

# Use of the Physician Orders for Life-Sustaining Treatment (POLST) Paradigm Program in the Hospice Setting

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## Abstract

**Background:** The Physician Orders for Life-Sustaining Treatment (POLST) Paradigm Program was designed to ensure the full range of patient treatment preferences are honored throughout the health care system. Data are lacking about the use of POLST in the hospice setting.

**Objective:** To assess use of the POLST by hospice programs, attitudes of hospice personnel toward POLST, the effect of POLST on the use of life-sustaining treatments, and the types of treatments options selected by hospice patients.

**Design:** A telephone survey was conducted of all hospice programs in three states (Oregon, Wisconsin, and West Virginia) to assess POLST use. Staff at hospices reporting POLST use ( $n = 71$ ) were asked additional questions about their attitudes toward the POLST. Chart reviews were conducted at a subsample of POLST-using programs in Oregon ( $n = 8$ ), West Virginia ( $n = 5$ ), and Wisconsin ( $n = 2$ ).

**Results:** The POLST is used widely in hospices in Oregon (100%) and West Virginia (85%) but only regionally in Wisconsin (6%). A majority of hospice staff interviewed believe the POLST is useful at preventing unwanted resuscitation (97%) and at initiating conversations about treatment preferences (96%). Preferences for treatment limitations were respected in 98% of cases and no one received unwanted cardiopulmonary resuscitation (CPR), intubation, intensive care, or feeding tubes. A majority of hospice patients (78%) with do-not-resuscitate (DNR) orders wanted more than the lowest level of treatment in at least one other category such as antibiotics or hospitalization.

**Conclusions:** The POLST is viewed by hospice personnel as useful, helpful, and reliable. It is effective at ensuring preferences for limitations are honored. When given a choice, most hospice patients want the option for more aggressive treatments in selected situations.

## Introduction

PATIENTS WHO ENROLL IN HOSPICE typically agree to forgo aggressive treatment with the goal of curing disease and instead receive treatments with the goal of preserving comfort.<sup>1,2</sup> Many hospice patients have prehospital do-not-resuscitate (DNR) orders reflecting a preference for no resuscitation.<sup>3</sup> Cardiopulmonary resuscitation (CPR) status is sometimes overgeneralized to other types of treatments.<sup>4-6</sup> However, an exclusive focus on CPR status does not address hospitalizations or preferences for the full range of therapy options. Little is known about hospice patient preferences for life-sustaining interventions, although research suggests

that many seriously ill patients do not enroll in hospice because of a desire for treatments that prolong life.<sup>7</sup>

The first Physicians Orders for Life-Sustaining Treatment (POLST) Program was developed in Oregon to overcome the limitations of CPR orders. It is designed to ensure that patient wishes to receive or refuse life-sustaining treatments are honored by converting treatment preferences into medical orders that can be followed by medical personnel regardless of the patient's location. The centerpiece of the program is a brightly colored medical order form that includes orders regarding CPR status, medical interventions, antibiotics, and medically administered nutrition and hydration. It is completed based on conversation(s) with patients

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and/or their families regarding treatment goals. The POLST Program is now used in several additional states, including California, Idaho, New York, North Carolina, Tennessee, Washington, and West Virginia as well as parts of Pennsylvania and Wisconsin ([www.POLST.org](http://www.POLST.org)). The program name varies by state (e.g., MOLST or Medical Orders for Life-Sustaining Treatment in New York and POST or Physician Orders for Scope of Treatment in West Virginia), but all programs based on the POLST share the same key elements. The programs are referred to as POLST Paradigm Programs.

Research supports the efficacy of POLST Paradigm Programs. In a study of 180 Oregon nursing home residents with POLST forms, none received resuscitation against their wishes and only 2% of residents with orders for comfort measures only were hospitalized to extend their lives.<sup>8</sup> Other studies have found that medical treatments administered match the POLST form instructions for CPR, antibiotics, intravenous fluids, and feeding tubes more often than previously reported for advance directive forms<sup>9</sup> and that orders are consistent with treatment preferences.<sup>10</sup>

The goal of this descriptive study was to evaluate use of the POLST Paradigm Program by hospice programs, the attitudes of hospice personnel toward POLST Paradigm Programs, the effect of POLST on the use of life-sustaining treatments, and the types of treatments options selected by hospice patients.

