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Advance Care Planning Provider Education: Solution to Improve Provider Self-Efficacy

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Abstract

Healthcare providers are not comfortable having Advance Care Planning (ACP) conversations with patients and families. This project aimed to determine if ACP education modules improve self-efficacy with ACP. The project was a pre-/post-implementation design utilizing the validated ACP Self-Efficacy (ACP-SE) survey. Participants completed the pre-test ACP-SE followed by four Center to Advance Palliative Care (CPAC) ACP education modules and a Project-Lead-developed state-specific advance directive (AD) module that were accessed on-demand electronically. Participants were Advanced Practice Providers (APPs; n=21) on the inpatient heart failure service at an urban academic medical center. Thirteen APPs had complete pre and post-test and surveys data (61.9%). The majority of participants were white (95%), female (92%), aged 20-39 (83%), and NPs (62%) with 0-5 years of experience. The Wilcoxon Signed Rank Sum Test was used for median sum ACP-SE score comparisons for paired pre/post data. There was a significant median increase in ACP-SE scores pre and post intervention (W=2.9; p=0.002). The number of ACP conversations post-education modules ranged from 0-11 with a mean of 3.2 per APP, and a total of 68 conversations for all APPs during the month after the intervention. With increasing comfort and self-efficacy for discussing ACP, the desired effect is that ACP discussions will become a routine component of patient care.

Keywords

education, self-efficacy, healthcare professionals, advance care planning, palliative care

Disciplines

Critical Care Nursing | Nursing | Palliative Nursing

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Solution to Improve Provider Self-Efficacy

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Abstract

Healthcare providers are not comfortable having Advance Care Planning (ACP) conversations with patients and families. This project aimed to determine if ACP education modules improve self-efficacy with ACP. The project was a pre-/post-implementation design utilizing the validated ACP Self-Efficacy (ACP-SE) survey. Participants completed the pre-test ACP-SE followed by four Center to Advance Palliative Care (CPAC) ACP education modules and a Project-Lead-developed state-specific advance directive (AD) module that were accessed on-demand electronically. Participants were Advanced Practice Providers (APPs; n=21) on the inpatient heart failure service at an urban academic medical center. Thirteen APPs had complete pre and post-test and surveys data (61.9%). The majority of participants were white (95%), female (92%), aged 20-39 (83%), and NPs (62%) with 0-5 years of experience. The Wilcoxon Signed Rank Sum Test was used for median sum ACP-SE score comparisons for paired pre/post data. There was a significant median increase in ACP-SE scores pre and post intervention (W=2.9; p=0.002). The number of ACP conversations post-education modules ranged from 0-11 with a mean of 3.2 per APP, and a total of 68 conversations for all APPs during the month after the intervention. With increasing comfort and self-efficacy for discussing ACP, the desired effect is that ACP discussions will become a routine component of patient care.

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Advance Care Planning Provider Education: Solution to Improve Provider Self-Efficacy

The Patient Self Determination Act of 1990 resulted in the mandate that healthcare institutions must notify patients of their right to make decisions about their care, to ask them if they have an Advance Directive (AD), and to document their preferences (The Congressional Research Service, 1990). Additionally, the American Nurses Association (ANA) code of ethics (ANA, 2015) directly states that nurses should engage in advance care planning (ACP). In a country where the United States Census Bureau (USCB) estimates that by 2035 there will be 78.0 million people 65 years and older, and as life-prolonging technology expands exponentially, it is critical for Americans to make decisions about their future options (USCB, 2017).

Although ACP includes completion of an AD and selection of a healthcare proxy, it is a broader process that involves individuals making known their health care wishes, personal values, and goals to providers and loved ones to cover scenarios in which they cannot speak for themselves (Sudore et al., 2017). It includes discussions about medical interventions and trade-offs that would be acceptable in exchange for more time (Fried et al., 2006; Howard et al., 2006). In the 2014, The Institute of Medicine's (IOM) report *Dying in America: Improving Quality and Honoring Individual Preferences Near the End of Life* included a major recommendation that ACP should be a normalized process that is revisited frequently as goals and wishes can change over time according to health status (Institute of Medicine [IOM], 2015). The purpose of the project was to define and implement an intervention that improves provider self-efficacy with ACP.

