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TRIAD XII: Are Patients Aware of and Agree With DNR or POLST Orders in Their Medical Records

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Objective: The aim of the study was to determine (1) whether do-not-resuscitate (DNR) orders created upon hospital admission or Physician Orders for Life-Sustaining Treatment (POLST) are consistent patient preferences for treatment and (2) patient/health care agent (HCA) awareness and agreement of these orders.

Methods: We identified patients with DNR and/or POLST orders after hospital admission from September 1, 2017, to September 30, 2018, documented demographics, relevant medical information, evaluated frailty, and interviewed the patient and when indicated the HCA.

Results: Of 114 eligible cases, 101 met inclusion criteria. Patients on average were 76 years old, 55% were female, and most white (85%). Physicians (85%) commonly created the orders. A living will was present in the record for 22% of cases and a POLST in 8%. The median frailty score of "4" (interquartile range = 2.5) suggested patients who require minimal assistance. Thirty percent of patients requested cardiopulmonary resuscitation and 63% wanted a trial attempt of aggressive treatment if in improvement is deemed likely. In 25% of the cases, patients/HCAs were unaware of the DNR order, 50% were unsure of their prognosis, and another 40% felt their condition was not terminal. Overall, 44% of the time, the existing DNR, and POLST were discordant with patient wishes and 38% were rescinded. Of the 6% not rescinded, further clarifications were required. Discordant orders were associated with younger, slightly less-frail patients.

Conclusions: Do-not-resuscitate and POLST orders can often be inaccurate, undisclosed, and discordant with patient wishes for medical care. Patient safety and quality initiatives should be adopted to prevent medical errors.

Key Words: DNR, POLST, POLST like, end of life, living will, advance care planning

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End-of-life (EOL) care for the older people and those with a terminal diagnosis is costly. The Centers for Medicare Services indicate that one-fourth of all Medicare expenditures are spent in the last year of life.[1] The Institute of Medicine (IOM) released a ground-breaking report indicating that EOL care is broken and spending was predicted to exceed 350 billion by 2019.[2] More recently, in a new study, Einav et al[3] reported that EOL spending is overestimated and patients with the highest 1-year mortality risk account for less than 5% of spending. Reaction to the IOM report led to aggressive EOL planning initiatives across many healthcare systems that have impacted many patients and resulted in both over and undertreatment of patients.[4,5]

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Cost aside, ensuring that patient preferences are honored should be the primary focus of advance care planning. The goal should be the accurate representation of patients' wishes when healthy, when critically ill, or at EOL. The Patient Self-Determination Act of 1990 was enacted to allow documentation of patient wishes, most commonly the living will (LW), for resuscitation and life support before incapacitance.[6] In an attempt to ensure portability of patient wishes, the Physician Orders for Life-Sustaining Treatment (POLST) was promulgated throughout Oregon in the 1990s,[7] representing an actionable set of medical orders for care. This led to the creation of the National POLST Paradigm, which is now approved or operationalized very quickly in some form in all 50 states.[8] Of concern, the Oregon POLST process, which began the National POLST, has now withdrawn from the National POLST Paradigm in 2017, citing concerns of conflicts of interest, and now operates as the Oregon POLST.[8,9] The acronym used by states participating in the National POLST can vary (MOST, MOLST, POLST) as can the content, color, and format of the forms. These variations were deployed but never evaluated to ensure patient safety. Either LW or POLST, health care providers must understand the documents and know how and when to implement them to ensure patient preferences.

The Realistic Interpretation of Advance Directives (TRIAD) research suggests that neither LWs nor POLST is fully understood. Living wills have often been construed as do not resuscitate (DNR).[10–13] The POLST forms can be confusing, resulting in patient deaths or overresuscitations.[4,5,12,13] The incomplete POLST forms added further confusion resulting in over resuscitations when at EOL.[14] Despite these shortcomings, several studies have indicated conformance between the POLST form content, patient treatment, and patient outcomes.[15–17] Importantly, patient assent/consent for treatment, however, was not demonstrated in these studies and at least one study suggests discordance between what was documented on the POLST versus what the patient actually consented.[18] Thus, it still remains unclear whether LWs and POLST documents unambiguously represent EOL patient preferences.

Recently, research has been published to suggest process improvements, such as interviewing patients with no code status documentation or a full code status choice upon hospital admission, and then deploying targeted EOL education to those patients. The result was creation of DNR orders or having changed full-code orders to DNR orders after interventions.[19] Additional research has been directed to study code status transition from full code to DNR.[20] These studies did not included patients with existing DNR orders or the reversal of DNR to Full Code Orders.

The present study seeks to expand upon prior EOL research. We sought to identify patients with a DNR order created upon admission to our institution and then directly interview them (or their health care agents [HCAs]) to determine their preferences. Specific aims include the following: (*a*) assess patient EOL resuscitation and treatment preferences based on patient or family member interview; (*b*) assess the level of patient debility; (*c*) determine whether a conflict existed between patient interview responses

TRIAD XII: Understanding Patient Preferences for End of Life Care Involving DNR and POLST Orders

Eligibility Verification

☐ The patient has a DNR order or DNR bracelet

☐ The patient has capacity to make his/her health care decisions

☐ The patient (or POA) consents for the study

Chart Review

Study Subject # (cross-referenced to MRN): ____________

1. Patient age: ______
2. Patient sex (circle): M F Trans
3. Race (circle): African American Latino/Hispanic Caucasian
4. Date of Admission ________________
5. Primary Dx ____