## Methods

### *The POLST Paradigm Program*

Since this study includes both the Oregon/Wisconsin POLST and the West Virginia POST Programs, it will be referred throughout the text as the PO(L)ST Program and form. The centerpiece of the PO(L)ST Program is the PO(L)ST form, a double-sided, brightly colored form printed on 8 1/2 × 11 inch cardstock. Each state form has slightly different wording, but all share the same basic elements including the ability to document orders regarding treatment preferences.<sup>11</sup> The form is divided into five sections:

1. Section A: CPR orders (Resuscitate or DNR);
2. Section B: medical interventions orders (Comfort Care Only, Limited Additional Interventions, Full Treatment);
3. Section C: antibiotics orders (None; Limited Use, Full Treatment);
4. Section D: medically administered nutrition or hydration orders (None, Defined Trial, Long-term Use);
5. Section E: who the form was discussed with, summary of medical conditions/basis for the orders, and physician or nurse practitioner's dated signature.

See Figure 1 for a copy of the 2008 Oregon POLST form.

### *Procedures*

This study was approved by the Institutional Review Boards at Oregon Health & Science University, West Virginia University, and Gunderson Clinic, Ltd., in La Crosse, Wisconsin. Data were collected between April 2006 and August 2007. The study involved a telephone survey and on-site chart reviews. First, telephone calls were made to all state-recognized hospices in Oregon ( $n = 50$ ), Wisconsin ( $n = 68$ ),

and West Virginia ( $n = 21$ ). Participating staff members responsible for discussing and documenting advance care planning were interviewed about their hospice program's use of the PO(L)ST Program. Additional attitudes questions were asked of participants who reported that their program used the PO(L)ST. Next, permission to conduct an onsite chart review of decedents' records was obtained from executive directors at a convenience sample of hospices. Programs that reported using the PO(L)ST for more than half of program patients were eligible for inclusion.

### *Participants*

The telephone survey sample consisted of staff members identified by the hospices as having primary responsibility for advance care planning. One staff member was interviewed per hospice program. Individuals who reported PO(L)ST use at their program were asked additional questions about their own, personal attitudes toward the PO(L)ST Program.

Chart reviews were conducted using the medical records of hospice patients who had died within the previous twelve months at a convenience sample of PO(L)ST-using hospice programs. Twenty-five randomly sampled charts were reviewed at each hospice.

### *Data collection instruments*

The telephone survey tool was designed based on surveys used in previous research studies.<sup>12,13</sup> It included questions about their hospice programs' use of forms to document treatment preferences, use of the PO(L)ST Program, the estimated number of patients with PO(L)ST forms (none, less than half, half, more than half, or nearly all/all), and descriptive information about the hospice. Participants at POLST-using programs were asked additional questions asked about their own attitudes toward the PO(L)ST Program.

The chart review data collection tool was developed to track demographic data, preferences and orders for life-sustaining treatments including orders documented on the PO(L)ST form, and the use of life-sustaining treatments such as feeding tubes and hospitalization. Chart reviews covered up to the last 90 days of life following hospice admission.

## Results

### *Telephone survey*

Telephone survey participation rates were high but varied by state (Oregon, 100%; West Virginia, 95%; Wisconsin, 93%) resulting in a sample of 133 staff representing 133 hospices. The staff members responsible for advance care planning who participated were executive directors (53%), social workers (28%), nurses (16%), and others such as family services directors or quality improvement coordinators (4%). In many programs, more than one person initiated advance care planning including social services (87%), nurses (74%), physicians/nurse practitioners (26%), executive directors (14%), pastoral care providers (13%), and others such as admissions clerks (3%).