Background and Significance

Although having control over one's healthcare decisions seems appealing, only 36.7% of Americans have completed an AD (Yadav et al., 2017). Reasons cited in the literature include the fact that America is a death-denying society (Whittington, 2011), there is poor knowledge about ADs, and ADs are conceptually challenging because they require healthy individuals to make decisions about future theoretical medical circumstances. There are cultural and ethnic barriers to ACP in the literature as well. For blacks, there is mistrust of the healthcare system (Hong, Yi, Johnson, & Adamek, 2018). Many studies have shown lower participation in ACP among all ethnic and racial minority groups (Hong, Yi, Johnson, & Adamek, 2018). Low participation in ACP can result in inadequate care at the end of life and can extend the impact of prior healthcare disparities (Hong, Yi, Johnson, & Adamek, 2018).

Unfortunately, when there is no AD in place, patients often receive unwanted, futile, goal-discordant, and costly care at the end of life. In fact, over one quarter of Medicare funds for the elderly are spent on care at the end of life (Riley & Lubitz, 2010). Alternatively, when ACP results in successfully identifying patient goals over time, studies have demonstrated increased patient and family interaction, satisfaction, and goal-concordant care (Brinkman-Stoppelenburg, Rietjens, & Vanderheide, 2017). ACP has also been shown to decrease depression, anxiety and stress in patients and families.

Healthcare providers are a solution to this problem in that they can assist patients with this process, but there are provider barriers to adoption of increased ACP conversations which are robustly documented in the literature. Provider barriers include the lack of formal education and self-efficacy, lack of time, discomfort with ACP conversations, and concerns regarding the low reimbursement related to these activities (Fanta & Tyler, 2017; Pawlow, Dahlin, Doherty, &

Ersek, 2018; Miller, 2018). Additionally, providers often report a fear of taking away hope by broaching the subject, although this idea has been disproven (Bernacki & Block, 2014).

Palliative care providers have significant training and expertise with ACP. However, there are only 13.35 palliative care specialists for every 100,000 adults older than age 65 in the United States (Lupu, Quigley, Mehfound, & Salsberg, 2010). For this reason, it is recommended that all healthcare providers be comfortable with basic skills defined as primary palliative care. Many organizations such as the American Nurses Association (ANA) and the Hospice and Palliative Nurses Association (HPNA) have made recommendations that palliative care content, which includes ACP, be incorporated into all levels of nursing and medical education (ANA & HPNA, 2017; Schaefer et al., 2014). There are ongoing advocacy efforts in this area that have resulted in the Palliative Care and Hospice Training Act which recently passed in the United States' House of Representatives; if it becomes law, it will result in grants specifically earmarked for palliative care and hospice training for the interprofessional team.

In the meantime, there have been many efforts to provide education regarding the core skills involved in ACP (Fahner et al., 2016). Primary palliative care education efforts for healthcare providers vary greatly and include a broad range of activities. Some strategies are entirely online modules, while others are a combination of online and in-person education, and others include communication simulations with standardized patients or palliative care experts. *Respecting Choices* is one of the most widely used models that has been studied extensively (MacKenzie, Smith-Howell, Bomba, & Meghani, 2018). There are also education models that have been created to assist both patients and providers to engage in advance care planning conversations such as *The Conversation Project* (The Conversation Project, 2019). The Center to Advance

Palliative Care (CAPC) has developed online modules; however, with the exception of the time during Covid-19, they are only accessible to those with CAPC institution membership.

Literature Review

A literature search was conducted on August 15, 2020 to review Advance Care Planning (ACP) healthcare professional education and its effect on provider self-efficacy. The literature search included PubMed, Cumulative Index to Nursing and Allied Health (CINAHL), Scopus, and Embase. The fact that there is not a common language for advance care planning resulted in the need for an extensive list of search terms (Chan, Ng, Chan, Wong & Chow, 2019). The search terms included educat* OR model* OR program* OR intervention* AND self-efficacy OR "self-efficacy" OR competen* OR communicat* AND "healthcare professionals" OR nurs* OR clinician* OR "physician assistant" OR physician* OR provider* OR "practitioner" AND surrogate OR "healthcare agent" OR "advance directive" OR "advance care planning" OR choice* OR "living will" OR "power of attorney" AND "terminal care" OR "end of life" OR end-of-life OR hospice OR hospice* OR "palliative care" OR "life limiting" OR life-limiting OR "serious illness."

