The Quality of POLST Completion to Guide Treatment: A 2-State Study

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POLST
advance care planning
end-of-life care
Internet registry

Abstract

Objectives: Physician Orders for Life-Sustaining Treatment (POLST) need to be complete and consistent to allow health care personnel to honor patient preferences in a time of emergency. The purpose of our study was to evaluate the quality of POLST completion to guide treatment for level of medical intervention.

Design, Setting, and Participants: This cross-sectional study combined data from the Oregon and West Virginia POLST registries for the study period January 1, 2010, through December 31, 2016. All POLST form resuscitation (section A) and level of medical intervention (section B) orders were reviewed.

Measurements: Percent of POLST form orders in sections A and B with and without contradictions.

Results: During the study period, there were 268,386 POLST forms in the Oregon POLST Registry and 10,122 forms in the West Virginia e-Directive Registry. Of the forms, 99.2% in Oregon and 96.6% in West Virginia contained orders in both sections A and B. There were contradictions on 0.11% of forms from Oregon and 2.53% from West Virginia.

Conclusions: The quality of POLST form completion in the Oregon and West Virginia registries is good with less than 10% of forms lacking orders in sections A and B and containing contradictory orders. This study indicates what type of results are possible with statewide education, likely through POLST Paradigm Programs. Further research is needed to determine the quality of POLST form completion in other states and other factors that contribute to their quality.

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The Institute of Medicine Committee on Approaching Death recognized the importance of honoring patient preferences to improve the quality of care near the end of life. The Institute of Medicine and the National Quality Forum identified the Physician Orders for Life-Sustaining Treatment (POLST) Paradigm as an innovative means to do so. They noted that the POLST Paradigm program converts patients’ wishes for treatment into medical orders. However, POLST Paradigm orders need to be consistent, not contradictory, and complete to allow patients’ preferences to be honored in diverse health care settings.

Clemency and colleagues note that incomplete and contradictory POLST Paradigm forms may cause confusion among health care providers and result in patients receiving treatment contrary to their wishes. In a small sample of 100 patients treated at one hospital emergency department in New York, they found that 69% of New York Medical Orders for Life-Sustaining Treatment (MOLST) forms (New York’s version of the POLST form) had incomplete orders for the level of medical intervention (comfort measures, limited additional interventions, or no limitations on interventions) and that 14% were contradictory, including orders for cardiopulmonary resuscitation (CPR) in combination with comfort measures or limited intervention. In a larger series of 31,294 forms, investigators from Oregon found CPR with limited additional intervention orders in 7.3% of POLST forms.

Because the findings of Clemency and colleagues raise serious questions about the value of POLST form orders if they are the norm for POLST use, the purpose of our study was to evaluate the completeness and consistency of POLST form orders in 2 statewide registries.

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**WEST VIRGINIA PHYSICIAN ORDERS FOR SCOPE OF TREATMENT (POST)**

By state law, these medical orders must be followed until changed. Any section not completed indicates full treatment for that section.

### A. CARDIOPULMONARY RESUSCITATION (CPR): Person has no pulse and is not breathing.

- **Check One**
  - [ ] Attempt Resuscitation/CPR
  - [ ] Do Not Attempt Resuscitation/DNR

When not in cardiopulmonary arrest, follow orders in B, C, and D.

### B. MEDICAL INTERVENTIONS: Person has pulse and is breathing.

- **Check One**
  - [ ] Comfort Measures: Treat with dignity and respect. Keep clean, warm, and dry.
  - [ ] Comfort Measures: Use medications by any route, positioning, wound care and other measures to relieve pain and suffering and promote comfort. Use oxygen, suction and manual treatment of airway obstruction as needed for comfort. Do not transfer to hospital for life-sustaining treatment. Transfer only if comfort needs cannot be met in current location.
  - [ ] Medical Interventions: Treat with dignity and respect. Keep clean, warm, and dry.
  - [ ] Medical Interventions: Use medications by any route, positioning, wound care and other measures to relieve pain and suffering and promote comfort. Use oxygen, suction and manual treatment of airway obstruction as needed for comfort. Do not transfer to hospital for life-sustaining treatment. Transfer only if comfort needs cannot be met in current location.
  - [ ] Limited Additional Interventions: Includes care described above. Use medical treatment, IV fluids and cardiac monitoring as indicated.
  - [ ] Limited Additional Interventions: Includes care described above. Do not use intubation or mechanical ventilation. Transfer to hospital if indicated. Avoid intensive care unit.
  - [ ] Full Interventions: Includes care above. Use intubation, advanced airway interventions, mechanical ventilation, and cardioversion as indicated. Transfer to hospital if indicated. Include intensive care unit.
  - [ ] Full Interventions: Includes care above. Do not use intubation or mechanical ventilation. Transfer to hospital if indicated. Avoid intensive care unit.
  - [ ] Treatment Plan: Maximize comfort through symptom management.
  - [ ] Treatment Plan: Provide all medically indicated treatment including mechanical ventilation.

