

# Use of the Physician Orders for Life-Sustaining Treatment Program for Patients Being Discharged from the Hospital to the Nursing Facility

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## Abstract

**Background:** The Physician Orders for Life-Sustaining Treatment (POLST) documents patient preferences as medical orders that transfer across settings with patients.

**Objectives:** The objectives were to pilot test methods and gather preliminary data about POLST including (1) use at time of hospital discharge, (2) transfers across settings, and (3) consistency with prior decisions.

**Study Design:** Descriptive with chart abstraction and interviews.

**Participants:** Participants were hospitalized patients discharged to a nursing facility and/or their surrogates in La Crosse County, Wisconsin.

**Measurements:** POLST forms were abstracted from hospital records for 151 patients. Hospital and nursing facility chart data were abstracted and interviews were conducted with an additional 39 patients/surrogates.

**Results:** Overall, 176 patients had valid POLST forms at the time of discharge from the hospital, and many (38.6%; 68/176) only documented code status. When the whole POLST was completed, orders were more often marked as based on a discussion with the patient and/or surrogate than when the form was used just for code status (95.1% versus 13.8%,  $p < .001$ ). In the follow-up and interview sample, a majority (90.6%; 29/32) of POLST forms written in the hospital were unchanged up to three weeks after nursing facility admission. Most (71.9%; 23/32) appeared consistent with patient or surrogate recall of prior treatment decisions.

**Conclusion:** POLST forms generated in the hospital do transfer with patients across settings, but are often used only to document code status. POLST orders appeared largely consistent with prior treatment decisions. Further research is needed to assess the quality of POLST decisions.

## Introduction

THERE ARE SIGNIFICANT CHALLENGES in ensuring continuity of care for patients transitioning between the hospital and nursing facility settings.<sup>1,2</sup> Gaps in the current health care system often result in a failure to communicate patient care plans across treatment settings.<sup>3</sup> Effective “handoffs” of care between health care providers in each setting are necessary to ensure optimal health care outcomes for complex patient populations.<sup>1,3</sup>

Information about patient preferences and treatment goals are an important part of transition communications.<sup>1,3,4</sup> Family and resident treatment preferences are an important variable in decisions about whether or not to provide treat-

ments including hospitalization.<sup>5-6</sup> The Physician Orders for Life-Sustaining Treatment (POLST) program is designed to document patient treatment preferences for resuscitation, medical interventions, antibiotics, and artificial nutrition as medical orders that transfer with patients throughout the health care setting.<sup>7</sup> POLST was originally developed in Oregon and is now used in more than 20 states.<sup>8</sup> POLST offers advantages over traditional code status orders by permitting documentation of a wide range of treatment preferences including resuscitation, medical interventions such as hospitalization, antibiotics, and artificial nutrition.<sup>9-13</sup> It is recommended that the POLST be generated before hospital discharge for eligible patients<sup>14</sup> to help ensure that patients have orders available during transport and upon arrival at the

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Accepted September 3, 2013.

facility or home. When patients lack decisional capacity and there are no orders available reflecting prior treatment decisions, the default is to provide all available medical treatment.

The POLST is intended for individuals with advanced chronic progressive illness and frailty.<sup>8</sup> Research indicates that the POLST does alter the kind of treatments people receive near the end of life. In a multistate study of POLST use in nursing facilities, long-stay residents with POLST orders were significantly more likely to have treatment preferences documented as orders in their medical records than residents with traditional approaches. Treatments provided were highly consistent with POLST form orders for resuscitation (98%), medical interventions (92%), and antibiotic use (93%), but less so for feeding tube use (64%).<sup>11</sup> Residents with POLST form orders for “comfort measures only” were 67% less likely to be hospitalized than residents with orders for full treatment.<sup>15</sup> Despite studies in the long-term care, outpatient, and hospice settings, it is unknown how POLST is used within the hospital setting.

