

Enhancing Advance Care Planning Communication: An Interactive Workshop With Role-Play for Students and Primary Care Clinicians

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Abstract

Introduction: Increased clinician training on advance care planning (ACP) is needed. Common barriers to ACP include perceived lack of confidence, skills, and knowledge necessary to engage in these discussions. Furthermore, many clinicians feel inadequately trained in prognostication. Evidence exists that multimodality curricula are effective in teaching ACP and can be simultaneously targeted to trainees and practicing clinicians with success. **Methods:** We developed a 3-hour workshop incorporating lecture, patient-oriented decision aids, prognostication tools, small-group discussion, and case-based role-play to communicate a values-based approach to ACP. Cases included discussion of care goals for a patient with severe chronic obstructive pulmonary disease and one with mild cognitive impairment. The workshop was delivered to fourth-year medical students, then adapted in two primary care clinics. In the clinics, we added an interprofessional case applying ACP to management of dental pain in advanced dementia. We evaluated the workshops using pre-post surveys. **Results:** Thirty-four medical students and 14 primary care providers participated. Self-reported knowledge and comfort regarding ACP significantly improved; attitudes toward ACP were strongly positive both before and after. The workshop was well received. On a 7-point Likert scale (1 = *unacceptable*, 7 = *outstanding*), the median overall rating was 6 (*excellent*). **Discussion:** We developed an ACP workshop applicable to students and primary clinicians and saw improvements in self-reported knowledge and comfort regarding ACP. Long-term effects were not studied. Participants found the role-play especially valuable. Modifications for primary care clinics focused on duration rather than content. Future directions include expanding the workshop's content.

Keywords

Advance Care Planning, Prognosis, Role-Play, Workshop, Communication, Communication Skills, End of Life/Palliative Care, Case-Based Learning, Clinical/Procedural Skills Training

Educational Objectives

By the end of this activity, learners will be able to:

1. Define advance care planning (ACP).
2. Differentiate between types of advance directives.
3. Use prognostication tools to inform discussion of ACP.
4. Identify patient-facing resources to start ACP conversations.
5. Elicit patient goals and values and make recommendations based on that information.

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Introduction

Advance care planning (ACP) is the process in which patients share their values and preferences about what matters most in health care, with the goal of aligning serious illness care with those values and preferences. This may occur at any age or health condition and should be an iterative process that evolves over time. It may involve identifying a surrogate decision-maker and should be documented in an accessible format.^{1,2} ACP interventions positively impact clinical care because they increase patient-provider discussions about goals of care, promote concordance of care with patient-defined wishes, enhance the quality of end-of-life care, and increase patient and family satisfaction with care.³ There is a recognized need for increased clinician training on ACP.⁴ Common barriers to initiation of ACP discussions in general practice include perceived lack of confidence, skills, and knowledge necessary to engage in these discussions.⁵ Furthermore, many clinicians feel inadequately

trained in prognostication. The use of prognostication tools can help facilitate timing of ACP conversations.⁶

There is evidence that multimodality curricular interventions including self-directed learning, lectures, simulation, and role-play, as well as use of interactive decision aids, are effective in teaching values-based ACP.⁷⁻⁹ These curricula can be simultaneously targeted to both trainees and practicing clinicians with success.¹⁰ A number of ACP training workshops have been evaluated for residents and fellows, though fewer target medical students specifically.^{7,11-13} Some curricula, such as Respecting Choices and The Serious Illness Care Program, are available for use, though not published on *MedEdPORTAL*.^{14,15} At the time of publication, there is one other *MedEdPORTAL* publication of a role-playing workshop on ACP, which is targeted at medical and nursing students.¹⁶ Other modules include one covering ACP for heart failure patients,¹⁷ a problem-based learning case on advance directives,¹⁸ and several focusing on code status discussions.¹⁹⁻²¹ We have developed a module that is unique in that it combines role-play and use of decision aids as teaching tools and has been implemented with both medical students and practicing primary care clinicians.