Virtually all participants reported that their hospice used state advance directive forms to document patient wishes for life-sustaining treatments (Oregon, 100%; West Virginia, 100%; Wisconsin, 91%). Use of the Five Wishes program<sup>14</sup>

was reported by 17% of programs in Wisconsin and West Virginia, where it is legally recognized. All participants reported that their program used a system to document orders for life-sustaining treatments (LSTs) and a majority (53%) reported documenting code status in the medical record. In West Virginia, 95% reported use of the West Virginia DNR Card; in Wisconsin, 84% reported use of the Wisconsin DNR bracelet.

Use of the PO(L)ST Program varied by state (Oregon, 100%; West Virginia, 85%; Wisconsin, 6%). Most PO(L)ST-using hospices had been using the PO(L)ST Program for more than 2 years (80%) and a majority had PO(L)ST forms for more than half of their patients (Oregon, 92%; West Virginia, 73%; Wisconsin, 67%). A majority also reported their hospice typically offers the PO(L)ST form to every patient (84%). Problems relating to use of the PO(L)ST were reported by 51% of participants and about a third of these individuals reported more than one problem. The most commonly reported problems were difficulties understanding and explaining the form (28%); logistical challenges related to obtaining a physician or nurse-practitioner signature (14%); discomfort with issues raised by the form (12%); transfer across settings (10%); and inadequate provider education (10%). Other problems mentioned by fewer than 10% of participants included complaints that the PO(L)ST form was not honored and there were multiple versions of the form due to periodic revisions.

Participants employed by PO(L)ST-using hospices ( $n = 71$ ) were also asked additional questions regarding their individual, personal attitudes toward the PO(L)ST Program. Most participants (97%) believed the PO(L)ST form was useful in preventing unwanted resuscitations by emergency medicine personnel and a similarly large percentage (96%) found it useful in initiating conversations about treatment preferences. Only 4% of participants indicated that they believed a PO(L)ST form made treating patients more complicated. See Table 1 for a complete description of hospice staff attitudes toward the PO(L)ST Program.

### Chart review

Chart reviews were conducted at 15 PO(L)ST-using hospice programs: 8 in Oregon, 5 in West Virginia, and 2 in Wisconsin. The number of programs sampled in each state varied due to differences in PO(L)ST Program use and logistical issues. Every program approached agreed to participate. A total of 373 decedent medical chart reviews were conducted; 275 charts contained PO(L)ST forms, as not all patients within PO(L)ST-using hospice programs have a PO(L)ST form. Demographic and descriptive information about these decedents is contained in Table 2. A majority of the forms (94%) contained a physician or nurse-practitioner signature, which is necessary in order for the form to be valid.

A binomial test indicated that patients with PO(L)ST forms were significantly more likely to have orders regarding LSTs than patients without PO(L)ST forms (100% versus 36%;  $p < 0.001$ ). Logistic regression analyses indicated that patient variables (age, gender, diagnosis of cancer versus noncancer, and length of hospice stay in weeks) were not predictive of having a valid PO(L)ST form.

A majority of patients (99%) with PO(L)ST forms had DNR orders in Section A. Most (78%) contained orders for more

than the lowest level of treatment in at least one other category (Table 3). In Section B, 20% reflected orders for limited additional medical interventions or full treatment. In Section C, 77% reflected orders for antibiotic treatments. In Section D, 11% reflected orders for either a short-term trial or long-term placement of feeding tubes and/or intravenous fluids. A logistic regression analysis was performed to determine whether any patient variables (age, gender, diagnosis, length of stay in weeks) were predictive of the orders marked in Section A, resuscitation (yes or no); Section B, medical interventions (none versus some); Section C, antibiotics (none versus some); and Section D, feeding tube use (none versus some). Only length of stay was significantly predictive of orders for medical interventions. Patients with longer lengths of stay were more likely to have orders for limited or full medical interventions than patients with shorter lengths of stay (odds ratio [OR] = 1.05, 95% confidence interval [CI] = 1.01–1.09).

