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Emergency Physicians' Experience with Advance Care Planning Documentation in the Electronic Medical Record: Useful, Needed, and Elusive

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Abstract

Objective: For patients' preferences to be honored, emergency department (ED) physicians must be able to find and use advance care planning (ACP) information in the electronic medical record (EMR). ED physicians' experiences with ACP EMR documentation and their documentation needs are unknown.
Methods: We surveyed 70 ED physicians (81% response rate) from a tertiary and county ED. Our primary outcome was confidence finding and using ACP EMR documentation (percentage reporting very/extremely on a five-point Likert scale). Secondary outcomes included frequency of use and perceived usefulness of types of ACP documentation. Suggestions for improvement were analyzed using thematic content analysis.
Results: Participants' mean age was 36 years (± 9) and 54% were women. Thirty-one percent reported being very/extremely confident they could find ACP EMR documentation, and 55% felt very/extremely confident they could use it to care for patients. Yet 74% needed it ≥1 time/week and 43% ≥5 times/week. Participants reported code status orders (90%), Physician Orders for Life Sustaining Treatment (POLST) (86%), and durable power of attorney for health care (78%) as very/extremely useful, followed by values statements (31%), oral directives (34%), and living wills (37%). ED physicians wanted highly visible ACP information, ''on the main screen.''
Conclusions: EMR systems are not optimized to provide critical ACP information to ED physicians who lack confidence finding or using ACP EMR documentation to care for patients. Dedicated ACP information on the EMR home screen and tailored training may be needed to help ED providers find, use, and discuss ACP documentation to provide care aligned with patients' goals.

Introduction

Background

Advance care planning (ACP) is a process in which patients define their evolving goals for medical care over time.[1] This process involves discussions and documentation about patients' values and overall life goals. It may also include specific treatment preferences for life-sustaining treatment, such as for CPR, in legal advance directives or Physician Orders for Life Sustaining Treatment (POLST) forms. Studies of advance directives have been mixed in their ability to positively affect care.[2,3] However, recent studies demonstrate that a broader paradigm of ACP focused on discussions about patients' values, in addition to treatment preferences, improves patients' quality of life,[4] family bereavement,[4] and increases the likelihood that patients receive care consistent with their wishes.[5,6] However, poor or lacking documentation of ACP discussions and patients' preferences may prevent clinicians from treating patients according to their wishes.[1,7,8] This challenge is most pronounced at critical moments of care, as often occurs in the emergency department (ED).

The electronic medical record (EMR) holds promise as a tool to effectively document and share ACP information. Yet,

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to date, studies have shown that ACP documentation is missing from the medical record or does not match patient preferences.[9,10] As such, there is a risk that even with an EMR, key ACP information may be difficult for ED physicians to find and use during a medical crisis.

Importance

For patients' preferences to be honored, ED physicians need to be able to find and use ACP information in the EMR. Yet to our knowledge, no prior study has explored ED physicians' experiences with ACP documentation in the EMR and their specific ACP documentation needs.

Goals of this investigation

The goals of this study are to explore ED physicians' confidence finding and using ACP EMR information to care for patients, the frequency in which they need this information, and their attitudes about the importance and usefulness of different types of ACP information. This study is an important step in improving the efficacy of ACP EMR documentation for ED physicians and in designing tailored ACP education for ED providers.

Methods

Study design and setting

This was a cross-sectional survey study that used a convenience sample. The study was approved by the University of California, San Francisco (UCSF) institutional review board.

Study participants

We conducted an anonymous survey of all ($n = 86$) ED attending physicians and resident trainees in the Department of Emergency Medicine at UCSF from June 2012 to July 2013. To be included, attendings and residents had to report practicing at UCSF for at least 12 months. Faculty and trainees care for patients at both an academic tertiary care referral center and a county level-one trauma center. The two sites combined see nearly 100,000 patients per year. At the time of survey initiation, the EMR used by the academic medical center was Epic™ (Verona, WI) enterprise and the county trauma center was using a combination of Pulsecheck™ by PICIS™ (Wakefield, MA) (in the ED) and Siemens™ (Munich, Germany) (in the remainder of the hospital).