This workshop has been developed by an interprofessional team consisting of a geriatric medicine fellow, two DNP students, and a dentist as part of the Carolina Geriatrics Workforce Enhancement Program (CGWEP). The objective is to allow learners to practice key skills necessary for ACP using three different scenarios that require the clinician to elicit patient goals and make recommendations. The inclusion of a dental pain scenario, which is not typically considered in ACP training materials, helps illustrate that ACP is an extension of values-based shared decision-making that applies to multiple health professions. Our study goal was to determine the impact of our workshop on knowledge, attitudes, and comfort regarding ACP in both medical students and primary care clinicians.

Methods

We first describe the implementation of this workshop with medical students, then describe how the content was modified for use in primary care practices.

Medical Student Workshop

This 3-hour workshop was incorporated into a 4-day boot camp during the capstone course for fourth-year medical students who had matched into internal medicine. The space utilized for the workshop was a large classroom with tables that could accommodate six to eight learners each, as well as AV equipment for PowerPoint slide projection and audio. Beforehand, learners

were randomly assigned to small groups of four to five each. Tables in the classroom were numbered by each group. At the start of the session, learners received a packet containing a presurvey (Appendix A), the conversation starter kit published by The Conversation Project²² (Appendix B), an ACP conversation guide adapted from the *Serious Illness Conversation Guide* published by Ariadne Labs²³ (Appendix C), a role-play observer checklist (Appendix D), and a postsurvey (Appendix E). The learners completed the presurvey at the beginning of the workshop.

The first 2 hours were dedicated to an interactive lecture, with intermittent breakouts for small-group discussion (Appendix F). The first portion of the lecture (approximately 30 minutes) defined ACP and different types of advance directives, described the evidence-based rationale for engaging in ACP, and introduced patient-facing resources for starting ACP. Learners were then asked to spend 20 minutes completing the conversation starter kit (Appendix B) on their own and discussing it at their tables. The next section of the lecture focused on prognostication and serious illness communication, using the framework proposed in the serious illness communication guide. There was an interactive component utilizing an online quiz related to estimating prognosis for two cases that had been developed by one of the authors using the Kahoot.com platform. The link was included in the slide notes. The presentation also included video examples of communication skills from ePrognosis.²⁴ The didactic portion was led by a geriatric medicine fellow (author Ben A. Blomberg).

The final hour was devoted to case-based role-play. The learners moved into their preassigned groups of four or five students each. Each group had one facilitator. We recommend that small-group facilitators have fellowship training in geriatrics or palliative medicine (either board-certified faculty or fellows in training) to ensure adequate experience in facilitating ACP discussions. Hospice/palliative care nurse practitioners are also ideal candidates to serve as facilitators and provide an interprofessional perspective. Facilitators included three geriatric medicine fellows, three attending physicians in geriatric medicine, one palliative medicine fellow, and one DNP student doing a geriatrics fellowship through the CGWEP (author Catherine Quintana). The facilitators were asked to review the facilitator's guide (Appendix G) and ACP conversation guide (Appendix C) in advance of the session. The facilitator's guide provides learning objectives, a summary of what was covered during the didactic, a suggested time line, and instructions on how to use each appendix. On the day of the workshop, the facilitators received

a packet consisting of the facilitator guide, the ACP conversation guide, two copies of each case, and observer checklists.

The three cases were as follows:

- Case 1: discussing goals of care with a patient with chronic obstructive pulmonary disease (Appendix H). The objective of this scenario was to focus on more concrete treatment preferences such as intubation and resuscitation.
- Case 2: discussing ACP with recently diagnosed mild cognitive impairment (Appendix I). The objective of this scenario was for the student to elicit more general values and preferences, such as those that might prompt creation of a Living Will.
- Case 3: discussing potential options for managing dental pain with the family caregiver of a patient with advanced dementia (Appendix J). The objective of this scenario was to teach learners to elicit goals and values to guide treatment in a scenario not typically associated with ACP.

During the medical student workshop, we used cases 1 and 2 only, in order to allow more time for discussion and feedback. Groups spent 30 minutes on each case. Students were assigned to the role of provider, patient, or observer. They reviewed the cases independently before beginning the role-play. The facilitator and the students not actively engaging in role-play completed the observer checklist (Appendix D), which was based on concepts from the *Serious Illness Conversation Guide*. The checklists provided a framework for constructive feedback from the facilitator and helped the students observing the role-play remain actively engaged. After completing the cases, students completed the postsurvey (Appendix E).