**Life-sustaining treatments.** A minority of patients with valid PO(L)ST forms received treatments that were potentially life-sustaining including non-topical antibiotics (25%), hospitalization (13%), intravenous fluids (3%), chemotherapy (2%), surgery (1%), feeding tubes (1%), and transfusions (< 1%). None of the patients with PO(L)ST forms in the sample received CPR. Ninety-nine percent of the time the withholding of CPR was in accordance with the PO(L)ST order. The chart review did not yield information about why three patients with orders for resuscitation did not receive CPR. A series of logistic regressions were performed to determine whether PO(L)ST orders for none versus some treatments were predictive of treatments provided. Patients with orders for comfort care only (Section B) were significantly less likely to experience hospitalization, intravenous fluids, chemotherapy, surgery, and transfusions, than patients with orders for limited or full medical interventions (OR = 3.74, 95% CI = 1.81–7.72). Orders regarding antibiotics (Section C) were not predictive of the use of antibiotics. Cell sizes were too small to analyze data regarding the use of feeding tubes (Section D).

To evaluate whether PO(L)ST orders were being followed, situations in which use of LSTs that appeared to be inconsistent with patient's PO(L)ST form orders were identified. Treatments provided with documentation that the intent was to enhance comfort were not counted as treatment deviations. Eight treatment deviations were identified, representing 3% of the 255 patients with signed, valid PO(L)ST forms. Five patients potentially received more aggressive treatment than indicated on the PO(L)ST form; 3 potentially received less aggressive treatment than indicated on the PO(L)ST. In the 5 cases of apparent overtreatment, the deviations occurred in patients with infections. Four received antibiotics and 1 was hospitalized despite orders for comfort care only and no antibiotics. In the 3 cases of apparent undertreatment, patients with full code orders were not resuscitated.

### Discussion

The PO(L)ST Paradigm Program was developed to ensure that patients' wishes regarding a range of end-of-life treatments would be identified and respected. This is the first study reporting the outcomes of the PO(L)ST Paradigm Pro-

