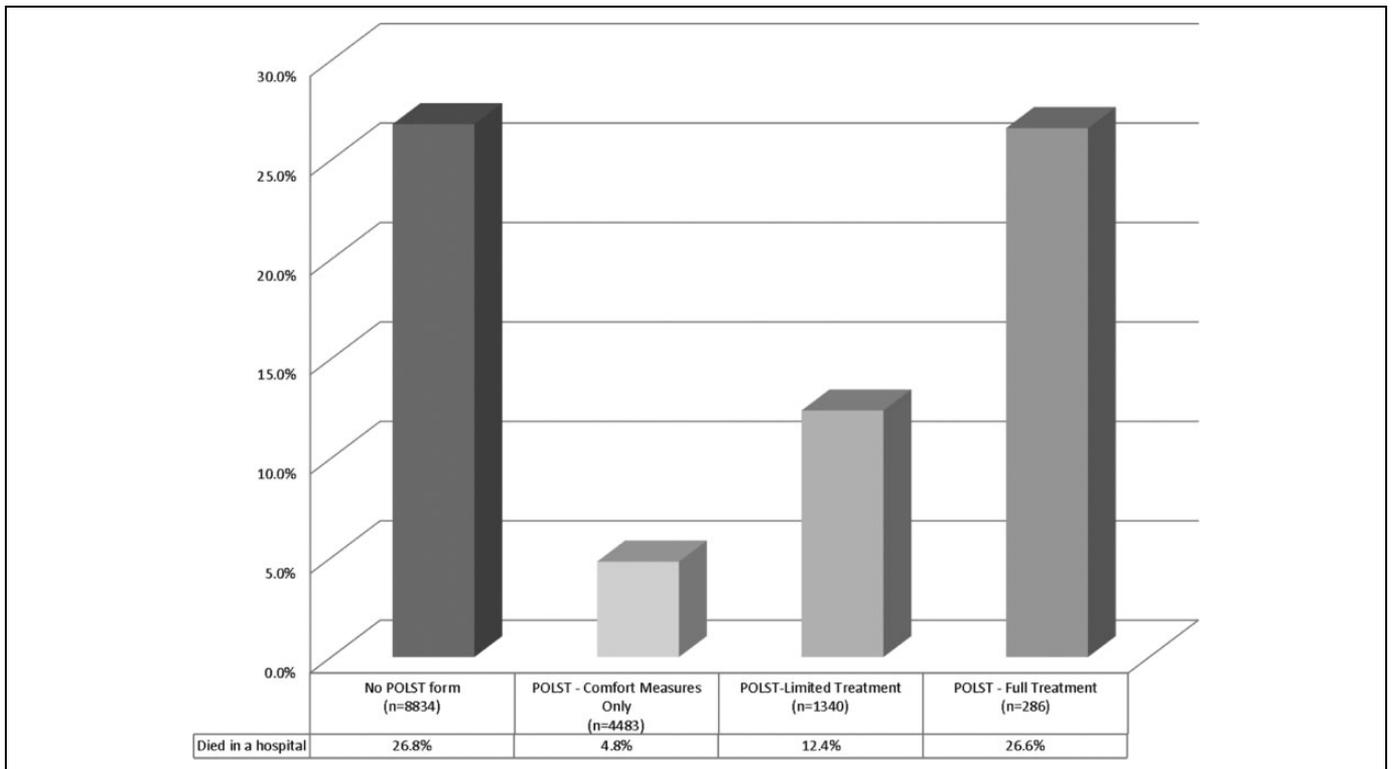


Figure 3. Oregon cancer decedents (2010 to 2011) who died in a hospital or emergency department by Physician Orders for Life-Sustaining Treatment (POLST) presence and Scope of Treatment orders.

Table 2. Location of Death of 2010 to 2011 Oregon Cancer Decedents (N = 14 979) by POLST Presence and POLST Scope of Treatment Orders.

	No POLST Form (n = 8834)	POLST—Comfort Measures Only (n = 4483)	POLST—Limited Treatment (n = 1340)	POLST—Full Treatment (n = 286)
Home, n (%)	4667 (52.8)	2981 (66.5)	756 (56.4)	143 (50)
Hospital/ED, n (%)	2366 (26.8)	213 (4.8)	166 (12.4)	76 (26.6)
Long-term care, ^a n (%)	1342 (15.2)	1008 (22.5)	316 (23.6)	53 (23.6)
Other, n (%)	459 (5.2)	281 (6.3)	102 (7.6)	14 (4.9)

Abbreviations: ED, emergency department; POLST, Physician Orders for Life-Sustaining Treatment.

^aIncludes adult foster care, assisted living, nursing home, long-term care facility, and residential care.

contrast, a relatively small number of hospice and palliative care physicians signed approximately 15% and primary care physicians signed over half of registered POLST forms. Slightly less than half (48.2%) of licensed and practicing oncology specialists in the state of Oregon signed a POLST form over a 2-year period of time.

