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Original Study

Decisions by Default: Incomplete and Contradictory MOLST in Emergency Care



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A B S T R A C T

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Objectives: What patients intend when they make health care choices and whether they understand the meaning of orders for life-sustaining treatment forms is not well understood. The purpose of this study was to analyze the directives from a sample of emergency department (ED) patients' MOLST forms.

Procedures: MOLST forms that accompanied 100 patients who were transported to an ED were collected and their contents analyzed. Data categories included age, gender, if the patient completed the form for themselves, medical orders for life-sustaining treatment including intubation, ventilation, artificial nutrition, artificial fluids or other treatment, and wishes for future hospitalization or transfer. Frequencies of variables were calculated and the associations between them were determined using chi-square. An a priori list of combinations of medical orders that were contradictory was developed. Contradictions with Orders for CPR (cardiopulmonary resuscitation) included the choice of one or more of the following: Comfort care; Limited intervention; Do Not Intubate; No rehospitalization; No IV (intravenous) fluids; and No antibiotics. Contradictions with DNR orders included the choice of one or more of the following: Intubation; No limitation on interventions. Contradictions with orders for Comfort Care were as follows: Send to the hospital; Trial period of IV fluids; Antibiotics. The frequencies of coexisting but contradictory medical orders were calculated using crosstabs. Free text responses to the "other instructions" section were submitted to content analysis.

Results: Sixty-nine percent of forms reviewed had at least one section left blank. Inconsistencies were found in patient wishes among a subset (14%) of patients, wherein their desire for "comfort measures only" seemed contradicted by a desire to be sent to the hospital, receive IV fluids, and/or receive antibiotics.

Conclusions: Patients and proxies may believe that making choices and documenting some, but not all, of their wishes on the MOLST form is sufficient for directing their end-of-life care. The result of making some, but not all, choices may result in patients receiving undesired, extraordinary, or invasive care.

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The legal tools for advance care planning in health care have evolved since their emergence in the mid-1970s.¹ Changes in law and policy over time brought a gradual paradigm shift from a legal transactional to a communications approach; the recent emergence of Physicians' Orders for Life Sustaining Treatment (POLST) translates patients' goals into visible and portable medical orders to be honored

in a crisis.^{1–3} The National POLST Paradigm established an approach to end-of-life planning that is based on conversations between individuals, family members, and health care providers to determine what seriously ill patients do or do not want, to document and honor their wishes. However, documents are established and regulated by states and variable nomenclature confuses the issue; Oregon uses POLST, New York uses MOLST, Iowa uses IPOST, and other states have also modified the name.⁴ The document also varies in color from hot pink, lime green, to yellow.⁵ Moreover, there remains confusion and misunderstanding about the difference between POLST, living wills, and Do Not Resuscitate (DNR) orders.^{5,6}

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Prehospital providers and emergency medicine physicians frequently encounter patients who are unable to make their wishes known. Having a patient's wishes in writing may help providers uphold them.⁵ However, education about the documents and processes of advance care planning, knowledge and interpretation of POLST, and providers' comfort upholding patients' wishes have been found to vary widely among emergency providers.^{7–10} Interpretation of patients' wishes by emergency providers and uncertainty about the differences between POLST and other types of advance directives can compromise care and cause unintended consequences.^{11,12}

What patients intend when they make health care choices and whether they understand the meaning of the decisions documented on a POLST forms is not well understood. Limited understanding of the ramifications of completing a POLST is likely to lead to patients receiving treatment that is contrary to their wishes.⁴ Incomplete POLST cause confusion about patient wishes and further compromise care.¹¹ Research is needed to explore the outcomes of POLST completion.¹³ A clearer understanding of the patient directives as well as the frequency and implication of incomplete or inconsistent POLST forms may aid physicians and their patients in completing these forms in a manner that accurately reflects expressed wishes. The purpose of this study was to analyze the directives from a sample of emergency department patients' POLST forms titled MOLST in the study location.