The true value of POLST rests on the quality of the decisions recorded as orders on the form. Decisional quality is characterized as concordance between the decisions and values (or preferences) of patients who are well informed.<sup>16</sup> High-quality POLST decisions must therefore be elicited through a process of informed consent, and the resulting orders should accurately reflect patient preferences. However, there is minimal evidence about the quality of the decision making process that leads to the execution of a POLST form. There have been no studies assessing patient or surrogate knowledge, attitudes, or experiences with POLST form completion. Only one study has previously examined whether the decisions reflected as orders on POLST forms are consistent with preferences. Meyers and colleagues<sup>17</sup> found evidence of informed consent in the charts of 16/21 (76%) nursing facility residents with POLST forms, suggesting that the forms were based on conversations with the patient and/or a surrogate. Follow-up interviews with seven patients/surrogates suggested that POLST form orders accurately conveyed treatment preferences 90% of the time, but there was minimal information about how these determinations were made, and the small sample size makes it difficult to generalize their study findings. A more recent study found evidence of consent in 94% (252/268) of the medical records of deceased patients with POLST forms,<sup>12</sup> but data relied on chart reviews and did not include assessment of patient or surrogate understanding of treatment decisions or consistency with preferences.

This pilot study was designed to better understand use of the POLST form at the time of discharge from the hospital setting. The goals of the pilot study were to (1) identify how the POLST is used at the time of discharge from the hospital, (2) determine the feasibility of identifying and following patients with POLST forms across treatment settings post-discharge from the hospital, and (3) test methods for assessing the consistency between prior decisions about treatment limitations and POLST orders.

## Methods

### Overview

The study was conducted at Gundersen Lutheran Medical Center in La Crosse, Wisconsin, where the POLST program

was first implemented in 1997 and is now used throughout the region in most health care settings. Data were collected between April and September 2008. Data collection occurred in two phases. In Phase I, chart data were abstracted from the records of every patient with a POLST form who was being discharged from the hospital to one of nine area nursing facilities. In Phase II, additional chart data were abstracted from the hospital and nursing facility records of a convenience sample of patients being discharged from the hospital to the nursing facility whether or not the patient had a POLST form. Interviews were conducted with these patients and/or their legally authorized health care agent. Patients selected for the Phase II chart review and interviews who had POLST forms were included in the Phase I sample analysis.

### The POLST form

The POLST form used throughout La Crosse county, Wisconsin, is consistent with recommended guidelines issued by the National POLST Paradigm Task Force.<sup>8</sup> It contains four types of orders: resuscitation (Section A); medical interventions (Section B); antibiotics (Section C); and artificially administered fluids and nutrition (Section D). In order for a POLST form to be considered valid, it must contain orders about resuscitation status (Section A), a physician signature, and a date.<sup>8</sup> The optional Section E contains check boxes to indicate with whom the POLST form was discussed. There is also a space for a patient or surrogate signature on the back of the form, but a signature was not required in the La Crosse region at the time of the study.

### Sample

The sample consisted of hospitalized patients aged 21 and older who were discharged from the Gundersen Lutheran Medical Center to one of nine area licensed nursing facilities between April and September 2008. Phase I participants were restricted to patients with POLST forms at the time of discharge. Phase II participants included patients with and without POLST forms who were also identified at the time of discharge. Interviews were conducted with Phase II patients and/or their legally appointed health care agents. In order to be invited to participate in an interview, the participant had to have been involved in the conversation about POLST form orders as reflected by Section E of the POLST form or identified in the medical record as the legally authorized surrogate.

### Procedures

This study was reviewed and approved by the Gundersen Lutheran LLC institutional review board. The research assistant reviewed the hospital's daily report of anticipated discharges to area nursing facilities. A de-identified copy of the patient's POLST form was made, and the patient's discharge status (new versus readmission) was extracted from the daily discharge report. For the Phase I sample, no further data were collected.