Should oncology specialists be more involved in completing POLST forms with their terminally ill patients? Our data demonstrate a distinct practice difference with half of oncologists never completing POLST forms (or never submitting them to the Registry), half doing it at least once, and a small number who also serve as hospice medical directors signing over 25 forms in 2 years. The number of patients who died while under the care of each oncology specialist is not known, but a survey of hematologic oncologists self-reported a median of 10 deaths due to blood cancers per year.⁹

An obstacle to oncology specialists being more involved in POLST completion is that conversations about prognosis and goals of care can be very difficult, and the aforementioned hematologic oncologists reported that the most common barrier to high-quality EOL care was unrealistic patient expectations.⁹ Moreover, a study of patients with metastatic lung and colorectal cancer found that less than 30% of patients understood that their cancer was incurable, and more recent data found that 38% of oncology patients reported never having discussed prognosis or life expectancy.^{23,24} For some oncologists, this suggests a need for more training in how to have goals of care conversations. Most patients want to know about their life expectancy from their oncologist, although the timing and details of how they want that information vary greatly.²⁵

There is increasing consensus that quality metrics such as “hospice enrollment and enrolled more than 7 days before death,” “not dying in an intensive care unit,” “no chemotherapy administered within the last 2 weeks of life,” “no cardiopulmonary resuscitation (CPR) in the last 30 days of life,” and “no intubation in the last 30 days of life” are appropriate for patients with cancer.^{9,26-32} At the same time, there is increasing evidence that POLST completion is associated with patients getting the intended level of medical intervention.¹⁶⁻²⁰ Oregon POLST comfort measures only orders state “Patient prefers no transfer to hospital for life-sustaining treatments. Transfer if comfort needs cannot be met in current location.” These orders are associated with a much lower rate of dying in hospital (4.8% vs 26.8% in this sample, *P* value

<.001) and a somewhat higher rate of dying at home (66.5% vs 52.8%, *P* value <.001).

The question of whether oncologists should be more involved in completing POLST forms is closely linked to the question of timing. Our data show that many final POLST forms are being completed in the final month of life, whether the form is signed by oncology specialists, primary care physicians, or hospice and palliative medicine physicians. This suggests that POLST is being used in conjunction with the decision to move from disease-oriented treatment to comfort/hospice care. Often, these transitions are the result of shared decision-making between patients, families, and oncology specialists.

So what should be the role of the oncology specialist? Oncology specialists must engage patients and their caregivers in timely and ongoing discussions of their prognosis, options for treatment, preferences, and goals in order to optimize shared decision-making. Discussing goals of care should be a cornerstone of oncology education. Physician Orders for Life-Sustaining Treatment can support these goals of care conversations by making them more specific and concrete. By turning goals and preferences into actionable medical orders, POLST can also help ensure that patients get treatments they want and don't get treatments they don't want. Using POLST as a support for goals of care conversations works best when beginning with the “big picture” in the Scope of Treatment section *before* addressing decisions about resuscitation or artificial nutrition.

Limitations

Although this study has many strengths, some important limitations also exist. Our data represent a single state known to differ from other states in EOL care practices.^{31,33} We are unable to quantify or characterize how often POLST forms are completed but not submitted to the Registry. Signer group, based on physician specialty and discipline, does not give a full description of how individual practitioners spend their time, for example, primary care physicians and oncology specialists may also direct hospice programs. The ratios of POLST forms submitted by the signer groups may have changed over time, for example, oncology specialist POLST submissions may have increased since 2010 to 2011 when the Registry was new. Finally, we

were not able to confirm PA's and NP's specialties as PA's specialty was associated with their supervising physician and not specifically indicated, and NP's are not listed in the OMB centralized database.

Conclusion

Oncology specialists play a central role in caring for patients with cancer through the end of their lives. Although our data don't allow us to say what role they may have played in ACP overall, that only 15% of POLST forms were signed by oncology specialists demonstrates that they are not playing a central role in POLST completion. Physician Orders for Life-Sustaining Treatment is intended to be the product of shared decision-making based on a conversation that includes the patient's goals and values. In order to make the best decision possible, many patients need the expertise and experience of oncology specialists to understand their treatment options, quality of life outcomes, and prognosis. Whether or not they actually sign their patients' POLST forms, oncology specialists in the growing number of POLST states should integrate POLST into their goals of care conversations with patients nearing the EOL.

Declaration of Conflicting Interests

The author(s) declared the following potential conflicts of interest with respect to the research, authorship, and/or publication of this article: Susan W. Tolle is chair of the Oregon POLST Program and the National POLST Research Committee. Dana M. Zive serves as a senior scholar with the Center for Ethics in Health Care at OHSU. Erik K. Fromme is a member of the National POLST Research Committee and senior scholar in the Center for Ethics in Health Care at OHSU.

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