Methods

This study employed a descriptive cross-sectional design and convenience sampling. The study was performed in the emergency department (ED) of an urban tertiary care hospital in New York State that has approximately 56,000 visits per year. The New York MOLST translates patients' wishes regarding the aggressiveness of treatment into orders for cardiopulmonary resuscitation (CPR), DNR, intubation, hospitalization, intravenous (IV) fluids, feeding tubes, and antibiotics.¹⁴ MOLST forms that accompanied patients who were transported to an ED were collected and their contents analyzed.

ED providers were asked to identify patients with previously completed MOLST forms during the course of patient care, copy the form, affix a patient sticker, and place it in a secured study box. The procedure involved record review only and had no influence on patient care, so MOLST forms rather than patients were enrolled in the study. This study procedure was approved by the University at Buffalo's institutional review board. MOLST forms that were completed during the ED visit were excluded from the analysis.

Data from the MOLST forms were extracted into Microsoft Excel. Data categories included age, gender, if the patient completed the form for themselves, medical orders for life sustaining treatment including intubation, ventilation, artificial nutrition, artificial fluids or other treatment and wishes for future hospitalization or transfer. Written comments were entered into a text box.

Analysis

Frequencies of variables were calculated and the associations between them were determined using chi-square. An a priori list of combinations of medical orders that were contradictory was developed. Contradictions with Orders for CPR included the choice of one or more of the following: Comfort care; Limited intervention; Do Not Intubate; No rehospitalization; No IV fluids; and No antibiotics. Contradictions with DNR orders included the choice of one or more of the following: Intubation; No limitation on interventions. Contradictions with orders for Comfort Care were as follows: Send to the hospital; Trial period of IV fluids; Antibiotics. The frequencies of coexisting but contradictory medical orders were calculated using crosstabs. Free text responses to the "other instructions" section were submitted to content analysis.

Results

A total of 100 MOLST forms were obtained over a 9-month period. The MOLST forms represented the medical orders of patients who were predominantly female (64%) and had a median age of 79 years [interquartile range (IQR) = 26]. Forty-seven percent of the decisions documented on the MOLST forms were made by the patients themselves, with the remainder being made by others on behalf of the patients. Age was associated with patients being their own MOLST decision maker ($X^2 = 4.97, P = .026$). When stratified by median age, 58% of patients ≤ 79 years of age ($n = 52$) were the MOLST decision maker compared with 35% of patients ≥ 80 years of age ($n = 48$). The majority (69%) had at least 1 incomplete section. Table 1 presents the number of completed MOLST forms by section and the frequency of requested medical orders.

Resuscitation Instructions

Data on resuscitation orders was available for all 100 patients. The majority (78%) had a "Do Not Resuscitate" (DNR) order that would allow for natural death to occur. Age was associated with resuscitation orders ($X^2 = 10.05, P = .002$). Sixty-five percent (65%) of patients who were ≤ 79 years of age ($n = 52$) requested a DNR compared with 92% of patients who were ≥ 80 years of age ($n = 48$). The decision-maker role

Table 1
Frequency of Medical Orders for Life Sustaining Treatment

MOLST Section	No. of Forms Completed	n	%
Decision maker	100		
Self		47	47
Other		53	53
Resuscitation instructions	100		
CPR order: Attempt CPR		22	22
DNR order: Do not attempt resuscitation/allow natural death		78	78
Treatment guidelines	56		
Comfort measures only		14	25
Limited medical interventions		30	54
No limitations on medical interventions		12	21
Instructions for intubation and mechanical ventilation	82		
Do not intubate (DNI)		62	76
Intubation and long-term mechanical ventilation, if needed		9	11
Trial period: Intubation and mechanical ventilation		4	5
Trial period: Noninvasive ventilation		5	6
Trial period: Intubation and mechanical ventilation and noninvasive ventilation		1	1
Intubation and mechanical ventilation (trial period not checked)		1	1
Future hospitalization/transfer	51		
Do not send to the hospital unless pain or severe symptoms cannot otherwise be controlled		12	23
Send to the hospital, if necessary, based on MOLST orders		39	77
Artificially administered nutrition	63		
No feeding tube		44	70
Trial period of feeding tube		13	21
Long-term feeding tube		6	9
Artificially administered fluids	41		
No IV fluids		6	15
Trial period of IV fluids		35	85
Antibiotics	57		
Do not use antibiotics		1	2
Determine use or limitation of antibiotics when infection occurs		19	33
Use antibiotics		36	63
Do not use antibiotics and determine use or limitation of antibiotics when infection occurs		1	2

(self vs other) was not associated with resuscitation orders ($X_2 = 0.65$, $P = .422$).