Methods, measurement, outcome measures

We convened a panel of experts in emergency medicine, palliative care, and ACP to create the study questionnaire (see Appendix 1). We asked physicians about their agreement with statements about the importance of, confidence finding and using, and barriers to using ACP documentation and the EMR on a five-point Likert scale (strongly agree to strongly disagree). We also assessed how often ED physicians need ACP EMR documentation per week. Because many of the ED physicians work at both the tertiary and county sites, we asked participants to answer these questions separately for each site. Therefore, for these questions, some physicians could have answered more than once.

We also asked questions in general, not by site, about physicians' perceptions of the usefulness of different types of ACP documentation including legal forms and medical orders (e.g., POLST forms) and ACP discussions (i.e., documented discussions about patients' wishes and values) measured on a five-point Likert scale (not at all helpful to extremely helpful). We also asked physicians open-ended questions concerning how to improve ACP EMR documentation and obtained participant age, gender, year medical degree obtained, and level of training. Surveys were administered in paper format at educational conferences (41 participants) and electronically (29 participants) with www.surveymonkey.com. All physicians were given a $5 gift card for participating.

Outcome measures

Our primary outcome was ED physicians' confidence finding and using ACP documentation in the EMR. Our secondary outcomes included perceived barriers to the use of ACP documentation, how often ACP EMR documentation is needed per week to care for patients, and the perceived usefulness of different types of ACP documentation. We also explored ED physicians' suggestions for improving ACP documentation.

Primary data analysis

Descriptive statistics are presented as percentages and means with standard deviation (SD) (Table 1). Differences in demographics and survey responses between attending physicians and trainees and ED sites were calculated using chi-squared or Fisher's exact test and *t*-test using statistical software SAS (SAS version 9.3; SAS Institute, Inc., Cary NC). Qualitative data were analyzed using thematic content analysis to explore overarching themes. The responses were collated and reviewed independently by two authors (RS, RM). For questions concerning the importance of, confidence finding and using, and barriers to using ACP documentation and the EMR (see Table 2), participants who worked at more than one ED site could respond more than once, resulting in a larger denominator than the number of study participants. However, for the overall perception of the usefulness of different types of ACP documentation (see Table 3) and the open-ended questions, the denominator matches the study participant number. Missing data accounted for 1.7% of the total data collected, and were excluded from analysis.

Results

Characteristics of study subjects

Seventy ED physicians (81% response rate) completed the survey. Twelve completed surveys only for the tertiary ED site, 15 completed surveys only for the county site, and 43 completed surveys for both. The mean age of participants was 36 years (± 9), 54% were women, 54% trainees, and the mean time in practice was 9 years (± 10) (see Table 1).

Main results

Ninety-five percent and 93% of ED physicians at both sites (113 total possible responses from both sites) agreed or strongly agreed that ACP documentation and EMR systems, respectively, are important for patient care, and 82% reported

Table 1. Participant Characteristics[a]

Characteristic	*Mean ± SD or number (%)*
Age	
Mean ± SD	36 ± 9
Range	27–70
Gender	
Men	32 (46)
Women	37 (54)
Years in practice	
Mean ± SD	9 ± 10
Range	1–43
Training level	
Attending	32 (46)
Trainee	38 (54)
Resident, 1st year	9 (13)
Resident, 2nd year	10 (14)
Resident, 3rd year	8 (11)
Resident, 4th year	9 (13)
Fellow	1 (1)
Year not specified	1 (1)

[a]$N = 70$. Differing number of responses reflect missing data.
SD, standard deviation.

being confident they could use EMRs in general. However, only 31% reported being confident they could find ACP documentation in the EMR and only 55% were confident they could use it to care for patients. Furthermore, ED physicians agreed or strongly agreed that barriers to using ACP documentation to effectively care for patients included difficulty locating ACP documentation (69%), lack of familiarity with ACP documentation (41%), and inadequate content contained in ACP (42%) (see Table 2). Yet, 74% of ED physicians reported needing ACP documentation ≥1 time per week and 43% reported needing it ≥5 times per week.