6. Who wrote the DNR in the chart order?
☐ MD ☐ APP ☐ Resident Date _____________

7. What documents are in the chart (check all that apply)

☐ MOLST/POLST Date* (if applicable)______________

☐ DNR Date* (if applicable)______________

☐ Code Status Note Date* (if applicable)______________

☐ HCP/Living Will Date* (if applicable)______________

☐ Note of Code Status in admitting Note

8. [If the patient has a living POLST/MOLST] What does the POLST/MOLST Specify

Section A: CPR ☐ DNR ☐

Section B: Full Tx ☐ Selective/Limited Tx ☐ CMO ☐

* Date of form or most recent amendment/review

Patient Scripted Remarks

Good morning/evening, Mr./Ms. _________,

My name is Dr. Fred Mirarchi and I'm the Director of Emergency Medicine here at UPMC Hamot. I'm conducting a study to check medical records of hospital patients to make sure their preferences for care, especially care that involves treatment in a medical emergency, are met. A medical emergency in this case involves lifesaving decisions. I wondered if you would consider helping me by allowing me permission to make some notes from your medical record and then ask you some questions about the kind of care you want during an emergency? I want to make sure that information in your medical record reflects your desire for care. If you're willing to help out, I'll need you or your health care agent or one of your family members to read and sign a consent form. After that, I'll look over your record, take some notes, and then ask you or your health care agent/family member some questions. This won't take more than 15 minutes once I read and collect the necessary information from your medical record. Is this alright with you?

If yes, proceed with consenting and interview.

If no, "Thank you for your time."

Patient Interview

Does the patient have a DNR order or bracelet? ☐ Yes ☐ No

What is the Clinical Frailty Score _______

Questions for the patient

1. If today your heart was to stop beating, should the hospital staff try to keep you alive by resuscitating you (shock your heart, perform chest compressions)?

Yes ______ No ________

If Yes:

a) If you stop breathing, you would also expect the hospital staff to insert a breathing tube to help keep you alive.

Yes ______ No ________

b) If you stop breathing, you'd expect the hospital staff to connect you to a breathing machine to help keep you alive.

Yes ______ No ________

2. If your breathing or heart ***don't stop*** but your condition requires treatment for survival, how much treatment do you want?
   a. I ***do not*** want treatment to prolong my life, only medications and treatment that would keep me comfortable _______

FIGURE 1. TRIAD DNR safety audit tool.

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b. I'd want the hospital to try a limited amount of treatment (such as IV fluids, a blood transfusion, or cardiac monitoring) to see if my condition improves ______

c. I'd want the hospital to provide every and all measures available to keep me alive _________

3. I expect to receive antibiotics to treat an infection. Yes _______ No _______
4. I expect to receive artificial nutrition by a feeding tube or IV if I need it.

Yes _____ No ______

5. What has your doctor told you about your prognosis and the prospects for your longevity? (terminal _____ not terminal _____ unsure _____)
6. Did you know there is a DNR order written for you? Yes ____ No _____
7. ***For patients with a POLST/MOLST:***

7a: Did you know that a Physicians Order for Life Sustaining Treatment has been written for you?

☐ Yes ☐ No ☐ Unsure

7b: As a physician's order, did you know that EMS can and will act on your POLST/MOLST form, if your heart stops and you're are outside of the hospital you will not be resuscitated and allowed to naturally die?

☐ Yes ☐ No ☐ Unsure

8. If at some point you no longer are able to make your own health care desions, would you want your health care proxy to have the legal right to cancel your DNR order and request that you receive CPR if your heart was to stop?

☐ Yes ☐ No ☐ Unsure

Comments:

Discrepancy Resolution

To be performed immediately if a DNR order is found during the chart review alone or in combination with a POLST and patient stated he/she does not have/want a DNR.

Notification (hospital specific)

☐ Patient's primary team Name ________________________ Date/Time ___________

☐ Palliative Care team Name ________________________ Date/Time ___________

(After patient's primary care team and/or PC team meet with patient)

Did the patient's care team determine the patient had capacity?

☐ Yes ☐ No

What is the final status of the DNR order?

☐ DNR was continued

☐ DNR was discontinued

Comments:

FIGURE 1. Continued.

versus content of medical record (e.g., DNR or POLST); (*d*) resolve or rectify any obvious conflict between documentation and patient wishes; and (*e*) assess the level of patient debility.

METHODS

This was an institutionalized review board–approved, prospective, single-center study of in-hospital patients with existing DNR or POLST orders. Patient electronic records were queried for active DNR orders using a report function that identifies DNR orders on all admitted patients for the date queried. Dates of study enrollment were from September 1, 2017, to September 30, 2018, to allow sufficient enrollment and provide time-relevant (e.g, current hospital enrollment) information. Once identified, patients (or appointed HCA) who agreed to the use of their medical information in a deidentified manner were asked to sign a study consent. To minimize variability, the survey was administered by a trained group existing of primary and co-investigators. Patients were assigned a study number based on chronology of entry into the study. Study number and the patient's medical record number were recorded on a data collection form. Data obtained from both the electronic medical record (EMR), including diagnosis, represented retrospective data collection. However, information derived from the patent interview was obtained prospectively. All data were recorded on the data collection form. Information from these forms was then abstracted into an electronic spreadsheet and contained the patient's study number to ensure confidentiality. Data forms were secured in the principal investigator's office. The medical records of patients with DNR orders were then then reviewed for evidence of LW and/or POLST document and information abstracted onto the data collection form (Fig. 1). Information abstracted included date of admission, age, sex, race, primary diagnosis, and the medical provider who prescribed the DNR order.