**Additional Orders:**

### C. MEDICALLY ADMINISTERED FLUIDS AND NUTRITION: Oral fluids and nutrition must be offered as tolerated.

- [ ] No IV fluids (provide other measures to assure comfort)
- [ ] IV fluids for a trial period of no longer than
- [ ] No feeding tube
- [ ] Feeding tube long-term

**Additional Orders:**

### D. DISCUSSED WITH:

- [ ] Patient/Resident
- [ ] Health care surrogate
- [ ] Parent of Minor
- [ ] MPOA representative
- [ ] Spouse
- [ ] Court-appointed guardian
- [ ] Parent of Minor
- [ ] Other: (Specify)

**Authorization:**

INITIAL BOX if you agree with the following statement: If I lose decision making capacity and my condition significantly deteriorates, I give permission to my MPOA representative/surrogate to make decisions and to complete a new form with my MD/DO/APRN in accordance with my expressed wishes for such a condition or, if these wishes are unknown or not reasonably ascertainable, my best interests.

**Registry Opt-In:**

INITIAL BOX if you agree to have your POST form, do not resuscitate card, living will and medical power of attorney form (if completed) submitted to the WV e-Directive Registry and released to treating health care providers. REGISTRY FAX - 844-616-1415

**Signature of Patient/Resident, Parent of Minor, or Guardian/MPOA Representative/Surrogate (Mandatory)**

<table>
<thead>
<tr>
<th>Date</th>
</tr>
</thead>
</table>

**Signature of MD/DO/APRN**

<table>
<thead>
<tr>
<th>MD/DO/APRN Name (Print Full Name)</th>
<th>MD/DO/APRN Phone Number</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>MD/DO/APRN Signature (Mandatory)</th>
<th>Date and Time</th>
</tr>
</thead>
</table>

**FORM SHALL ACCOMPANY PATIENT/RESIDENT WHEN TRANSFERRED OR DISCHARGED**

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2016

**e-Directive Registry FAX 844-616-1415**

Fig. 1. POLST form 2016.
### HIPAA PERMITS DISCLOSURE OF POST TO OTHER HEALTH CARE PROFESSIONALS AS NECESSARY

<table>
<thead>
<tr>
<th>Last Name/First/Middle Initial</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
</tr>
</tbody>
</table>

**Patient/Resident (Parent for Minor Child) Preferences as a Guide for this POST Form**

- **Advance Directive (Living Will or MPOA):**
  - [ ] NO
  - [ ] YES - Attach copy of documentation

- **Organ and Tissue Document of Gift:**
  - [ ] NO
  - [ ] YES - Attach copy of documentation

- **Court-appointed Guardian:**
  - [ ] NO
  - [ ] YES - Attach copy of documentation

- **Health Care Surrogate Selection:**
  - [ ] NO
  - [ ] YES - Attach copy of documentation

**MPOA/Surrogate/Court-appointed Guardian/Parent of Minor Contact Information**

- **Name**
- **Address**
- **Phone**

**Person Preparing Form**

- **Signature of Person Preparing Form**
- **Preparer Name (Print)**
- **Date Prepared**

**F**

### Review of this POST Form

<table>
<thead>
<tr>
<th>Date of Review</th>
<th>Reviewer</th>
<th>MD/DO/APRN Signature</th>
<th>Location of Review</th>
<th>Outcome of Review</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Review of POST Form**

This form should be reviewed if there is substantial change in patient/resident health status or patient/resident treatment preferences. According to state law, the form must be reviewed if the patient/resident is transferred from one health care setting to another. If this form is to be voided, write the word “VOID” in large letters on the front of the form. After voiding the form, a new form may be completed. If no new form is completed, note that full treatment and resuscitation may be provided. FAX voided form and newly completed form to the Registry. Additional forms can be obtained by calling 877-209-8086 or ordered online from the WV Center for End-of-Life Care website at www.wvendolife.org/Request-Information.

**Instructions for Submission to the WV e-Directive Registry (if Opt-In Box is initialed)**

FAX a copy of BOTH sides of the POST form to the e-Directive Registry at 844-616-1415. Copy form on your copy machine and adjust the lightness/darkness to contrast depending on your machine so that the form is readable prior to FAXing to the Registry. If you have questions about submission of this POST form or other advance directive documents to the Registry, call 877-209-8086. If you are using POST forms that were printed prior to 2010 and wish to submit them to the Registry, please complete a Sign-Up Form that contains the additional demographic information needed to identify the patient/resident in the Registry. The Sign-Up Form can be downloaded at www.wvendolife.org/e-Directive-Registry.

**FORM SHALL ACCOMPANY PATIENT/RESIDENT WHEN TRANSFERRED OR DISCHARGED**

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2016

**e-Directive Registry FAX 844-616-1415**

Fig. 1. (continued).
Methods

All individuals in Oregon and West Virginia who completed a POLST form (Figure 1) (called Physician Orders for Scope of Treatment [POST] in West Virginia) and submitted it (or had it submitted) to their state registry from January 1, 2010, through December 31, 2016, were included as subjects in this study. In Oregon, POLST form submission to the Oregon POLST Registry is mandated, unless a patient opts out, whereas in West Virginia, POST form submission is an opt-in system. POLST forms in the Oregon POLST Registry and West Virginia e-Directive Registry submitted during the study period were analyzed for missing orders in section A and/or B and for the presence of potentially contradictory orders between these sections. In West Virginia, there were 2 sets of orders that were considered contradictory: an order for CPR in section A with an order for comfort measures in section B; and an order for CPR in section A with an order for limited additional interventions in section B. In Oregon, CPR with comfort measures is considered contradictory, whereas CPR with limited additional interventions is not.5

Data Analysis

Descriptive univariate statistics were used to characterize the sample. Analyses were conducted using IBM SPSS Statistics v.24 (IBM Corp, Armonk, NY).