Participants (70 total possible responses) reported that legal forms and medical orders such as code status orders (90%), POLST forms (86%), and durable power of attorney for health care forms (78%) as very or extremely useful, as compared to documentation of ACP discussions about values statements (31%) or oral directives (34%) (see Table 3).

Most outcomes did not differ between sites; however, only 9% of ED physicians at the county site were confident about locating ACP documentation versus 55% at the tertiary site ($p < 0.001$); 40% of physicians at the county site were confident they could use ACP information to care for patients versus 70% at the tertiary site ($p = 0.002$); and 86% of physicians at the county site reported a barrier of locating ACP documentation versus 52% at the tertiary site ($p < 0.001$).

For improvements, ED physicians suggested one consolidated place where ACP information could be located, specifically ''in a dedicated section to be updated; like allergy.'' ED physicians wanted ACP information to be highly visible, ''on the main screen,'' while others advocated for a ''clinical alert'' or code status warning that ''pops up right away'' and avoids having to ''sift through notes.'' Many ED physicians also noted the difficulty of approaching ACP for the first time with patients and families when no prior ACP discussions have occurred between the patient and outpatient providers.

Table 2. ED Physician Ratings of Importance of, Confidence Accessing and Using, and Barriers to Using ACP Documentation and EMR Systems[a]

Survey statement about ACP	*Overall: number (%) agree or strongly agree*	*County facility: number (%) agree or strongly agree*	*Tertiary facility: number (%) agree or strongly agree*	p *value*[b]
Importance				
ACP documentation is important in my ability to effectively care for patients, $n = 111$	105 (95)	52 (91.2)	53 (98.2)	0.21
EMR systems are important in my ability to effectively care for patients, $n = 111$	103 (93)	54 (94.7)	49 (90.7)	0.48
Confidence				
I am confident that I can find patients' ACP documentation in the current EMR when it exists, $n = 110$	34 (31)	5 (8.8)	29 (54.7)	<0.001
I am confident that I can use ACP information contained within the EMR to care for my patients, $n = 110$	60 (55)	23 (40.4)	37 (69.8)	0.002
I am confident that I can use the current EMR in general for health care delivery, $n = 111$	91 (82)	45 (79.0)	46 (85.2)	0.39
Potential barriers				
Difficulty locating ACP documentation prevents me from using it effectively, $n = 111$	77 (69)	49 (86.0)	28 (51.9)	<0.001
Lack of familiarity with ACP documentation prevents me from using it effectively, $n = 111$	45 (41)	26 (45.6)	19 (35.2)	0.26
Inadequate content contained in ACP documentation prevents me from using it effectively, $n = 111$	47 (42)	27 (47.4)	20 (37.0)	0.27

[a]Maximum possible survey response data (denominator) is 113. Forty-three ED physicians worked at both county and tertiary facilitates and therefore could answer twice, 15 worked only at the county site, and 12 worked only at the tertiary site. Differing number of responses reflect missing data.
[b]*P* values are calculated from chi-square test or Fisher's exact test as appropriate.
ACP, advance care planning; ED, emergency department; EMR, electronic medical record.

Table 3. Rated Usefulness of ACP Documents and Tools[a]

ACP document or tool	*Very or extremely helpful; number (%)*	*Somewhat, a little, or not at all helpful; number (%)*	*"I don't know what this is;" number (%)*
Legal forms or orders			
Code status orders, $n=70$	63 (90)	5 (7)	2 (3)
POLST, $n=69$	59 (86)	6 (9)	4 (6)
DPOA, n=68	53 (78)	14 (21)	1 (1)
Living wills, $n=67$	25 (37)	38 (57)	4 (6)
ACP discussions			
Notes about ACP discussions in the medical record, $n=69$	41 (59)	27 (39)	1 (1)
Documented discussions about patients' wishes from inpatient admissions, $n=68$	32 (47)	34 (50)	2 (3)
Documented discussions about patients' wishes from outpatient notes, $n=69$	32 (46)	35 (51)	2 (3)
Oral advance directives, $n=70$	24 (34)	40 (57)	6 (9)
Value statements about life goals, $n=70$	22 (31)	44 (63)	4 (6)

[a]$N=70$. Differing number of responses reflect missing data.