Patients with capacity or HCA's who consented were interviewed by one of the investigators to determine their knowledge and awareness of DNR orders (hospital DNR or POLST). All interviews took place during current hospitalization with the majority occurring within the first 48 hours of admission. Patients or HCA's were asked about the patient's prognosis (awareness of presence or absence of a terminal condition), awareness of the DNR order, and understanding

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of treatment selection listed in the POLST or LW (Figs. 2–4). Additional queries addressed their preference for resuscitation and supportive medical care and treatment (Fig. 1) and have a direct correlation to a DNR or POLST content. Overt discrepancies between information contained in medical record documentation and patient preferences, if identified, were reported to the attending physician to be immediately reconciled.

Given that patient debilitation may have an impact on assigning either a DNR order or POLST, patients were assessed for "frailty" based on an established, validated clinical scoring algorithm. In the case of POLST orders, in particular, frailty represents a precondition for enacting the order.[21] In many cases, frailty represents a purely subjective determination by the clinician, who may or may not be factual. Ultimately, our intent was to determine how debilitated and frail study patients were. Scores were generated by the interviewers and used as an outcome measure rather than a demographic to determine the relevance of frailty to EOL orders.

Data analysis consisted of establishing the rates of discrepancy, changes from DNR to full code (reinstatement of cardiopulmonary resuscitation (CPR), change to medical support measures) and preferences for care. Ninety-five percent confidence intervals (CIs) were assigned to percentages. Subgroup analysis examined demographic and admission factors for their impact on discrepancy. Scale factors were analyzed with either a *t* test or a Mann-Whitney *U* test, based on data normality. χ^2 test or Fisher exact test was used for rates. A *P* value of less than 0.05 was considered significant.

RESULTS

Of 114 eligible patients, data for 101 were usable and included in the analysis. The 13 exclusions had incomplete information (survey document not fully completed or withdrew before interview completed) or issues pertinent to consenting (investigator did not capture signature). The mean ± SD age of the patients included was 76 ± 10.8 years (Table 1). Slightly more than half (55%) were female and the majority (85%) were white. The most common admission diagnosis was related to an infection (21%), followed by cardiac (18%), pulmonary (14%), and gastrointestinal-related (14%) issues. All had DNR orders documented in their chart. Physicians (85%) most commonly assigned DNR status. Along with DNR designation, 84% of patient charts contained a notation that expounded on the order. An LW was present for 22% and a POLST for 8%. For POLST patients, all had a DNR in Box A and five stipulated limited treatment and three stipulated comfort measures only.

The patient interview revealed a median frailty score of 4 (range = 0–8; interquartile range = 2.5). Most patients declined CPR but 30% requested CPR (Table 2). Although approximately half of the patients refused intubation, mechanical ventilation, or tube feeding, more than 30% requested it. Most patients with a DNR (63%) wanted a trial of medical support (even if aggressive) to see whether improvement occurs. Similarly, most patients (98%) would want antibiotics if warranted.

Patients often were not aware of either the DNR order or their medical prognosis. For patients responding to the question, 25%

Name

Living Will

I, ____________________, being of sound mind, willfully, and voluntarily make this declaration to be followed if I become incompetent. This declaration reflects my firm and settled commitment to refuse life-sustaining treatment under the circumstances indicated below.

I direct my attending physician to withhold or withdraw life-sustaining treatment that serves only to prolong the process of my dying, if I should be in a terminal condition or in a state of permanent unconsciousness.

I direct that treatment be limited to measures to keep me comfortable and to relieve pain, including any pain that might occur by withholding or withdrawing life-sustaining treatment.

In addition, if I am in the condition described above, I feel especially strong about the following forms of treatment:

I ( ) do (X) do not want cardiac resuscitation.
I ( ) do (X) do not want mechanical respiration.
I ( ) do (X) do not want tube feeding or any other artificial or invasive form of nutrition (food) or hydration (water).
I ( ) do (X) do not want blood or blood products.
I ( ) do (X) do not want any form of surgery or invasive diagnostic tests.
I ( ) do (X) do not want kidney dialysis.
I ( ) do (X) do not want antibiotics.

I realize that if I do not specifically indicate my preference regarding any of the forms of treatment listed above, I may receive that form of treatment.

Other instructions:

I ( ) do ( ) do not want to designate another person as my surrogate to make medical treatment decisions for me if I should be incompetent and in a terminal condition or in a state of permanent unconsciousness. Name and address of surrogate (if applicable):

Name of Surrogate: ____________________

Address of Surrogate: ____________________

Name and address of substitute surrogate (if surrogate designated above is unable to serve):

Substitute Surrogate: ____________________

Address of Substitute: ____________________

I made this decision on the __________ day of __________ (month), __________ (year).

Declarant's Signature: ____________________

Declarant's Address: ____________________

The declarant or the person on behalf of and at the direction of the declarant knowingly and voluntarily signed this writing by signature or mark in my presence.

Witness' Signature: ____________________

Witness's Address: ____________________

FIGURE 2. Living will document.

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SEND FORM WITH PERSON WHENEVER TRANSFERRED OR DISCHARGED
To follow these orders, an EMS provider must have an order from his/her medical command physician

pennsylvania DEPARTMENT OF HEALTH

Pennsylvania Orders for Life-Sustaining Treatment (POLST)

Last Name
First/Middle Initial
Date of Birth

FIRST follow these orders, **THEN** contact physician, certified registered nurse practitioner or physician assistant. This is an Order Sheet based on the person's medical condition and wishes at the time the orders were issued. Everyone shall be treated with dignity and respect.