HIPAA PERMITS DISCLOSURE TO HEALTH CARE PROFESSIONALS AS NECESSARY FOR TREATMENT			
<h2 style="margin: 0;">Physician Orders</h2> <h3 style="margin: 0;">for Life-Sustaining Treatment (POLST)</h3> <p style="font-size: small; margin: 5px 0 0 0;">First follow these orders, then contact physician, NP, or PA. These medical orders are based on the person's current medical condition and preferences. Any section not completed does not invalidate the form and implies full treatment for that section.</p>		<p><b>Last Name/ First/ Middle Initial</b></p> <hr/> <p><b>Address</b></p> <hr/> <p><b>City / State / Zip</b></p> <hr/> <p><b>Date of Birth (mm/dd/yyyy)</b>    <b>Last 4 SSN</b>    <b>Gender</b></p> <p>____/____/____    [ ] [ ] [ ] [ ]    <input type="checkbox"/> M    <input type="checkbox"/> F</p>	
<b>A</b>	<b>Check One</b>	<p><b>CARDIOPULMONARY RESUSCITATION (CPR): Person has no pulse and is not breathing.</b></p> <p><input type="checkbox"/> Attempt Resuscitation/CPR    <input type="checkbox"/> Do Not Attempt Resuscitation/DNR (<u>A</u>llow <u>N</u>atural <u>D</u>eath)</p> <p>When not in cardiopulmonary arrest, follow orders in <b>B, C</b> and <b>D</b>.</p>	
<b>B</b>	<b>Check One</b>	<p><b>MEDICAL INTERVENTIONS: Person has pulse and/or is breathing.</b></p> <p><input type="checkbox"/> <b>Comfort Measures Only</b> Use medication by any route, positioning, wound care and other measures to relieve pain and suffering. Use oxygen, suction and manual treatment of airway obstruction as needed for comfort. <b>Do not transfer to hospital for life-sustaining treatment. Transfer if comfort needs cannot be met in current location.</b></p> <p><input type="checkbox"/> <b>Limited Additional Interventions</b> Includes care described above. Use medical treatment, IV fluids and cardiac monitor as indicated. Do not use intubation, advanced airway interventions, or mechanical ventilation. May consider less invasive airway support (e.g. CPAP, BiPAP). <b>Transfer to hospital if indicated. Avoid intensive care.</b></p> <p><input type="checkbox"/> <b>Full Treatment</b> Includes care described above. Use intubation, advanced airway interventions, mechanical ventilation, and cardioversion as indicated. <b>Transfer to hospital if indicated. Includes intensive care.</b></p> <p><i>Additional Orders:</i> _____</p>	
<b>C</b>	<b>Check One</b>	<p><b>ANTIBIOTICS</b></p> <p><input type="checkbox"/> No antibiotics. Use other measures to relieve symptoms.</p> <p><input type="checkbox"/> Determine use or limitation of antibiotics when infection occurs.</p> <p><input type="checkbox"/> Use antibiotics if medically indicated.</p> <p><i>Additional Orders:</i> _____</p>	
<b>D</b>	<b>Check One</b>	<p><b>ARTIFICIALLY ADMINISTERED NUTRITION: Always offer food by mouth if feasible.</b></p> <p><input type="checkbox"/> No artificial nutrition by tube.</p> <p><input type="checkbox"/> Defined trial period of artificial nutrition by tube.</p> <p><input type="checkbox"/> Long-term artificial nutrition by tube.</p> <p><i>Additional Orders:</i> _____</p>	
<b>E</b>	<p><b>REASON FOR ORDERS AND SIGNATURES</b></p> <p>My signature below indicates to the best of my knowledge that these orders are consistent with the person's current medical condition and preferences as indicated by the <b>discussion with:</b></p> <p><input type="checkbox"/> Patient    <input type="checkbox"/> Health Care Representative    <input type="checkbox"/> Parent of Minor</p> <p><input type="checkbox"/> Court-Appointed Guardian    <input type="checkbox"/> Other _____</p>		
<p><b>Print Primary Care Professional Name</b></p> <hr/> <p><b>Print Signing Physician / NP / PA Name and Phone Number</b></p> <p style="text-align: center;">(    )</p> <hr/> <p><b>Physician / NP / PA Signature (mandatory)</b>    <b>Date</b></p>		<p style="text-align: center;">Office Use Only</p>	
<b>SEND FORM WITH PERSON WHENEVER TRANSFERRED OR DISCHARGED</b>			

FIG. 1. 2008 Oregon POLST form.