ACP, advance care planning; DPOA, Durable Power of Attorney for Healthcare; POLST, Physician Orders for Life Sustaining Treatment.

Discussion

There are many challenges in caring for patients with serious and life-threatening illness, including appropriately documenting ACP conversations, patient values, and legal forms so they are accessible and useable for medical providers during critical moments of care. In this study, ED physicians reported a lack of confidence in finding or using ACP documentation in the EMR to care for patients despite reporting needing it frequently, almost 50% requiring it ≥5 times per week. Legal forms and medical orders were rated more helpful than documentation of ACP discussions of patients' values or oral advance directives.

Our results suggest that important changes to the EMR are needed to help ED providers find and use ACP documentation effectively to care for patients. The suggested changes by ED physicians, such as having one central place for all ACP documentation, including discussions and legal forms, and making ACP information visible on the EMR face page, can be, and in some hospital systems have been, easily adopted in EMRs.

Yet accessibility of documentation is not the only challenge. In this study, ED physicians reported legal advance directives and specific treatment wishes as most helpful for their work and documented ACP discussions as less helpful. Although the reasons behind these preferences were not evaluated in this study, it is possible that ED physicians feel more comfortable with clear actionable treatment instructions, and less comfortable interpreting or extrapolating patients' wishes from prior goals of care discussions. As such, outpatient medical specialties that typically initiate ACP may need additional education about the type of documentation that is helpful to their ED colleagues. This information may also help encourage patients to complete legal ACP forms. And for a subset of seriously ill patients who are likely to visit the ED, encouraging the documentation of specific treatment preferences may be appropriate.

However, the field of ACP is moving towards efforts to elicit and document detailed discussions of patients' overall goals and values that should guide all medical care.[1] This evolving theory of ACP prepares patients and families to use the current clinical context and evolving goals to make appropriate in-the-moment decisions for a broad range of treatments beyond resuscitation. Because advance directives, POLST forms, and DNR orders only focus on a narrow set of treatment wishes, such as CPR or mechanical ventilation, it can be difficult to extrapolate these wishes to other complex medical decisions faced in the ED. For instance, would someone with a DNR order also not want to go to the ICU or have surgery in an emergency? Advance directives and code status are crucially important when a patient lacks decision making capacity. However, even if an advance directive and code status orders exist, they may not reflect the patient's current wishes, current clinical context, or direct all forms of care needed in the ED. Therefore, ED-specific training may be needed to help ED providers learn to use values documentation to provide care aligned with patients' goals and communicate effectively and efficiently to obtain patients' or surrogates' real-time wishes during a crisis, regardless of whether ACP documentation can be found or is up to date.

The differences between the tertiary and county facilities may be explained by differences in the ways these EMRs display or store ACP documentation. Furthermore, there are likely patient characteristics that differ between the two centers; for instance, the county facility is a regional level 1 trauma center serving many uninsured patients, and the tertiary hospital includes cancer research and transplant programs. Differences in institutional culture may also explain some of the differences. However, this study was not powered or designed to study these differences.

Limitations

This study has limited generalizability because it contains data from only two ED sites in northern California with only two EMRs. In addition, due to the small sample, we may have been unable to detect additional statistically or clinically

significant differences between trainees and attending physicians or the different ED sites. However, exploring and analyzing those differences was not the primary aim of this study. Furthermore, we used a nonvalidated survey tool, designed by ACP and ED physician experts, which may have resulted in measurement bias.

In summary, our research demonstrates that current EMR systems are not optimized to provide critical ACP information to ED physicians to honor patients' wishes. The difficulty finding and using ACP documentation may be helped by creating dedicated sections in the EMR for ACP documents that are easily accessible from the home screen. While trainings for outpatient providers could highlight the types of ACP documentation needed by ED physicians, future studies should also explore the best ways for ED physicians to most efficiently and effectively obtain and translate patients' values into appropriate care during a medical crisis.