A Check One — **CARDIOPULMONARY RESUSCITATION (CPR): Person has no pulse and is not breathing.**
☐ CPR/Attempt Resuscitation ☐ DNR/Do Not Attempt Resuscitation (Allow Natural Death)
When not in cardiopulmonary arrest, follow orders in B, C and D.

B Check One — **MEDICAL INTERVENTIONS: Person has pulse and/or is breathing.**
☐ **COMFORT MEASURES ONLY** Use medication by any route, positioning, wound care and other measures to relieve pain and suffering. Use oxygen, oral suction and manual treatment of airway obstruction as needed for comfort. ***Do not transfer*** *to hospital for life-sustaining treatment.* ***Transfer*** *if comfort needs cannot be met in current location.*
☐ **LIMITED ADDITIONAL INTERVENTIONS** Includes care described above. Use medical treatment, IV fluids and cardiac monitor as indicated. Do not use intubation, advanced airway interventions, or mechanical ventilation.
Transfer *to hospital if indicated. Avoid intensive care if possible.*
☐ **FULL TREATMENT** Includes care described above. Use intubation, advanced airway interventions, mechanical ventilation, and cardioversion as indicated.
Transfer *to hospital if indicated. Includes intensive care.*
Additional Orders ____________

C Check One — **ANTIBIOTICS:**
☐ No antibiotics. Use other measures to relieve symptoms.
☐ Determine use or limitation of antibiotics when infection occurs, with comfort as goal
☐ Use antibiotics if life can be prolonged
Additional Orders

D Check One — **ARTIFICIALLY ADMINISTERED HYDRATION / NUTRITION:** Always offer food and liquids by mouth if feasible
☐ No hydration and artificial nutrition by tube.
☐ Trial period of artificial hydration and nutrition by tube.
☐ Long-term artificial hydration and nutrition by tube.
Additional Orders

E Check One — **SUMMARY OF GOALS, MEDICAL CONDITION AND SIGNATURES:**
Discussed with
☐ Patient
☐ Parent of Minor
☐ Health Care Agent
☐ Health Care Representative
☐ Court-Appointed Guardian
☐ Other:
Patient Goals/Medical Condition:

By signing this form, I acknowledge that this request regarding resuscitative measures is consistent with the known desires of, and in the best interest of, the individual who is the subject of the form.
Physician /PA/CRNP Printed Name: | Physician /PA/CRNP Phone Number
Physician/PA/CRNP Signature (Required): | DATE
Signature of Patient or Surrogate
Signature (required) | Name (print) | Relationship (write "self" if patient)

PaDOH version 10-14-10 1 of 2

FIGURE 3. POLST document.

(±8.4% CI) indicated that they were unaware of the order. Most patients (50%, ±9.8% CI) were unsure of their prognosis and another 40% (±9.6% CI) felt that their condition was not terminal at the time of admission.

With respect to discordant orders, for all patients, 44% (±9.7% CI) of their EOL wishes were at odds with the existing DNR order, and in 38% (±9.5% CI), the DNR order was rescinded. For the six patients who had a discrepancy that did not result in overturning the DNR, further clarification of EOL care was required. For patients without a POLST, rates were similar. Discrepancy was noted in 41% (±10.0% CI) with the order rescinded in 37% (±9.8% CI). However, discrepancy was higher in patients with a POLST. For the eight patients with a POLST, the discrepancy rate was 75% and the order rescinded in half (50%). Most patients (84%, ±7.1% CI) were considered mentally competent and had capacity for decision-making. For 12%, the HCA responses (response missing for 4% of cases).

Subgroup Analysis

Age was a factor in discrepancy. Patients with EOL discrepancies were, on average, 7 years younger than patients without a discrepancy (P = 0.0012) (Table 3). Admitting diagnosis may also be related to inappropriate DNR orders. Both gastrointestinal- and neuro-related admissions had inordinately high discrepancy rates, although small subgroups militated against statistical power (P = 0.135). Frailty score was also significantly different between groups. The median score for patients with discrepancy was a point lower than those without a discrepancy (P = 0.001). Finally, patients' awareness of the DNR order was a factor in discrepancy. Discrepancy rates were approximately 60% higher in patients who were not aware of the order (P < 0.001).

DISCUSSION

More than half of elderly patients will visit an emergency department in the last month of life.[8,22] Moreover, 50% will not be able to participate in the decision-making process when at EOL.[2,8] However, when the patient enters a healthcare facility, they are often asked two questions: "Do you have a living will?" and "How do you want to be treated if you experience cardiac arrest?" Answers to these questions get documented in the form of code status for resuscitation and go unchecked as far as quality

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NEW YORK STATE DEPARTMENT OF HEALTH

Medical Orders for Life-Sustaining Treatment (MOLST)

THE PATIENT KEEPS THE ORIGINAL MOLST FORM DURING TRAVEL TO DIFFERENT CARE SETTINGS. THE PHYSICIAN KEEPS A COPY.

LAST NAME/FIRST NAME/MIDDLE INITIAL OF PATIENT

ADDRESS

CITY/STATE/ZIP

☐ Male ☐ Female

DATE OF BIRTH (MM/DD/YYYY) eMOLST NUMBER **(THIS IS NOT AN eMOLST FORM)**

Do-Not-Resuscitate (DNR) and Other Life-Sustaining Treatment (LST)

This is a medical order form that tells others the patient's wishes for life-sustaining treatment. A health care professional must complete or change the MOLST form, based on the patient's current medical condition, values, wishes and MOLST Instructions. If the patient is unable to make medical decisions, the orders should reflect patient wishes, as best understood by the health care agent or surrogate. A physician must sign the MOLST form. All health care professionals must follow these medical orders as the patient moves from one location to another, unless a physician examines the patient, reviews the orders and changes them.