Treatment Guidelines

Approximately half of MOLST forms specified treatment guideline orders ($n = 56$). The most frequent request was for “Limited Medical Intervention” (54%). Age, stratified at the median, was not associated with treatment guideline orders ($X_2 = 5.03$, $P = .081$), but some distinctions between older and younger patients were identified. A greater percentage of MOLST forms for persons ≥ 80 years of age (32%) stipulated “Comfort Measures Only” compared with those ≤ 79 years of age (19%); in contrast, the MOLST forms of younger patients (32%) were more likely to request “No Limitations on Medical Interventions” compared with older patients (8%). The decision-maker role (self vs other) was not associated with treatment guideline orders ($X_2 = 0.18$, $P = .913$).

Intubation and Mechanical Ventilation

Most MOLST forms specified orders for intubation and mechanical ventilation ($n = 82$). “Do Not Intubate” (DNI) orders were the most frequently documented (75%). “Intubation and Long Term Mechanical Ventilation, if Needed” was specified on 11% of the forms. A combined 12% of the forms specified some type of “Trial Period” of intubation and mechanical ventilation and/or noninvasive ventilation. Finally, 1% did not check the “trial” box but “Intubation and Mechanical Ventilation” was selected. Age, stratified at the median, was not associated with treatment guideline orders ($X_2 = 8.23$, $P = .144$). However, a greater percentage of patients ≤ 79 years of age (20%) requested “Intubation and Long-Term Ventilation, if Needed” than the forms of patients who were ≥ 80 years of age (2%). The decision-maker role (self vs other) was not associated with treatment guideline orders ($X_2 = 3.37$, $P = .642$).

Future Hospitalization/Transfer

About half of the forms specified orders for future hospitalization and transfer ($n = 51$). Few (23%) requested not to be sent to the hospital. Age, stratified at the median, was not associated with hospitalization orders ($X_2 = 1.55$, $P = .214$). However, a greater percentage of patients ≤ 79 years of age (31%) requested not to be sent to the hospital than patients ≥ 80 years of age (16%). Decision maker (self vs other) was not associated with hospitalization orders ($X_2 = 0.88$, $P = .349$).

Artificially Administered Nutrition

Sixty-three (63) patients specified orders for artificial nutrition. Few requested use of a feeding tube either for a trial period (21%) or for long-term use (9%). Age, stratified at the median, was not associated with artificial nutrition orders ($X_2 = 3.59$, $P = .166$). However, a greater percentage of patients ≤ 79 years of age (15%) requested use of a long-term feeding tube, if needed, compared with patients ≥ 80 years of age (3%). Decision maker (self vs other) was not associated with hospitalization orders ($X_2 = 0.11$, $P = .942$).

Artificially Administered Fluids

Forty-one (41) patients specified orders for artificial fluids. Most (85%) requested a trial period of artificial IV fluids. Age, stratified at the median, was not associated with artificial fluid orders ($X_2 = 3.36$, $P = .067$). However, a greater percentage of patients ≤ 79 years of age (25%) requested no IV fluids, compared with patients ≥ 80 years of age

(5%). Decision maker (self vs other) was not associated with hospitalization orders ($X_2 = 0.10$, $P = .757$).

Antibiotics

Approximately half of the patients ($n = 57$) specified orders for antibiotic use. Most (63%) requested the use of antibiotics. Age, stratified at the median, was not associated with antibiotic orders ($X_2 = 3.74$, $P = .290$), nor was decision maker (self vs other) ($X_2 = 2.35$, $P = .504$).