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(*Appendix follows* →)

Appendix 1: Survey Tool: The Impact of Electronic ACP Documentation on Emergency Physicians

For the first set of questions, please consider your work in the ED in general.
Please rate the following on the five-point scale provided.

How helpful do you find the following type of ACP information when caring for patients in the ED?	*I don't know what this is*	*Not at all helpful*	*A little helpful*	*Some-what helpful*	*Very helpful*	*Extremely helpful*
1. Living wills						
2. DPOA						
3. POLST						
4. Code status orders						
5. Notes about ACP discussions in the medical record						
6. Oral advance directives						
7. Value statements about life goals						
8. Documented discussions about patients' wishes from INPATIENT admissions						
9. Documented discussions about patient's wishes from OUTPATIENT notes						

The next set of questions is **ONLY about the ED at SFGH**. Please only consider the ED at SFGH.

10. How often do you feel that access to ACP documentation would help you care for patients in the ED?
    a. Never
    b. Not every week
    c. 1–4 times per week
    d. 5–9 times per week
    e. >10 times per week
    f. I don't work at this hospital
11. When you need it, how often are you frustrated because you cannot find ACP documentation?
    a. Never
    b. Not often
    c. Sometimes
    d. Very often
    e. Always

Please rate the following questions about the EMR in the ED at SFGH on the five-point scale provided. Again, this is about the ED at **SFGH**.

Please rate your response to the following statements:	*Strongly disagree*	*Disagree*	*Undecided*	*Agree*	*Strongly agree*
12. EMR systems are important in my ability to effectively care for patients					
13. ACP documentation is important in my ability to effectively care for patients					
14. I am confident that I can use the current EMR in general for health care delivery.					
15. I am confident that I can find patients' ACP documentation in the current EMR when it exists.					
16. I am confident that I can use ACP information contained within the EMR to care for my patients					
17. Difficulty LOCATING ACP documentation prevents me from using it effectively.					
18. Lack of FAMILIARITY with ACP documentation prevents me from using it effectively.					
19. Inadequate CONTENT contained in ACP documentation prevents me from using it effectively.					

The next set of questions is **ONLY about the ED at UCSF Parnassus**. Please only consider the ED at UCSF.

20. How often do you feel that access to ACP documentation would help you care for patients in the ED?
    a. Never
    b. Not every week
    c. 1–4 times per week
    d. 5–9 times per week
    e. >10 times per week
    f. I don't work at this hospital
21. When you need it, how often are you frustrated because you cannot find ACP documentation?
    a. Never
    b. Not often
    c. Sometimes
    d. Very often
    e. Always

Please rate the following questions about EMR in the ED at **UCSF Parnassus** on the five-point scale provided. Again, this is about the ED at UCSF.

Please rate your response to the following statements:	*Strongly disagree*	*Disagree*	*Undecided*	*Agree*	*Strongly agree*
22. EMR systems are important in my ability to effectively care for patients					
23. ACP documentation is important in my ability to effectively care for patients					
24. I am confident that I can use the current EMR in general for health care delivery.					
25. I am confident that I can find patients' ACP documentation in the current EMR when it exists.					
26. I am confident that I can use ACP information contained within the EMR to care for my patients					
27. Difficulty LOCATING ACP documentation prevents me from using it effectively.					
28. Lack of FAMILIARITY with ACP documentation prevents me from using it effectively.					
29. Inadequate CONTENT contained in ACP documentation prevents me from using it effectively.					

30. You just answered questions about working in the ED at SFGH and UCSF in relation to finding and using ACP information. What do you think makes one location better than the other?

_____

_____

31. If you could change the system in any way, what would you change to make dealing with ACP information easier?

_____

_____

32. Additional information:
33. Your age: __ __
34. Gender (circle): M/F
35. Year obtained MD: __ __ __ __
36. Trainee (R1 R2 R3 R4) fellow or attending (circle one)