MOLST is generally for patients with serious health conditions. The patient or other decision-maker should work with the physician and consider asking the physician to fill out a MOLST form if the patient:

- Wants to avoid or receive any or all life-sustaining treatment.
- Resides in a long-term care facility or requires long-term care services.
- Might die within the next year.

If the patient has a developmental disability and does not have ability to decide, the doctor must follow special procedures and attach the appropriate legal requirements checklist.

SECTION A **Resuscitation Instructions When the Patient Has No Pulse and/or Is Not Breathing**

Check one:

☐ **CPR Order: Attempt Cardio-Pulmonary Resuscitation**
CPR involves artificial breathing and forceful pressure on the chest to try to restart the heart. It usually involves electric shock (defibrillation) and a plastic tube down the throat into the windpipe to assist breathing (intubation). It means that all medical treatments will be done to prolong life when the heart stops or breathing stops, including being placed on a breathing machine and being transferred to the hospital.

☐ **DNR Order: Do Not Attempt Resuscitation (Allow Natural Death)**
This means do not begin CPR, as defined above, to make the heart or breathing start again if either stops.

SECTION B **Consent for Resuscitation Instructions (Section A)**

The patient can make a decision about resuscitation if he or she has the ability to decide about resuscitation. If the patient does NOT have the ability to decide about resuscitation and has a health care proxy, the health care agent makes this decision. If there is no health care proxy, another person will decide, chosen from a list based on NYS law.

SIGNATURE ☐ Check if verbal consent (Leave signature line blank) DATE/TIME

PRINT NAME OF DECISION-MAKER

PRINT FIRST WITNESS NAME PRINT SECOND WITNESS NAME

Who made the decision? ☐ Patient ☐ Health Care Agent ☐ Public Health Law Surrogate ☐ Minor's Parent/Guardian ☐ §1750-b Surrogate

SECTION C **Physician Signature for Sections A and B**

PHYSICIAN SIGNATURE PRINT PHYSICIAN NAME DATE/TIME

PHYSICIAN LICENSE NUMBER PHYSICIAN PHONE/PAGER NUMBER

SECTION D **Advance Directives**

Check all advance directives known to have been completed:

☐ Health Care Proxy ☐ Living Will ☐ Organ Donation ☐ Documentation of Oral Advance Directive

DOH-5003 (6/10) Page 1 of 4 *HIPAA permits disclosure of MOLST to other health care professionals & electronic registry as necessary for treatment.*

THE PATIENT KEEPS THE ORIGINAL MOLST FORM DURING TRAVEL TO DIFFERENT CARE SETTINGS. THE PHYSICIAN KEEPS A COPY.

LAST NAME/FIRST NAME/MIDDLE INITIAL OF PATIENT DATE OF BIRTH (MM/DD/YYYY)

SECTION E **Orders For Other Life-Sustaining Treatment and Future Hospitalization When the Patient has a Pulse and the Patient is Breathing**

Life-sustaining treatment may be ordered for a trial period to determine if there is benefit to the patient. If a life-sustaining treatment is started, but turns out not to be helpful, the treatment can be stopped.

Treatment Guidelines No matter what else is chosen, the patient will be treated with dignity and respect, and health care providers will offer comfort measures. *Check one:*

☐ **Comfort measures only** Comfort measures are medical care and treatment provided with the primary goal of relieving pain and other symptoms and reducing suffering. Reasonable measures will be made to offer food and fluids by mouth. Medication, turning in bed, wound care and other measures will be used to relieve pain and suffering. Oxygen, suctioning and manual treatment of airway obstruction will be used as needed for comfort.

☐ **Limited medical interventions** The patient will receive medication by mouth or through a vein, heart monitoring and all other necessary treatment, based on MOLST orders.

☐ **No limitations on medical interventions** The patient will receive all needed treatments.

Instructions for Intubation and Mechanical Ventilation *Check one:*

☐ **Do not intubate (DNI)** Do not place a tube down the patient's throat or connect to a breathing machine that pumps air into and out of lungs. Treatments are available for symptoms of shortness of breath, such as oxygen and morphine. (This box should ***not*** be checked if full CPR is checked in Section A.)

☐ **A trial period** *Check one or both:*

  ☐ **Intubation and mechanical ventilation**

  ☐ **Noninvasive ventilation (e.g. BIPAP), if the health care professional agrees that it is appropriate**

☐ **Intubation and long-term mechanical ventilation, if needed** Place a tube down the patient's throat and connect to a breathing machine as long as it is medically needed.

Future Hospitalization/Transfer *Check one:*

☐ **Do not send to the hospital unless pain or severe symptoms cannot be otherwise controlled.**

☐ **Send to the hospital, if necessary, based on MOLST orders.**

Artificially Administered Fluids and Nutrition When a patient can no longer eat or drink, liquid food or fluids can be given by a tube inserted in the stomach or fluids can be given by a small plastic tube (catheter) inserted directly into the vein. If a patient chooses not to have either a feeding tube or IV fluids, food and fluids are offered as tolerated using careful hand feeding. *Check one each for feeding tube and IV fluids:*

☐ **No feeding tube** ☐ **No IV fluids**

☐ **A trial period of feeding tube** ☐ **A trial period of IV fluids**

☐ **Long-term feeding tube, if needed**

Antibiotics *Check one:*

☐ **Do not use antibiotics.** Use other comfort measures to relieve symptoms.

☐ **Determine use or limitation of antibiotics when infection occurs.**

☐ **Use antibiotics** to treat infections, if medically indicated.