Inconsistencies

Three MOLST decisions were examined in detail to determine whether other decisions on the MOLST form were inconsistent with the decision of interest (Table 2). In the Treatment Guidelines section, a total of 14 patients requested “Comfort Measures Only.” None of

Table 2
Inconsistencies in Medical Orders for Life Sustaining Treatment

Decision and Inconsistencies Elsewhere on the MOLST	No. of Forms Completed	n	%
Comfort measures only	14		
CPR order: Attempt CPR		0	0
Intubation and mechanical ventilation orders not specified		1	7
Send to the hospital, if necessary, based on MOLST orders		4	29
Future hospitalization and transfer orders not specified		5	36
Trial period of feeding tube		1	7
Artificially administered nutrition orders not specified		3	21
Trial period of IV fluids		6	43
Artificially administered fluid orders not specified		6	43
Determine use or limitation of antibiotics when infection occurs		2	14
Use antibiotics		6	43
Antibiotic orders not specified		5	36
DNR order: Do not attempt resuscitation/allow natural death	78		
No limitations on medical interventions		3	4
Treatment guideline orders not specified		34	44
Intubation and long-term mechanical ventilation, if needed		1	1
Trial period: Intubation and mechanical ventilation		1	1
Trial period: Noninvasive ventilation		4	5
Trial period: Intubation and mechanical ventilation and noninvasive ventilation		1	1
Intubation and mechanical ventilation orders not specified		10	13
Send to the hospital, if necessary, based on MOLST orders		29	37
Future hospitalization and transfer orders not specified		40	51
Trial period of feeding tube		9	12
Long-term feeding tube		1	1
Artificially administered nutrition orders not specified		27	35
Trial period of IV fluids		28	36
Artificially administered fluid orders not specified		45	58
Determine use or limitation of antibiotics when infection occurs		17	22
Use antibiotics		26	33
Do not use antibiotics and determine use or limitation of antibiotics when infection occurs		1	1
Antibiotic orders not specified		33	42
CPR order: Attempt cardio-pulmonary resuscitation	22		
Limited medical interventions		3	14
Do not intubate (DNI)		1	5
No IV fluids		1	5

these patients requested CPR, but they did request other interventions such as being sent to the hospital (29%), a trial period of IV fluids (43%), and use of antibiotics (43%). A majority of patients (78) requested a DNR order. Despite this, these same patients did not specify orders in areas of the MOLST form that could result in interventions that would contradict their DNR orders. For example, 44% did not provide orders for treatment guidelines and 51% did not specify orders for future hospitalization and transport. Among patients who requested CPR orders ($n = 22$), 14% also requested limited medical intervention and 5% requested a do not intubate order.

Other Instructions

Patient remarks found in the “Other Instructions” section of the POLST form are reported in Table 3. The procedures most commonly referred to were dialysis, blood transfusions, and feeding tubes.

Discussion

Despite recent increased nationwide emphasis on the promotion of portable physician orders for life-sustaining treatments, there remain challenges associated with implementation and utilization of such orders. This study adds to the larger body of research on the POLST paradigm by prospectively examining how POLST forms directed providers to care for 100 patients in an urban ED.

Perhaps the most notable finding of this study was the frequency by which MOLST forms were incomplete, with 69% of forms reviewed having at least one section left blank. In the absence of clearly articulated medical orders, emergency medical services and emergency medicine providers are compelled to treat patients at the highest level of intervention, and inconsistencies between patient wishes and patient receipt of treatment procedures have been documented.⁸ Given that research has demonstrated the challenges emergency medical professionals have in reaching consensus as to how to interpret ambiguous POLST forms,⁵ and that in an emergency most patients will receive aggressive life-sustaining treatment in the absence of clearly documented medical orders,¹⁵ such forms must be comprehensively completed to ensure adherence to patients’ wishes. Although the POLST is intended to increasingly clarify patient wishes above and beyond that of advance directives or living wills,¹⁶ failure to complete the form in its entirety, as was the case with the majority of participants in this sample, could result in patients receiving unwanted, potentially painful, and futile interventions.

Table 3
Procedures Mentioned in the Other Remarks Section of the MOLST Form

Procedure	Number of Mentions
Dialysis	11
Blood transfusions	5
Feeding tubes/nasogastric tubes/IV feeding	5
Hospitalization	3
Surgery	2
CPAP/BiPAP	2
Chemical CPR	2
Pain relief	1
Medication to prolong life	1
Amputation	1
Blood draws	1
Fluids	1
No IVs	1
In-house consults only	1
Chemotherapy	1
Pressors	1
Weight measurements	1

BiPAP, bilevel positive airway pressure; CPAP, continuous positive airway pressure.