For Phase II, patients or their surrogates were invited to participate in the study based on the availability of the patient and research assistant. Prior to approaching potential participants, the patient's nurse was asked to verify the discharge plan and to determine if it was appropriate to request participation. Written informed consent was obtained

from participants or from the authorized designated decision maker for patients who lacked decisional capacity. In Wisconsin, all individuals lacking capacity who are being admitted to a nursing facility are required to have a designated decision maker (either a legal guardian or health care agent) identified in the patient's chart, so this information was readily available. Once consent was obtained, chart data were abstracted from the hospital medical records, including the name of the discharge nursing facility to facilitate follow-up. Patients and/or their designated surrogates were interviewed by phone or in person after admission to the nursing facility. The research assistant took notes about the participants' responses. In addition, nursing facility chart review data were abstracted shortly after admission to the nursing facility and approximately two months later for patients still residing in the facility. Inconsistencies between treatment preferences and POLST orders were promptly reported to facility staff.

### Study data

Data about the patient's age, gender, and POLST form orders were abstracted from POLST forms for both Phase I and II participants using a modified version of a previously developed chart review tool.<sup>9</sup> For Phase II participants, additional chart data were abstracted from hospital and nursing facility records, including hospital code status, whether the patient had a POLST form at the time of admission, and

any documentation of discussions about treatment preferences. Interviews using open-ended questions were conducted with the patient and/or designated surrogate decision maker to obtain supplementary information about treatment decisions. Participants were asked about their experiences transitioning between health care settings and their memory of any decisions about the use of life-sustaining treatments. Specifically, participants were asked, "Have you ever thought about putting limits on the kinds of medical treatments you/he/she receives?" and "Have you/he/she made any other decisions to limit other medical treatments?"

### Data analysis

Phase I and Phase II chart data were analyzed using frequency distributions, t-tests, and chi-square analysis. Phase II interview data were analyzed using content analysis. In order to assess the consistency between POLST orders and interview responses, each case was individually examined. POLST orders were considered consistent if: (1) decisions to limit treatments were reported and POLST orders reflected treatment limits; (2) no decisions to limit treatments were reported and POLST was marked as "full code" or "full treatment" in all categories; or (3) the interviewee was undecided or unclear about prior decisions to limit treatments and POLST orders were marked as full code and full treatment in all categories, which is the default standard of care.

TABLE 1. PATIENT DEMOGRAPHICS AND DESCRIPTIVE INFORMATION

Variable	Phase I POLST form review n=151	Phase II follow-up and interview n=39
Mean age in years (std)	78.8 (11.6)	78.8 (11.0)
% female	66.9% (101)	61.5% (24)
Nursing home admission status		
New Admission	72.2% (109)	79.5% (39)
Readmission	24.5% (37)	17.9% (7)
Length of hospital stay (mean days, std)	-	6.2 (5.9)
Caucasian race	-	100% (39)
Hospital discharge unit		
General/internal medicine	-	61.5% (24)
Surgical	-	25.6% (10)
Other	-	10.3% (4)
Unknown	-	2.6% (1)
Goal of discharge to facility		
Rehabilitation	-	92.3% (36)
Long-term care	-	7.7% (3)
POLST form status <sup>a</sup>		
POLST on admission to hospital	-	15.4% (6)
Valid POLST at discharge from hospital	95.4% (144)	82.1% (32)
Valid POLST in nursing facility	-	89.7% (35)
Final known disposition		
Discharged home	-	43.6% (17)
Discharged to assisted living	-	25.6% (10)
Remained in nursing facility	-	17.9% (7)
Deceased	-	10.3% (4)
Returned to hospital	-	2.6% (1)

<sup>a</sup>Valid POLST forms contained a physician signature, a date, and orders about resuscitation code status in Section A of the form.

## Results

### Sample characteristics

The Phase I sample consisted of  $n=151$  patients and the Phase II sample consisted of  $n=39$  patients. Demographic and descriptive data about both groups is presented in Table 1.