Other Instructions about starting or stopping treatments discussed with the doctor or about other treatments not listed above (dialysis, transfusions, etc.).

Consent for Life-Sustaining Treatment Orders (Section E) (Same as Section B, which is the consent for Section A)

SIGNATURE ☐ Check if verbal consent (Leave signature line blank) DATE/TIME

PRINT NAME OF DECISION-MAKER

PRINT FIRST WITNESS NAME PRINT SECOND WITNESS NAME

Who made the decision? ☐ Patient ☐ Health Care Agent ☐ Based on clear and convincing evidence of patient's wishes ☐ Public Health Law Surrogate ☐ Minor's Parent/Guardian ☐ §1750-b Surrogate

Physician Signature for Section E

PHYSICIAN SIGNATURE PRINT PHYSICIAN NAME DATE/TIME

DOH-5003 (6/10) Page 2 of 4 *This MOLST form has been approved by the NYSDOH for use in all settings.*

FIGURE 4. MOLST document.

oversight. In the present study, we found significant amounts of discordance between what was documented in the medical records and what the patients understood and agreed to, with an approximate discordance rate of 30% to 40%. For patients with POLST documents, this rate was higher. Medical record inaccuracy related to code status is not new and was effectively reported by Bischoff et al.[19] Furthermore, previous research supports discordant rates (30%–50%) of what was documented on a POLST versus patient informed consent.[18]

Generation of a DNR order carries with it the sense of patient frailty or near-terminal condition. To examine this objective and to eliminate patient bias, investigators, who directly interviewed the patient, calculated the frailty score, which is a validated tool used by clinicians to assess baseline function and daily activities. Frailty is one of the determinants for issuing a POLST.[21] Patients in this study had a median score of 4, indicating independence but requiring some degree of assistance with daily activities. If a DNR order or POLST is appropriate for extremely frail patients, then this cohort failed to show evidence of this. Furthermore, patients with a discrepancy were less frail (lower frailty score) than those who did not have a discrepancy. Overall, DNR orders were assigned to patients who were not especially debilitated.

Clear patient communication is an absolute imperative for safe advance care planning (ACP) and EOL care. As previously noted, LW and POLST documents can be frequently misinterpreted. Zive et al[23] recently evaluated two cohorts of the POLST registry. Their conclusions suggested a need to test new criteria for POLST completion and that utilizing POLST in nonterminal patients can induce greater potential for patient harm. Therefore, regardless of use of POLST, LW, or newer technology of Scripted Patient to Clinician Video, reaffirming patient wishes during hospital admission should be standard practice. Previous research suggested the use of a safety checklist[13,24] (Fig. 5) to ensure affirmation of patient wishes. However, Abbot[8] reports lack of adoption and for no apparent reason. A reason could be that there is belief in practice that once a patient has decided to be a DNR, the conversation should not be entertained again. Our data urge caution with this practice because the error rates are high and could have affected the safety and well-being of patients while hospitalized for aggressive treatment.

Discussions about EOL care are admittedly difficult. It has often been said that physicians do not want to or are uncomfortable having the discussions. However, our experience was that the patients themselves did not mind the discussion. In our study, there were very few patients who became upset with another conversation about EOL preferences. These patients were quickly assured that the intent was to ensure fidelity to their wishes. There were also patients who were quite upset to find that they had a DNR order in their records without their knowledge and felt that it did not reflect their current wishes. Furthermore, most patients with a discrepancy were unaware of the order. In interviews involving HCA's, the questionnaire either caused decision-makers the chance to reaffirm their DNR decisions or raised more questions. Almost universally, patients wanted a trial of medical support along with antibiotics if warranted. In one instance, an HCA (who is an attorney) clearly stated that he did not know his family that a member had a POLST document. There were also incidences where clarifications were required with interventional specialties. For example, a cardiology service refused to perform a therapeutic procedure because of the DNR order.

Revalidating patient EOL care preferences at hospital admission can help circumvent the propagation of incorrect treatment.[25] Erroneous information about EOL care is often entered into the EMR. This information is referenced during future hospitalizations and can have life-ending impact on the patients care when critically ill and seeking aggressive medical care. The EMR at

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TABLE 1. Patient Demographics and Admission Information

Age, Mean ± SD	Sex, n (%)	Race, n (%)	Admitting Diagnosis, n (%)	Clinician Assigning DNR Code Status, n (%)
76 ± 10.8	Female: 55 (54.5) Male: 45 (44.6) Missing data: 1 (1)	African American: 4 (4) Latino: 2 (2) White: 86 (85) Missing data: 9 (9)	Cardiac-related: 18 (18) Pulmonary-related: 14 (14) Renal-related: 9 (9) GI-related: 14 (14) Infection-related: 21 (21) Neurologic-related: 7 (7) Cancer-related: 6 (6) Other Diagnosis: 12 (12)	MD/DO: 86 (85) Resident physician: 3 (3) Advanced practice provider: 10 (10) Missing data: 2 (2)

TABLE 2. Preferences for EOL Care Based on Patient Interview "Do you (patient) want…?"