Also noted were inconsistencies in patient wishes among a subset (14%) of patients, wherein their desire for “comfort measures only” seemed contradicted by a desire to be sent to the hospital, receive IV fluids, and/or receive antibiotics. Although it is possible that such individuals are attempting to state a desire for short term interventions that might resolve an acute concern such as an infection or dehydration, these inconsistencies might result in provider difficulty in POLST form interpretation.⁵

Recent research has emphasized the need for greater and more comprehensive training regarding the completion and interpretation of POLST forms.^{5,17} The high proportion of patients with incomplete POLST forms suggests that patients and their proxies may leave forms incomplete because they are unable to understand the treatment decisions they are asked to make or that they are unaware of the implications of leaving the forms incomplete. As noted by Jesus et al,¹⁷ a POLST form should ideally be completed following an informed discussion between patient/surrogate and physician. However, most commonly a nonphysician facilitator prepares the POLST form, and the physician’s signature simply activates it.¹³ This may be due to the discomfort many providers feel having end-of-life conversations with their patients.¹⁸ Interprofessional education regarding end-of-life care may strengthen interdisciplinary teams and may help resolve such^{19,20} conflicts and produce POLST forms that more accurately reflect the patient’s wishes and resolve contradictory directives. Regardless of who initially prepares the POLST forms, it is important that signing physicians review the patient’s wishes with the patient (or surrogate), to ensure that any inconsistencies or incomplete information is addressed when possible.

The free response “other instructions” section was used in 76% of POLST forms analyzed. Among these the most common instructions were for no dialysis and no blood transfusions. It is unclear what percentage of overall respondents would have expressed a preference for these interventions if they were included among the check box questions. Authors of these forms should consider the most frequent “write-in” interventions for inclusion in future revisions of the form.

There was no difference between the requested orders in forms filled out by patients versus those completed by proxies. As a group, proxies were no more or less aggressive in their treatment decisions than patients. No differences were noted between the choices expressed on POLST forms completed by patients versus proxies. Therefore, we cannot contribute to the discussion of whether or not proxy decisions, as represented in this sample, were accurate representations of the proxies’ associated patients’ wishes. Our study was not designed to look at agreement between specific patients and their designated proxies with respect to POLST decision making.

Limitations

There are a number of important limitations to this study. The patient sample represented 100 patients presenting to a single urban hospital. Patients were not informed of the study. No additional demographic information beyond age and gender was collected. It is unclear if the findings are generalizable to the larger population of individuals completing POLST forms. The variability in format of POLST forms on a state-to-state basis also limits the generalizability of this study,¹³ as different policies and procedures related to POLST completion and/or provider training might influence outcomes of similar studies in other states. Ascertainment bias is a significant concern. Only forms that were identified by the ED staff and submitted to the study team were included in the analysis. It is possible that some forms may have been found and acted upon by hospital staff and not submitted. More concerning is the possibility that some forms may have accompanied the patient, but not come to the attention of the hospital providers. Finally, these data represent patients who presented to the ED during a discrete period of time and not all

patients who completed a POLST form. It is likely that patients with more limitations of care would present to the hospital less frequently than those without limitations of care with the similar condition.

Future Directions

This study solely examined the contents of POLST forms arriving with patients to an ED. Future studies should examine the influence of such forms on patient care and patient outcomes. The presence of a POLST form does not always predict adherence to patient's wishes; this may, in part, be due to some of the inconsistencies in patient completion of forms as found in our study sample. Future qualitative studies may elucidate patient preferences in the presence of incomplete or inconsistent POLST forms. This may increase the likelihood of patients receiving end of life care that is consistent with their preferences.

Conclusions

This study demonstrates that among patients who present to an ED with MOLST forms, 69% are incomplete. Many have internal inconsistencies which make providers' interpretation of patients' wishes for life sustaining treatment challenging. Patients and proxies may believe that making choices and documenting some, but not all, of their wishes on the MOLST form is sufficient for directing their end of life care. However, the result of making some, but not all choices, may result in patients receiving undesired, extraordinary, or invasive care. Educating providers, patient, and proxies on the implications of decision by default is essential.

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