Modifications for Community-Based Primary Care Clinic Workshops

The workshop has been delivered in two rural primary care clinics in North Carolina to providers including physicians, nurse practitioners, and physician assistants. The didactic portion was also delivered to clinical and administrative support staff at both clinics. Several modifications were made to the workshop to meet the needs of the clinics.

The didactic and role-play were split into two separate 1-hour sessions on different days to accommodate clinic schedules. A shortened version of the didactic PowerPoint was used. Utilizing a flipped classroom approach, participants were asked to complete several tasks outside of the session. Prior to the first session, participants were asked to review the conversation starter kit (Appendix B)¹⁴ in order to prime them

to think about how they would approach ACP discussions. In preparation for the role-play session, participants were asked to use ePrognosis to estimate prognosis for two of their own patients, watch any two videos on ePrognosis.org, and review the ACP conversation guide (Appendix C). During the role-play, cases 1-3 were used, and participants spent 20 minutes on each case. Participants were not randomized to cases and roles in this setting due to logistical constraints. Finally, due to time constraints at the primary care clinics, the pre- and postsurveys were combined into a retrospective pre-post survey (Appendix K), which was administered at the end of the role-play session. The facilitators included one geriatric medicine fellow (author Ben A. Blomberg), two DNP students in the CGWEP geriatric fellowship (authors Catherine Quintana and Jingwen Hua), and one dentist in the CGWEP geriatric fellowship (author Leslie Hargis-Fuller).

Evaluation

The pre- and postsurveys were developed with the intent to measure self-reported knowledge, comfort, and attitudes regarding ACP, as well as to gather feedback on the educational workshop itself. We first performed a literature review to search for already-published measures of knowledge, comfort, and attitudes regarding ACP.²⁵⁻²⁸ None of the published measures found adequately addressed the assessment needs for this workshop, so we created the pre- and postsurveys, which were informed by the aforementioned literature search and the educational objectives of the workshop. The survey items were independently reviewed for face validity by local content experts. Each item was rated on a 5-point scale (1 = *strongly disagree*, 5 = *strongly agree*). The survey items were grouped a priori into domains of Knowledge, Comfort, and Attitudes to create composite (mean) scores for statistical analysis (Table). At the end of the workshop, participants gave the training an overall rating from 1 to 7 (*unacceptable* to *outstanding*). The pre- and postsurveys were combined into a retrospective pre-post survey for the primary care clinic workshops. This study was deemed exempt by the University of North Carolina Institutional Review Board (IRB no. 17-2101).

Statistical Methods

Our primary hypothesis was that the training would increase participants' knowledge, comfort, and attitude regarding discussing ACPs. To test this, we fitted a linear mixed effects model for each aggregated score with random intercepts to account for nonindependence due to trainee and his/her discussion group. We controlled for the role each participant played and the case he/she worked on. Within these models, we

Table. Knowledge, Comfort, and Attitudes Regarding ACP

Domain and Items	Medical Students (n = 34) ^a		Primary Care Providers (n = 13) ^{a,b}	
	Pre	Post	Pre	Post
Self-Reported Knowledge				
I can define ACP.	3.5	4.6 ^c	4.4	4.8 ^c
I can describe the evidence-based benefits of ACP for patients and families.	2.4	4.3 ^c	3.5	4.3 ^c
I am able to identify patients for whom it is most important to have ACP discussions.	3.8	4.6 ^c	3.7	4.5 ^c
I can explain the differences between the Living Will, Health Care Power of Attorney, DNR, and MOST forms.	3.6	4.3 ^c	3.7	4.6 ^c
I am aware of tools to help me estimate prognosis.	2.5	4.5 ^c	2.2	4.7 ^c
Comfort				
I feel comfortable discussing ACP with patients and their families.	3.0	4.4 ^c	3.8	4.5 ^c
I am comfortable using the above Advance Directive forms with patients and their families.	3.0	4.1 ^c	4.2	4.6
I am comfortable using prognostic calculators to assist me in counseling patients.	2.5	4.1 ^c	2.2	4.4 ^c
I am comfortable having conversations with patients about their values, preferences, and goals of care.	3.8	4.4 ^c	3.8	4.7 ^c
I am comfortable making treatment recommendations based on a patient's goals and values.	3.3	4.2 ^c	4.0	4.6 ^c
I am comfortable discussing code status with patients and families.	3.7	4.3 ^c	4.0	4.5
Attitudes				
Advance care planning can improve quality of life at end of life.	4.8	4.9	4.5	4.9
It is my responsibility to discuss ACP with patients and families.	4.8	4.9	4.2	4.4
In my future practice, I intend to regularly discuss ACP with patients and families.	4.7	4.8	4.5	4.7

