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Recommended Citation
Carpenter, Christopher R.; Cooney, Timothy; Wagner, Jason; Sampson, Christopher; Renz, Nicholas; Stickles, Sean; and Mirarchi, Ferdinando, "Does a physician advanced directive survey predict bedside response in simulated end of life scenarios?" (2013). Conference Abstracts and Posters. Paper 2. https://digitalcommons.wustl.edu/em_conf/2

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Does a Physician Advanced Directive Survey Predict Bedside Response in Simulated End of Life Scenarios?

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BACKGROUND

- Advanced directives (AD) are intended to direct patient’s future medical care during periods of decision-making incapacity
- Professional societies advocate AD to support patient autonomy and promote nonmaleficence
- Emergency medicine (EM) graduate medical education leaders identify obtaining and interpretation of AD as a minimal core competency for residents

OBJECTIVES

- To assess EM resident accuracy in interpreting AD in the emergency department (ED) during simulated acute life-threatening medical events
- Secondary objective to evaluate differences in interpretation or clinical actions between an online AD survey and the identical simulation scenario

METHODS

- Single academic medical center observational study of consenting EM residents, adhering to Strengthening of Reporting of Observational Studies in Epidemiology (STROBE) criteria
- All participants completed online AD survey 2-months prior to a regularly scheduled simulation session
- Survey included participant demographics as well as six typical emergency scenarios with each case descriptor preceded by an AD (Boxes 1 and 2)
- Respondents assigned a code status and next most appropriate intervention for each patient
- The simulation lab occurred over 4-months and used the same 6 scenarios evaluated in the pre-simulation survey
- Participants were not reminded of the pre-survey and were asked to assign a code status using an electronic audience response system within 20-seconds after receiving the pre-hospital report
- Pre- and post-survey responses analyzed using contingency table analysis (Chi-square, Fisher’s Exact Test)

RESULTS

- A total of 47 residents completed either the pre-survey or the simulation lab, but only 17 completed both
- The 17 completing both surveys did not differ significantly from the 30 who did not by any demographic parameter measured (Table)
- Of the 26 pre-simulation respondents:
  - 69% assigned a DNR code to AD scenarios and 64% did not enact life-saving measures
  - senior residents (PGY 3 or 4) assigned DNR more frequently (81% vs. 60%) and were less apt to elect life-saving interventions (21% vs. 49%, p>0.05)
- Among the 29 simulation residents:
  - 50% interpreted the AD as DNR and 40% did not attempt any resuscitation
  - resident training level (PGY 3 or 4 vs. PGY 1 or 2) did not impact code status assigned (51% vs. 53%), but senior level residents more often opted for resuscitation (72% vs. 57%, p = 0.05)
- In the simulation lab resident training level did not impact code status assigned, but senior-level residents more often opted for resuscitation

CONCLUSION

- In assessing EM resident AD clinical response, physicians are more likely to provide life-sustaining actions in simulation than in internet surveys
- Senior-level residents tend to disregard AD more commonly in simulation than in surveys

Table: Descriptive Statistics for 17 Participants Completing Pre- and Simulation-Survey (N = 17)

<table>
<thead>
<tr>
<th>Descriptor</th>
<th>Value (mean or proportion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>30 ± 3</td>
</tr>
<tr>
<td>Male Gender</td>
<td>71%</td>
</tr>
<tr>
<td>Prior AD Training</td>
<td>0%</td>
</tr>
<tr>
<td>Medical School Region</td>
<td></td>
</tr>
<tr>
<td>Midwest</td>
<td>65%</td>
</tr>
<tr>
<td>South</td>
<td>29%</td>
</tr>
<tr>
<td>Northeast</td>
<td>0%</td>
</tr>
<tr>
<td>West</td>
<td>0%</td>
</tr>
<tr>
<td>Resident Level</td>
<td></td>
</tr>
<tr>
<td>PGY I</td>
<td>29%</td>
</tr>
<tr>
<td>PGY II</td>
<td>35%</td>
</tr>
<tr>
<td>PGY III</td>
<td>12%</td>
</tr>
<tr>
<td>PGY IV</td>
<td>24%</td>
</tr>
</tbody>
</table>

Box 1: Sample Advanced Directive

(My specific instructions to my family and health care providers)

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 dying, if I should be in a terminal condition or in a state of persistent unconsciousness. I direct the 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:

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

After reading this Living Will, how do you interpret the following questions for an individual patient in the ED?

Box 2: Sample Scenario

46–year-old female presents with complaints of chest pain, shortness of breath and diaphoresis. Vitalis: T: 37C, P: 110, BP: 130/70, RR: 30, SaO2: 97%. The patient has been given oxygen, aspirin, and nitroglycerin en route. Pre-hospital ECG shows acute anterior wall STEMI. EMS presents you with a list of medications and their living will. Abruptly her status changes as you evaluate her. She becomes unresponsive and develops VT/VF arrest.

Question 1: What is her code status based on her living will?
- a) DNR
- b) Full Code

Question 2: What is the next course of action?
- a) Defibrillate
- b) Don’t defibrillate