HIPAA PERMITS DISCLOSURE TO HEALTH CARE PROFESSIONALS AS NECESSARY FOR TREATMENT				
<b>Information for Person Named on this Form</b>				
This form records your preferences for life-sustaining treatment in your <b>current</b> state of health. It can be reviewed and updated by your health care professional at any time if your preferences change. If you are unable to make your own health care decisions, the orders should reflect your preferences as best understood by your surrogate.				
<b>Signature of Person or Surrogate</b>				
Signature	Name (print)	Relationship (write "self" if patient)		
<b>Contact Information</b>				
Surrogate (optional)	Relationship	Phone Number	Address	
Health Care Professional Preparing Form (optional)	Preparer Title		Phone Number	Date Prepared
PA's Supervising Physician			Phone Number	
<b>Directions for Health Care Professionals</b>				
<b>Completing POLST</b>				
<ul style="list-style-type: none"> <li>• Should reflect person's current preferences. Encourage completion of an advance directive.</li> <li>• POLST must be signed by a physician/NP/PA to be valid. Verbal orders are acceptable with follow-up signature by physician/NP/PA in accordance with facility/community policy.</li> <li>• Use of original form is encouraged. Photocopies and FAXes are legal and valid.</li> </ul>				
<b>Using POLST</b>				
<u>Section A:</u>				
• No defibrillator (including AEDs) should be used on a person who has chosen "Do Not Attempt Resuscitation."				
<u>Section B:</u>				
• When comfort cannot be achieved in the current setting, the person, including someone with "Comfort Measures Only," should be transferred to a setting able to provide comfort (e.g., treatment of a hip fracture).				
• IV medication to enhance comfort may be appropriate for a person who has chosen "Comfort Measures Only."				
• Treatment of dehydration is a measure which prolongs life. A person who desires IV fluids should indicate "Limited Additional Interventions" or "Full Treatment."				
<u>Section D:</u>				
• Oral fluids and nutrition <u>must</u> always be offered if medically feasible.				
• A person with capacity, or the surrogate of a person without capacity, can void the form and request alternative treatment.				
<b>Reviewing POLST</b>				
This POLST should be reviewed periodically and if:				
<ul style="list-style-type: none"> <li>• The person is transferred from one care setting or care level to another, or</li> <li>• There is a substantial change in the person's health status, or</li> <li>• The person's treatment preferences change.</li> </ul>				
Draw line through sections A through E and write "VOID" in large letters if POLST is replaced or becomes invalid.				
The POLST program was developed by the Oregon POLST Task Force and is housed at OHSU's Center for Ethics in Health Care. For permission to use the copyrighted form contact the Center. Information on the POLST program is available online at <a href="http://www.polst.org">www.polst.org</a> or at <a href="mailto:polst@ohsu.edu">polst@ohsu.edu</a> .				
<b>SEND FORM WITH PERSON WHENEVER TRANSFERRED OR DISCHARGED</b>				

FIG. 1. 2008 Oregon POLST form. (Continued)

TABLE 1. HOSPICE STAFF ATTITUDES TOWARD THE PO(L)ST PROGRAM

Variable	n = 71		
	Agree or strongly agree	Neutral	Disagree or strongly disagree
The PO(L)ST form is useful in preventing unwanted resuscitation by EMS.	97%	3%	—
The PO(L)ST form serves as a helpful mechanism for initiating a conversation about treatment preferences.	96%	3%	1%
The PO(L)ST form helps ensure patient treatment preferences are honored.	94%	—	6%
The PO(L)ST form reliably express patient treatment preferences.	93%	6%	1%
I feel more comfortable knowing what to do when a PO(L)ST form is available.	93%	7%	—
The PO(L)ST form provides clear instructions about a patient's treatment preferences.	92%	4%	4%
The PO(L)ST form is useful in preventing unwanted hospitalization.	87%	9%	4%
The PO(L)ST form is not working in my community.	7%	4%	89%
Having a PO(L)ST form makes treating patients more complicated.	4%	4%	92%

PO(L)ST refers to both the Oregon/Wisconsin Physician Orders for Life-Sustaining Treatment (POLST) and West Virginia Physicians Orders for Scope of Treatment (POST). Response scale ranged from 1 (strongly disagree) to 5 (strongly agree). The attitudes survey was administered only to participants who reported they were employed at hospice programs where the PO(L)ST Program is in use.

gram in the care of hospice patients. Findings suggest that hospice personnel believe the PO(L)ST Program is a helpful tool for initiating end-of-life conversations, that it reliably expresses patients' treatment preferences, and that it helps ensure treatment preferences are honored. Hospice patients with PO(L)ST forms have significantly more orders regarding life-sustaining treatment preferences than patients without PO(L)ST forms. Resuscitation status alone does not predict preferences for the level of aggressiveness of other medical interventions or for the use of antibiotics in hospice patients. Preferences for treatment limitations on the PO(L)ST were respected in nearly all cases.