Abbreviations: ACP, advance care planning; DNR, do not resuscitate; MOST, medical orders for scope of treatment.

^aMean value of responses on a 5-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*).

^bFor the primary care provider workshops, the survey was administered as a retrospective pre-post survey due to time constraints. Of the 14 participants, one did not complete the survey.

^cStatistically significant, $p < .05$, using Wilcoxon signed rank test.

tested whether postworkshop ratings differed from pretraining ones.

We also assessed a single, global metric (overall rating) given after the workshop to see if it varied based on the discussion group a participant was in or his/her role or the case he/she worked on. These analyses let us see if the quality of the training was heterogeneous based on some groups working together better or some cases and/or roles being better. These possibilities were assessed with chi-square tests.²⁹⁻³¹

Results

Thirty-four fourth-year medical students pursuing internal medicine participated in the workshop. Two trainings were completed in primary care clinics, with seven participants in each (14 total). These participants included physicians, physician assistants, and nurse practitioners.

At the conclusion of the workshop, measures of self-reported knowledge and comfort regarding ACP showed significant improvement while attitudes toward ACP remained positive but unchanged (Table). Linear mixed models were fit for the means of each participant's knowledge and comfort ratings. Visual examination of plots (e.g., quantile-quantile plots) implied the models' assumptions were sufficiently met. There was a significant effect of time for both knowledge ($b = 1.35$, $c^2 = 76.3$, $df = 1$, $p < .001$) and comfort ($b = 1.04$, $c^2 = 41.5$,

$df = 1$, $p < .001$). The role played and the case worked on were not significant in either model (p values $\geq .10$).

Each participant's attitude mean was aggregated from only three items, each of which had almost no variation. Although descriptively, the group mean score increased for all three constituent items, nearly everyone chose the highest rating both before and after the workshop. Thus, there was insufficient variability in the data for a linear mixed model to be fit. Moreover, unadjusted Wilcoxon signed rank tests were nonsignificant for all three individual items (all p values $> .20$). In sum, we have little information about how the training impacted this aspect, but it is reasonable to infer that the participants had positive feelings about the importance of ACP.

The workshop was well received by learners. On a 7-point Likert scale (1 = *unacceptable*, 7 = *outstanding*), the median overall rating was 6 (*excellent*), with an interquartile range of [5.00, 6.25]. Overall ratings did not significantly differ by group, case, or role (all p values $> .10$). The majority of participants strongly agreed that the material presented was relevant to them and that they would recommend the workshop to others. Participants were also asked open-ended questions about what the most valuable portions of the workshop were and suggestions for improvement. Of those who left narrative comments, 16 (62%) felt that the role-play session was the most helpful aspect of the workshop, citing the opportunity to practice and try out "specific phrases,

key words to help facilitate discussion.” The most common suggestion for improvement from the medical student workshop was to shorten the didactic session.

We also collected the role-play observer checklists completed by small-group facilitators in an attempt to measure behavioral change. Faculty nearly uniformly noted that students playing the physician role demonstrated all behaviors included on the checklists. Many facilitators included narrative comments that supported their positive evaluations of the students’ performance, as well as making some notes for formative feedback.