Research Ethics

This study was reviewed and deemed exempt by the Oregon Health Authority, Oregon Health and Science University, and West Virginia University Institutional Review Boards.

Results

During the study period, more than 95% of forms in the Oregon and West Virginia registries were complete in sections A and B (Table 1). Incomplete orders were almost always in section B.

In both states, less than 10% of forms contained inconsistent or contradictory orders (Table 1).

Discussion

Unlike the results of the small study of Clemency and colleagues,4 our research in 2 geographically distant and demographically distinct states5–6 with more than 10,000 POLST forms per state found that more than 95% of the forms were complete. The POLST Paradigm National Task Force notes that completing only section A of a POLST form, as was done for most of the MOLST forms in the Clemency study, can be a disservice to patients, because section B provides direction to health care personnel about patients’ treatment wishes in situations other than cardiac arrest.4 Also, fewer than 5% of the forms contained contradictory orders.

State POLST leaders need to educate physicians and advanced practice registered nurses completing forms so that they know the order combinations that are acceptable, not contradictory. In West Virginia, CPR/comfort measures and CPR/limited additional orders are considered contradictory, because the performance of CPR if successful almost always results in the patient being intubated on mechanical ventilation in an intensive care unit, which is treatment contrary to comfort measures and limited additional interventions orders. In Oregon, although the first order combination is considered contradictory, the second is not for two reasons: Oregon considers the possible but unlikely circumstance in which rapid defibrillation results in a prompt return of spontaneous circulation in which intubation and mechanical ventilation are unnecessary; and a number of hospice/palliative medicine providers prefer to retain the usually physiologically incompatible option as part of a multistep process that a significant number of patients take in their process (as the next to the last POLST form) in moving to a POLST form with DNR orders.5

We do not want to suggest that this education or the high completion rates of the forms with the relatively low level of contradictory orders are easily accomplished. POLST Paradigm programs in Oregon and West Virginia are part of complex systems at the level of individual practitioners, the local health care system, and state government that promote quality end-of-life care.6 Statewide/cross-setting/cross-system education and state laws and policies that legalize the POLST form and allow emergency medical services to honor it are key to the optimal use of the POLST Paradigm. The culture in each state also needs to encourage health care professionals to consider completing POLST forms for patients with advanced illness. Health care professionals require education on how to communicate with patients and families about the POLST form so that each section can be discussed and completed. The registries also contributed to the high completion rate of POLST forms and provide a quality monitor in which each form is reviewed. POLST forms that are incomplete or invalid because of contradictory orders are returned by the state registries to the patient with an explanation of what correction is needed.

A limitation of this study is that POLST forms that were not submitted to the registries were not included in the sample and evaluated for completeness and lack of contradiction. It is likely that the forms in Oregon whose submission to their registry is mandated were more representative of form completion and consistency than those in West Virginia.7 A second limitation is that the completeness and consistency of POLST forms completed in Oregon and West Virginia may not be generalizable to other states with POLST programs but without the degree of education, policies and laws, and registries found in these 2 states. Therefore, this study may overestimate the extent of form completeness and consistency in Oregon, West Virginia, and other states.

Conclusion

POLST forms in the Oregon and West Virginia registries demonstrate a high level of completion and a contradictory order rate below 10%. This study indicates what types of results are possible with statewide POLST Paradigm programs. Further research is needed to determine the quality of POLST forms in other states and regions of the country and the factors that contribute to their quality.

Table 1

<table>
<thead>
<tr>
<th>Section A</th>
<th>CPR/DNR</th>
<th>Level of Intervention</th>
<th>Oregon 2010–2016, n = 268,386</th>
<th>West Virginia, 2010–2016, n = 10,122</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete</td>
<td>Complete</td>
<td>99.2</td>
<td>96.64</td>
<td></td>
</tr>
<tr>
<td>Complete</td>
<td>Incomplete</td>
<td>0.77</td>
<td>0.35</td>
<td></td>
</tr>
<tr>
<td>Incomplete</td>
<td>Incomplete</td>
<td>0</td>
<td>0.43</td>
<td></td>
</tr>
<tr>
<td>Inconsistent</td>
<td>Inconsistent</td>
<td>0.11</td>
<td>2.53</td>
<td></td>
</tr>
</tbody>
</table>

CPR, cardiopulmonary resuscitation; DNR, do not resuscitate order; POLST, physician orders for life-sustaining treatment.

References

5. A.H. Moss et al. / JAMDA xxx (2017) 1.e1–1.e5