### POLST form review

For the purposes of POLST form review, Phase I patients with POLST forms ( $n=151$ ) were combined with Phase II patients who had POLST forms ( $n=33$ ) at the time of discharge from the hospital. Every POLST form contained a physician signature, but 4.3% were undated or missing Section A orders (8/184). These forms did not meet the minimum criteria for a valid POLST form in the clinical setting and were therefore excluded from further analyses, leaving a sample of  $n=176$  patients with valid POLST forms. The orders marked on the form are presented in Table 2. Just under half of the forms (46.6%; 82/176) had orders in all four sections of the POLST form and 38.6% (68/176) had orders in Section A only. The remaining forms had orders in three sections (10.2% or 18/176) or two sections (4.5%; 8/176).

The number of POLST form sections completed varied by code status orders. Patients with POLST forms indicating full code in Section A were significantly less likely to have orders in other sections than patients with POLST forms indicating DNR in Section A [ $\chi^2(3, N=176)=40.97, p \leq .001$ ]. A majority of forms with full code orders (63.4%; 52/82) contained no other orders, whereas a majority of forms with DNR orders (60.6%; 57/94) contained orders in all four sections. Only a

minority (18%; 17/94) of patients with Section A DNR orders had no other orders documented.

Forms with orders in just one section (Section A) were less likely to have Section E (with whom the POLST was discussed) completed than forms with orders in all four sections [ $\chi^2(3, N=176)=100.06, p \leq .000$ ]. Section E was marked on 13.8% (12/68) of forms with only Section A completed, whereas Section E was completed in 95.1% (78/82) of forms with orders in all four sections. Only a small minority of all forms (4.5%; 8/176) contained an optional patient or surrogate signature.

### Hospital and nursing facility chart review sample

Chart reviews were conducted both in the hospital and nursing facility for  $n=39$  Phase II patients. A minority of hospital charts included documentation of a discussion about treatment preferences (25.6%; 10/39). Hospital resuscitation code status orders were as follows: 38.5% (15/39) were full code; 20.5% (8/39) were DNR; and 41% (16/39) had no orders about code status in the hospital medical chart. Since patients without code status orders are full code by default, a majority (79.5%) of the patients in this sample were full code during their hospital stay. In the Phase II group,  $n=32$  had valid POLST forms at the time of discharge from the hospital. Hospital code status orders were consistent with POLST code status orders at discharge for a majority of patients (75%; 24/32).

The first nursing facility chart review was conducted an average of 20.7 (std = 11.5) days following hospital discharge. Only a minority of nursing facility charts (38.5%; 15/39) included documentation of a discussion of treatment preferences in the nursing facility. Overall, 89.7% (35/39) of participants in the nursing facility had valid POLST forms on file at the time of the first chart review. Of the seven patients without valid POLST forms at the time of discharge from the hospital, four had valid POLST forms generated in the nursing facility; one patient had a POLST form generated in the nursing facility that was signed but not dated, making it invalid; and two never had a valid POLST form. Two additional patients had valid POLST forms in the hospital that were not present in the nursing facility chart. Among patients with POLST forms *both* at discharge from the hospital and in the nursing facility at the time of the first chart review ( $n=32$ ), the form remained unchanged from hospital discharge for 90.6% (29/32) of participants. The second chart review was conducted an average of 48.2 (std = 27.6) days following hospital discharge. Thirteen patients remained in the nursing facility and 9/13 (69.2%) of the POLST forms on file were those generated upon hospital discharge. Orders were rewritten for the remaining four participants an average of 46.25 (std = 40.8) days after admission to the nursing facility setting.