Discussion

We successfully implemented an ACP workshop that was well received and generated significant self-reported improvements in knowledge and comfort regarding ACP. The workshop was applicable to both trainees and practicing clinicians with minimal modification, primarily consisting of shortening the face-to-face components for the primary care cohort. Many learners felt the most valuable portion of the workshop was the role-play. Feedback from facilitators highlighted the value of including prognostic calculators in the workshop. Learners, particularly medical students, often focused excessively on numeric prognostic estimates during the role-play. This provided an opportunity for immediate feedback regarding the appropriate use of prognostic calculators as triggers for ACP and to inform the clinician’s reasoning, rather than delivering numbers directly to patients and caregivers. The most common constructive feedback from medical students was to shorten the session. In light of this, the didactic was reduced to 1 hour the second year this workshop was given, with more content included as prework, making it more similar to the primary care clinician workshop.

There are several limitations to this workshop. The first lies in implementation. As with any small-group activity, a significant number of faculty are required to serve as facilitators, which limits the number of learners for any one session. This is feasible in many academic medical centers, particularly when fellows in subspecialties such as geriatrics or palliative medicine are available, but might be challenging in other settings. We feel that a strength of our role-play structure is that learners play the patient role rather than the facilitator or a standardized patient doing so. This fosters engagement of two students per case and allows reflection on the scenarios from a patient or caregiver perspective. However, it is possible that using students for the patient role could lead to inconsistency in level of engagement and learner experience. Fortunately, this was not the experience of our facilitators. We feel that the factors important to prevent

this inconsistency include a high level of enthusiasm from the facilitator and the provision of adequate time for students to prepare for their roles. The emotionally charged nature of end-of-life conversations also can generate greater student engagement in all roles. We encouraged the facilitator or any participant to call a time-out and debrief if he/she felt the role-play was not going well.

Implementation at primary care clinics posed unique challenges, as practicing clinicians have many more competing responsibilities than do medical students, who are effectively a captive audience. Stakeholder buy-in was crucial, and generally, a champion within the practice was needed to ensure attendance and engagement. We also partnered with the local Area Health Education Center to provide CME credit for the session as an additional incentive for the physicians.

The second area of limitation lies in evaluation. Our evaluation primarily relied on self-report of knowledge, comfort, and attitudes regarding ACP. While this is more robust than assessing reactions to the activity alone, it nonetheless may not accurately reflect actual skill gained in performing ACP activities. It also cannot be extrapolated to patient outcomes. We had initially hoped to capture some measure of behavior using the observer checklists, but faculty responses on the forms were so overwhelmingly positive that we were forced to question their validity. We ultimately found that the observer checklists were more useful as an outline for guiding structured feedback than as a measurement for evaluating the effectiveness of the workshop. Due to time constraints in the primary care clinics, we elected to use a retrospective pre-post survey design in that setting rather than the pre-post survey design used for the medical student workshop. Retrospective assessments are prone to recall bias due to the fallibility of human memory and may artificially inflate the difference between pre- and posttest scores. However, standard pre-post assessment has its own risk of response-shift bias, in which participants may realize that their actual levels of comfort and knowledge are lower than they originally thought. This bias can cause underestimation of the true difference between pre- and posttest.³²

Future directions for this work include expanding the interprofessional nature of the workshop, particularly for the medical students. We did not include the dental case in the medical student workshop, as we did not have facilitators available from the dental profession and felt it would be more prudent for the learners’ level of training to spend more time on fewer cases. If dental students were included in future iterations and more time was allocated to the cases, learners could gain an

appreciation for ACP's impact on a more holistic plan of care for a patient from an interprofessional perspective.

Appendices

- A. ACP Workshop Presurvey.docx
- B. Conversation Starter Kit.pdf
- C. ACP Conversation Guide.docx
- D. Observer Checklist.docx
- E. ACP Workshop Postsurvey.docx
- F. ACP Boot Camp Lecture.pptx
- G. Facilitator Guide.docx
- H. Case COPD.docx
- I. Case MCI.docx
- J. Case Dental Pain in Dementia.docx
- K. Retrospective Pre-Post Survey.docx

All appendices are peer reviewed as integral parts of the Original Publication.

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Ethical Approval

The University of North Carolina Institutional Review Board approved this study.

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