Approximately 20% of patients with DNR orders also had orders for hospitalization when otherwise medically indicated and 77% had orders for the use of antibiotics. This suggests that a focus on resuscitation status does indeed appear to falsely dichotomize and oversimplify treatment choices near the end of life.<sup>15</sup> This finding supports the use of the PO(L)ST Program in the hospice setting as individualization of care plans is a requirement under most hospice benefit plans as well as Medicare and Medicaid.<sup>16</sup> This flexibility appears to be valuable in the hospice setting, where some may mistakenly assume a universal preference for the least aggressive level of treatment. Study results are also consistent with a study of nursing home residents that found a majority (78%) of residents with PO(L)ST forms indicating DNR orders requested some other type of life-extending treatment such as a hospitalization or antibiotics.<sup>11</sup> Hence, resuscita-

tion preference alone should not be used to infer treatment preferences for anything other than resuscitation.

It is possible that PO(L)ST forms contained orders for more than the lowest level of treatment indicated with the goal of enhancing comfort rather than extending life. However, the PO(L)ST form directs providers to use more aggressive treatment to ensure comfort when necessary, regardless of PO(L)ST form orders. Writing orders for more aggressive treatment just to ensure that comfort is provided should not be necessary. For example, a patient with comfort care only orders in Section B should usually be sent to the hospital to stabilize a hip fracture or to address uncontrolled pain.

This study is also remarkable in the extent to which orders for treatment limitations were honored. In 250 of 255 (98%) cases, patients' preferences for treatment limitations were respected. No patient received unwanted CPR, ventilator support, ICU admission, or feeding tubes. This compliance with patients' wishes for treatment limitations exceeds most previously reported studies of patients with advance directives<sup>17</sup> although it is consistent with previous research on the PO(L)ST.<sup>13</sup> Deviations from PO(L)ST orders to limit treatment were rare. Five involved the potential over-treatment of patients with infections. It is likely that these treatments were intended to enhance comfort,<sup>18</sup> although the intent was not specified in the chart. Three involved the potential under-treatment in patients with Full Code orders who were apparently not resuscitated. There was no documentation in the medical records to explain why resuscitation was not provided.

TABLE 2. CHARACTERISTICS OF DECEASED HOSPICE PATIENTS

<i>Variable</i>	<i>n (%)</i>
State	
Oregon	200 (54)
West Virginia	123 (33)
Wisconsin	50 (13)
Age <sup>a</sup>	
18 and under	1 (0.3)
19–64	47 (12.6)
65 and older	325 (87.1)
Female <sup>a</sup>	212 (57)
Race/ethnicity <sup>a</sup>	
White, not of Hispanic origin	314 (84.2)
African American, not of Hispanic origin	1 (0.3)
Hispanic	3 (0.8)
American Indian/Alaskan Native	1 (0.3)
Native Hawaiian/Pacific Islander	—
Asian	2 (0.5)
Other (mixed race)	2 (0.5)
Not available	50 (13.4)
Place of death <sup>a</sup>	
Private home	164 (44.0)
Hospital	21 (5.6)
In-patient hospice	2 (0.5)
Foster home/residential care/assisted living	54 (14.5)
Nursing facility	110 (29.5)
Other	11 (2.9)
Not available	11 (2.9)
Patient Cared For By: <sup>a</sup> (more than one could be checked)	
Spouse/partner	114 (31)
Other family member	251 (67)
Paid caregiver	162 (43)
Friend	13 (4)
Other	2 (0.5)
Primary diagnosis <sup>a</sup>	
Cancer	149 (40)
Heart Related Disease	53 (14)
Respiratory Related Disease	37 (10)
Dementia	30 (8)
Neurologic disease	12 (3)
Stroke	11 (3)
Renal Disease/failure	11 (3)
Liver Disease/failure	6 (2)
Other	63 (17)
Mean length of stay in hospice in weeks <sup>a</sup>	11
PO(L)ST in chart <sup>b</sup>	275 (74)
Patient or surrogate signature on PO(L)ST <sup>c</sup>	
Overall	176 (82)
Oregon	93 (79)
West Virginia	79 (99)
Wisconsin	4 (24)
Physician or Nurse Practitioner signature on PO(L)ST <sup>c</sup>	256 (94)
Orders Discussed With section completed on PO(L)ST <sup>c</sup>	251 (91)
Person(s) PO(L)ST Discussed With <sup>c</sup>	
Patient	73 (29)
Health Care Surrogate	95 (38)
Family Member	16 (6)
Patient and Health Care Surrogate Together	40 (16)
Patient and family member	20 (8)
Health care surrogate and family members	7 (3)

Note: PO(L)ST refers to both the Oregon/Wisconsin Physician Orders for Life-Sustaining Treatment (POLST) and West Virginia Physicians Orders for Scope of Treatment (POST). Total *n* = 373; with PO(L)ST *n* = 275.