### Interview data

Phase II interviews were conducted with patients ( $n=17$ ), family members ( $n=9$ ), or a dyad consisting of both the patient and a family member ( $n=13$ ). Interviews were conducted on average 2.3 (std = 3.1) days following discharge from the hospital. Only patients with valid POLST forms at the time of discharge from the hospital were included in the following analysis ( $n=32$ ), but not every participant answered all the interview questions. Participants were asked

TABLE 2. ORDERS FOR PATIENTS WITH VALID POLST FORMS DISCHARGED FROM THE HOSPITAL TO A NURSING FACILITY

	POLST form review n (%)
<b>Section A, Resuscitation</b>	<b>176/176 (100%)</b>
Full code	82/176 (46.6%)
Do not resuscitate	94/176 (53.4%)
<b>Section B, Medical interventions</b>	<b>106/176 (60.2%)</b>
Comfort measures only	17/106 (16%)
Limited additional interventions	59/106 (55.7%)
Full treatment	30/106 (28.3%)
<b>Section C, Antibiotics</b>	<b>99/176 (56.3%)</b>
No antibiotics	12/99 (12.1%)
No IM/IV antibiotics	12/99 (12.1%)
Aggressive antibiotics	74/99 (74.7%)
Other instructions	1/99 (1.0%)
<b>Section D, Artificial nutrition and fluids</b>	<b>86/176 (48.8%)</b>
No feeding tube/IV fluids	32/86 (37.2%)
Defined trial period of feeding tube/IV fluids	45/86 (52.3%)
Long-term feeding tube/IV fluids	8/86 (9.3%)
Other Instructions	1/86 (1.2%)
<b>Section E, Discussed with...</b>	<b>111/176 (63.1%)</b>
Patient	71/111 (64.0%)
Patient and health care agent	18/111 (16.2%)
Patient and other	9/111 (8.1%)
Health care agent	9/111 (8.1%)
Other	2/111 (1.8%)
Marked but missing	2/111 (1.8%)

whether they had ever thought about putting limits on the kinds of medical treatments the patient received. About one-third (37.5%; 12/32) reported they had thought about it, 15.6% (5/32) had not, 43.6% (14/32) said they would think about it when the patient's condition changed, and 3.1% (1/32) did not know. Participants were also asked about whether they had made any decisions to limit treatments or wanted treatment limits. About half (46.9%; 15/32) said they wanted no limits, 37.5% (12/32) said they did want limits, 9.3% (3/32) were undecided, and 6.3% (2/32) did not provide a clear response to the question.

### **Consistency between POLST orders and preferences**

Overall, POLST orders generated at the time of hospital discharge were consistent with reports of decisions made about whether or not to limit treatments for 71.9% (23/32) of participants. In cases where there was an inconsistency between reports of decisions and POLST orders, the POLST reflected orders for more aggressive treatments than recalled for 66.7% (6/9), and less aggressive treatments than recalled for 33.3% (3/9). The rationale for the inconsistency was not explored.

### **Discussion**

Pilot study findings suggest that identifying patients with POLST forms based on hospital discharge records is feasible, but captures a wide range of patients including many for whom POLST is used for code status only. For these patients, POLST was most often used to document orders for full code and appeared to be based on hospital code status rather than separate conversations about POLST, since forms used for code status only usually did not indicate with whom the orders had been discussed in Section E of the form. These POLST forms were likely completed to help ensure that orders were in place in the event of cardiopulmonary arrest during transport, though the quality of the original conversations that led to the code status orders could not be determined. The available evidence suggests that hospital code status discussions are often brief and frequently do not include important information such as prognosis or consideration of overall goals of care.<sup>18</sup> Nevertheless, the orders generated at the time of hospital discharge are important. For the sample of patients followed over time, a majority (91%) of POLST forms generated at discharge from the hospital remained in place in the nursing facility setting almost three weeks after admission.

Although many POLST forms were marked to indicate that the orders were based on a conversation with the patient and/or health care representative in Section E of the form, recall of prior decisions about treatments was mixed. This finding is consistent with other research,<sup>6</sup> including studies suggesting that patients' recall of informed consent discussions is most accurate immediately after the conversation occurs and degrades rapidly thereafter.<sup>19</sup> The phrasing of the interview questions may have contributed to this finding, because the questions posed were focused on general treatment decisions rather than specific treatments or goals of care, and no further information was collected to clarify apparent inconsistencies or explore the reason for changes.