CPR	Intubation	Mechanical Ventilation	Supportive Medical Care/Treatment	Antibiotics	Tube Feeding
Yes: 29 ± 8.8% (29) No: 65 ± 9.3% (66) Unsure: 3 ± 3.3% (3) NR*: 3 ± 3.3% (3)	Yes: 37 ± 9.4% (37) No: 53 ± 9.7% (53) Unsure: 4 ± 3.8% (4) NR: 7 ± 5.0% (7)	Yes: 35 ± 4.4% (35) No: 55 ± 9.7% (55) Unsure: 4 ± 3.8% (4) NR: 7 ± 5.0% (7)	No: 14 ± 6.8% (14) Trial: 63 ± 9.4% (64) All measures: 22 ± 8.1% (22) NR: 1 ± 1.9% (1)	Yes: 97 ± 3.3% (98) No: 1 ± 1.9% (1) Unsure: 1 ± 1.9% (1) NR: 1 ± 1.9% (1)	Yes: 36 ± 9.6% (36) No: 50 ± 9.8% (50) Unsure: 14 ± 6.8% (14) NR: 1 ± 1.9% (1)

*No response or missing response.

present lacks the quality oversight to evaluate the DNR (or variations of DNR orders such as with the POLST order) at the time of creation. Healthcare systems lack the quality oversight to ensure the medical provider who then comes in contact with that order is competent to use that order in a safe and effective manner for the patient. Here again, a simple patient safety checklist can be adopted to ensure appropriate treatment.[8] A more novel approach would be to use scripted patient to clinician video and empower both patients and HCA's to prevent the medical error before it starts.[12,25] With the approval of ACP codes for medical provider reimbursement, there is now an opportunity to formalize the structure of the conversation and to check and verify that the orders are created appropriately and correctly. Because EOL care and critical illness are not always the same,[26] systems nationwide should evaluate their existing policies and procedures to ensure that we capture this vital information to ensure the safety of both the healthy as well as terminally ill patient navigating the system.

One of the study limitations is that this was a single-center convenience sample. Sampling bias was introduced because we only evaluated patients with a DNR or POLST order. Responses of the patient or HCA during the interview could have been influenced by differences in personality nuances of the investigators, despite an in-service that was provided before investigator involvement. Although survey content validity was established via peer review, reliability was not assessed. Documents (POLST and LW) also pose a possible limitation because these documents may or may not have been completed properly before admission; this could have led to increased patient, HCA, and provider confusion. Another limitation of this study is the timing of the interview from when the DNR order was written to when the patient or agent was interviewed. The DNR orders were created upon hospital admission. As previously noted, all interviews occurred during current hospitalization. Although most interviews occurred within the first 48 hours of the hospitalization, bias could conceivably be introduced if patients or agents were interviewed with longer hospitalizations. Lastly, study power, especially in the context of subgroup comparisons, was limited by a small sample size.

CONCLUSIONS

Our data herein call for further research in the approach to ACP for the healthy and EOL patient. Systems must check and verify existing DNR and POLST orders. In our research, existing DNR and POLST orders are associated with lack of informed consent, patient or HCA awareness, and have high rates of discordance. Our data further support that we must improve upon or set new

TABLE 3. Subgroup Analysis: Factors Affecting Discrepancy

Factor	Discrepant DNR Order	Nondiscrepant DNR Order	*P*
Age, M ± SD (n = 99)	72 ± 10.4 y	79 ± 10.0 y	0.001
Sex (n = 98)			0.176
Female	27/54 (50)	27/54 (50)	
Male	16/44 (36)	28/44 (64)	
Admitting Dx (n = 99)			~0.135*
Cardiac	8 (44)	10 (56)	
Pulm	5 (36)	9 (64)	
GI	10 (71)	4 (29)	
Renal	3 (33)	6 (67)	
Infection	6 (30)	14 (70)	
Neuro	5 (71)	2 (29)	
Cancer	1 (17)	5 (83)	
Other	6 (55)	5 (45)	
Median frailty score (range, IQR)	4 (0–8, 3)	5 (1–8, 2)	0.001
Awareness of DNR order			<0.001
Aware	18 (28)	46 (72)	
Unaware	22 (88)	3 (12)	

*Approximate *P* value.

Abbreviation: IQR, interquartile range.

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ABCDE's of the Living Will, DNR or POLST– Medical Provider

- **A – Ask** the patient or surrogate to be clear as to their intentions of their advance directive (Living Will, DNR order or POLST form).
- **B – Be clear** as to if this is a terminal condition despite sound medical treatment, PVS vs. a treatable critical illness.
- **C – Communicate** clearly if you feel the condition is reversible and treatable with a good or poor prognostic outcome.
- **D – Design a plan and discuss next steps.** For example, your mom is critically ill. We can give her a trial of instituting life-sustaining care for 48 to 72 hours and if there is no benefit we can withdraw life supporting care and provide comfort measures.
- **E – Explain** that it's ok to withhold or withdraw life sustaining care and treatment so long as it's in keeping with the perceived patients' wishes. Also, take a moment to "Explain" the benefits of Palliative Care and Hospice.

FIGURE 5. Resuscitation pause checklist.[24]

standards to ensure the safety of patients traversing the healthcare system are safe, informed, and empowered to make decisions. Physicians Orders for Life-Sustaining Treatment, deployed nationally very quickly, has patient safety concerns and is in flux. Living wills have been consistently misinterpreted as DNR orders. Do-not-resuscitate orders have been implicated in patient safety medical errors for well more than three decades. We extend a call for quality oversight and new process changes to incorporate approaches to better educate users of the healthcare system with information to prevent the errors before they start. A how to navigational approach combined with scripted patient to clinician video as well as an DNR order verification tool (such as used in this study) can mitigate many medical errors and ensure adequate treatment for patients with many benefits to the healthcare system as a whole.