<sup>a</sup>There were no statistically significant differences between participants with PO(L)ST forms and those without, so information about these groups is presented together.

<sup>b</sup>Charts were randomly sampled and not all charts contained PO(L)ST forms.

<sup>c</sup>Patients with PO(L)ST forms only.

TABLE 3. ORDERS ON HOSPICE PATIENTS' VALID PO(L)ST FORMS<sup>a</sup>

Treatment category	PO(L)STs marked resuscitate (n = 3) n (%)	PO(L)STs marked do not resuscitate (n = 253) n (%)	All valid PO(L)STs (n = 256) n (%)
Section B: Medical Interventions			
Comfort Care Only	(1) 33%	(200) 79%	(201) 79%
Limited/additional interventions	(1) 33%	(51) 20%	(52) 20%
Full treatment	(1) 33%	(1) <1%	(2) 1%
Section C: Antibiotics			
No antibiotics	—	(56) 23%	(56) 23%
No invasive antibiotics	—	(83) 34%	(83) 33%
Full treatment	(3) 100%	(106) 43%	(109) 44%
Section D: Medically Administered Fluids and Nutrition <sup>b</sup>			
No feeding tube/intravenous fluids	(2) 67%	(215) 89%	(217) 88%
Defined trial only	(1) 33%	(22) 9%	(23) 9%
Long-term feeding tube/intravenous fluids	—	(6) 2%	(6) 3%

Note: PO(L)ST refers to both the Oregon/Wisconsin Physician Orders for Life-Sustaining Treatment (POLST) and West Virginia Physicians Orders for Scope of Treatment (POST).

<sup>a</sup>Valid PO(L)ST forms are those with a clinician signature.

<sup>b</sup>Medically administered fluids removed from this section and relocated to medical interventions on 2007 Oregon POLST form.

### Limitations

Telephone survey data about advance care planning and use of the PO(L)ST Program may be limited by the telephone survey respondents' familiarity with hospice operations. Second, the attitudes survey was administered only to hospice personnel at PO(L)ST-using programs in three states. It is possible that the attitudes of personnel at programs that do not use the PO(L)ST are less positive, however these individuals were excluded due to concerns that staff at non-PO(L)ST using programs would not have sufficient familiarity with the program to answer the attitude survey questions. Furthermore, these responses are only representative of the participant and may not be reflective of the attitudes of their coworkers. Third, the chart review represents a nonrandom convenience sample of patients treated in only 16% of hospices in Oregon, 24% of hospices in West Virginia, and 3% of hospices in Wisconsin. It is unclear how representative these findings are of the general hospice population. Finally, although the number of identified treatment deviations was small, the chart review methodology made it difficult to detect situations in which more aggressive treatment was indicated but not provided. Future prospective research should focus on verifying that orders and treatments match patient preferences as well as exploring whether the PO(L)ST form is fully understood by patients and family members.

### Conclusions

The PO(L)ST Paradigm Program is well-regarded by hospice staff and widely used in Oregon and West Virginia. Findings confirm that traditional code status orders do not reflect the range of treatments preferred by hospice patients: DNR does not mean "do not treat." When given a choice, most hospice patients want the option for more aggressive treatments in selected situations. The PO(L)ST Program allows for greater individualization of advance care planning than code status alone. It also appears to be effective at lim-

iting unwanted treatments in the hospice setting. Overall, study findings confirm the benefit of PO(L)ST programs for hospice patients.

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### Author Disclosure Statement

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