A majority of POLST forms (72%) were consistent with reported treatment preferences, a finding that is in contrast to research in the hospital setting suggesting that fewer than one-

third of elderly hospitalized patients' preferences for end-of-life care are accurately documented in the medical record.<sup>20</sup> When POLST forms appeared inconsistent with reports of prior decisions, POLST forms were most often filled out with orders for more aggressive treatment than patient/surrogate recall of prior decisions, reflecting the treatment approach that would be used by default if there was no order in place. The direction of this error is consistent with other research suggesting that clinicians tend to make more errors about patient preferences when patients prefer treatment limitations than when patients prefer more aggressive treatment.<sup>21</sup>

The POLST program has the potential to serve as an important tool for evaluating and improving decision quality more generally, as use of the POLST allows for identification of gaps in the system which can then be addressed through quality improvement projects. The use of POLST makes it possible to track decisions over time so that when there is apparent inconsistency between treatment orders and decisions about treatment limitations, it is possible to easily identify these instances and explore whether these reflect a change of preferences<sup>22,23</sup> or an actual discrepancy. Tools to support quality improvement activities can be found online.<sup>24</sup> In the nursing facilities where this study occurred, staff were notified when discrepancies were found between POLST orders and recall of prior decisions, so that the POLST forms could be reviewed with residents or their agents. Additionally, study findings led to improvements in the process of POLST generation at the time of discharge in the hospital to the nursing facility setting.

### **Limitations**

The generalizability of study findings is limited by the relatively small, homogenous sample and the focus on patients being discharged from one hospital in one community where advance care planning is widespread.<sup>12</sup> It is unclear whether the assessed preferences represented stable preferences or unstable responses due to the stress of a recent hospitalization. Many patients in the sample were discharged within a few weeks of admission to the nursing home for rehabilitation purposes, suggesting the sample included many patients who were otherwise stable enough to return home or to a more independent living setting, limiting our ability to track changes over time. Moreover, it is unclear whether the discrepancies identified represented true inconsistencies or reflected the degradation of memory over time. Interview questions were designed as exploratory and did not include an in-depth exploration to determine how well POLST orders reflected resident and family member treatment goals. It is possible further discussion would have revealed that the basis of the "match" between preferences and orders was only superficial in nature or based on a misunderstanding of the meaning of the order. Finally, there was insufficient information available to evaluate the quality of the conversation that led to the generation of the POLST form at the time of discharge.

### **Directions for future research**

Research focused on the quality of decisions at the end of life has been identified as a national priority in both the fields of decision science and palliative medicine<sup>25</sup> and represents an important next step in evaluating the POLST program.<sup>15</sup> The findings from this pilot study suggest that better tools and methods are needed to assess the quality of POLST decisions

and POLST conversations. Research about the factors that influence the quality of POLST decisions could be used to shape clinician training programs and facilitate the development of patient decision aides to improve both the use of POLST and the quality of end-of-life decision making. Further research is also needed to evaluate the use of the POLST during transitions between care settings, particularly for patients in the community setting or residing at home.

### Conclusions

For many patients, POLST use at the time of discharge from the hospital to the nursing facility is limited to documentation of code status rather than a comprehensive plan of care. When POLST is used for code status alone, there is less likely to be evidence of a conversation about treatment preferences in the chart or on the POLST form itself. Although in most cases the orders reflected on POLST were consistent with reports of preferences, discrepancies between recall and POLST orders suggest that reviewing the POLST form with residents or their health care agents after nursing home admission should be a priority. This approach would help ensure that orders more accurately reflect preferences for treatments including and beyond code status.

### Acknowledgments

This study was partially supported by a grant from the National Institute of Nursing Research (NR009784). We thank Phyllis Schneider, RN, for her assistance with data collection and oversight of the study. We are also very grateful to the residents, family members, and nursing facilities that participated in this study.

### Author Disclosure Statement

No competing financial interests exist.

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