REFERENCES

1. Calfo S, Smith J, Zezza M. Last Year of Life Study. *Centers for Medicare & Medicaid Services, Office of the Actuary.* Available at: https://www.cms.gov/Research-Statistics-Data-and-Systems/Research/ActuarialStudies/downloads/Last_Year_of_Life.pdf. Accessed February 17, 2017.
2. Institute of Medicine. Dying in America: improving quality and honoring individual preferences near the end of life. *National Academies of Sciences, Engineering, Medicine*. September 17, 2014. Available at: http://www.nationalacademies.org/hmd/Reports/2014/Dying-In-America-Improving-Quality-and-Honoring-Individual-Preferences-Near-the-End-of-Life.aspx. Accessed January 3, 2016.
3. Einav L, Finkelstein A, Mullainathan S, et al. Predictive modeling of U.S. health care spending in late life. *Science*. 2018;360:1462–1465.
4. Smith E. Grieving daughter's 'do not resuscitate' nightmare. Boston Herald, January 28, 2016. Available at: http://www.bostonherald.com/news/local_coverage/2016/01/grieving_daughters_do_not_resuscitate_nightmare. Accessed January 28, 2016.
5. Kaplan A. A hospital gets sued for keeping a patent alive. Available at: https://www.medscape.com/viewarticle/881185. Accessed December 6, 2018.
6. La Puma J, Orentlicher D, Moss RJ. Advance directives on admission. Clinical implications and analysis of the Patient Self-Determination Act of 1990. *JAMA*. 1991;266:402–405.
7. Dunn PM, Schmidt TA, Carley MM, et al. A method to communicate patient preferences about medically indicated life-sustaining treatment in the out-of-hospital setting. *J Am Geriatr Soc*. 1996;44:785–791.
8. Abbott J. The POLST Paradox: opportunities and challenges in honoring patient end-of-life wishes in the emergency department. *Ann Emerg Med*. 2019;73:294–301.
9. Oregon POLST Coalition Reaffirms Values Avoiding Conflicts of Interest. Available at: https://oregonpolst.org/2017-coalition-reaffirms-coi/. Accessed January 2, 2019.
10. Mirarchi FM, Hite LA, Cooney TE, et al. TRIAD I – the realistic interpretation of advanced directives. *J Patient Saf*. 2008;4:235–240.
11. Mirarchi FL, Costello E, Puller J, et al. TRIAD III: nationwide assessment of living wills and do not resuscitate orders. *J Emerg Med*. 2012;42:511–520.
12. Mirarchi FL, Cooney TE, Venkat A, et al. TRIAD VIII: nationwide multicenter evaluation to determine whether patient video testimonials can safely help ensure appropriate critical versus end-of-life care. *J Patient Saf*. 2017;13:51–61.
13. Mirarchi FL, Cammarata C, Zerkle SW, et al. TRIAD VII: do prehospital providers understand Physician Orders for Life-Sustaining Treatment documents? *J Patient Saf*. 2015;11:9–17.
14. Clemency B, Cordes CC, Lindstrom HA, et al. Decisions by default: incomplete and contradictory MOLST in emergency care. *J Am Med Dir Assoc*. 2017;18:35–39.
15. Richardson DK, Fromme E, Zive D, et al. Concordance of out-of-hospital and emergency department cardiac arrest resuscitation with documented end-of-life choices in Oregon. *Ann Emerg Med*. 2014;63:375–383.
16. Pedraza SL, Culp S, Falkenstine EC, et al. POST forms more than advance directives associated with out-of-hospital death: insights from a state registry. *J Pain Symptom Manage*. 2016;51:240–246.
17. Hickman SE, Nelson CA, Moss AH, et al. The consistency between treatments provided to nursing facility residents and orders on the Physician Orders for Life-Sustaining Treatment form. *J Am Geriatr Soc*. 2011;59:2091–2099.
18. Hickman SE, Hammes BJ, Torke AM, et al. The quality of physician orders for life-sustaining treatment decisions: a pilot study. *J Palliat Med*. 2017;20:155–162.
19. Bischoff K, O'Riordan DL, Marks AK, et al. Care planning for inpatients referred for palliative care consultation. *JAMA Intern Med*. 2018;178:48–54.
20. El-Jawahri A, Lau-Min K, Nipp RD, et al. Processes of code status transitions in hospitalized patients with advanced cancer. *Cancer*. 2017;123:4895–4902.
21. POLST Frequently Asked Questions (FAQ). Available at: http://www.polst.org/wp-content/uploads/2016/04/2016.04.03-POLST-FAQs.pdf. Accessed December 20, 2018.
22. Smith AK, McCarthy E, Weber E, et al. Half of older Americans seen in emergency department in last month of life; most admitted to hospital, and many die there. *Health Aff (Millwood)*. 2012;31:1277–1285.
23. Zive DM, Jimenez VM, Fromme EK, et al. Changes over time in the oregon physicians orders for life-sustaining treatment registry: a study of two decedent cohorts. *J Palliat Med*. 2019;22:500–507.
24. Mirarchi FL, Doshi AA, Zerkle SW, et al. TRIAD VI: how well do emergency physicians understand Physicians Orders for Life Sustaining Treatment (POLST) forms? *J Patient Saf*. 2015;11:1–8.
25. Hoffman RM, Mirarchi FL. Empowering patients and agents to help prevent errors with living wills, DNRs, and POLSTs. *PA-PSRS Patient Saf Advis*. 2018;15. Available at: https://psnet.ahrq.gov/resources/resource/32014/Empowering-patients-and-agents-to-help-prevent-errors-with-living-wills-DNRs-and-POLSTs. Accessed July 18, 2019.
26. Mirarchi FL, Yealy DM. Lessons learned from the TRIAD research opportunities to improve patient safety in emergency care near end of life. *J Patient Saf*. 2018; [Epub ahead of print].

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