Eligibility was limited to studies published between January 1, 2016 to August 15, 2020 and written in English. The review was performed by following the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) method (Moher, Liberati, Tetzlaff, Altman, & the PRISMA Group, 2009). A total of 985 articles were found through the search and two additional articles were obtained through other sources. There were 583 remaining articles after removing duplicates (See figure 1 for details). In order to meet inclusion criteria, studies had to involve didactic provider education and the measurement of self-efficacy after the intervention. Many of those remaining were excluded because they were not focused on healthcare provider education. Other reasons for exclusion were that the studies did not measure self-efficacy, or they were abstracts or case studies. Six publications met inclusion criteria and were considered eligible for analysis.

The Grading of Recommendations Assessment, Development, and Evaluation (GRADE) method, developed by Guyatt et al. (2011), was used to determine the quality of the evidence. The articles chosen for inclusion were read and appraised by the author. The GRADE critique method was used in the evaluation of all literature to ensure a systematic and consistent assessment of the evidence published over the last 4 years.

According to the GRADE method, the quality of the studies was rated on a scale of very low, low, moderate, or high. Next, experimental or randomized controlled trials (RCTs) would have initially been ranked as high-quality evidence, but there were none in the set of studies. Subsequently, publications were reviewed for the risk of bias, publication bias, indirectness, imprecision, and inconsistency. Lastly, publications were assessed for the ability to be rated higher based on a reported large effect size, or presence of confounders that would diminish the demonstrated effect.

GRADE

All six studies involved healthcare provider education and the outcome of self-efficacy (see Table 1). Two studies also examined the impact of the intervention on knowledge (Bond et al., 2016; Verdoorn et al., 2019). None of the studies were randomized controlled trials. All were quasi-experimental; therefore, the body of literature was initially ranked as moderate quality of evidence using GRADE criteria. Next, the studies were rated down to low because of indirectness. Each study included different educational interventions such as didactic-only, didactic and simulation, standardized patient interaction, and case studies. For this reason, the interventions could not be directly compared.

The low survey response rates in some of the studies resulted in a risk of bias. None of the studies were funded by industry, and the authors had no conflicts of interest. One study was supported by the Geriatric Workforce Enhancement Program and a Health Resources and Services Administration Grant, but the authors stated that those entities had no direct input into the publication (Lally et al., 2019). There was no inconsistency and no imprecision.

Synthesis of Findings

Five of the studies were performed in single sites, while one was a multisite study. In terms of the samples, two were comprised of medical students, one of medical residents, and the other four of interprofessional groups. Five of the studies used multimodal educational strategies, while one utilized a 50-minute instructional session for an interprofessional team with facilitated group discussion (Tully, 2018). Four out of six studies utilized a simulation approach. (Bond et al., 2016; Chan et al., 2016; Nussbaum et al., 2019; Tully, 2018). Predictably, the studies with medical students and residents involved education over an extended time period. Of note, the one conducted by Nussbaum et al., 2019 reported that their intervention required a significant amount of faculty time (30 hours). Lastly, none of the studies used a validated tool to measure self-efficacy or knowledge, but the authors stated that the tools they utilized were vetted (i.e., face and/or content validity) by palliative care specialists.

Participant survey response rates varied significantly across the studies with Tully (2018) and Chan et al., (2016) reporting 100%, and Bond et al. as low as 55% when responses were measured at 90 days. The remainder of the studies had response rates in the 88-95% range (Nussbaum et al., 2019; Verdoorn, 2019). Five studies demonstrated significant differences in pre-and post-education provider self-efficacy with ACP. Bond et al. (2017) was different from the others in that self-efficacy was measured pre- and post-, and also at 30 and 90 days after the intervention. The sixth study was an outlier in terms of the findings and did not demonstrate significant improvement in self-efficacy or knowledge, but pre- and post- self-efficacy was simultaneously measured on the post-intervention surveys (Verdoorn, 2019). Two other studies demonstrated significant improvement in knowledge (Bond, 2017; Tully, 2018).

Overall, the entire set of evidence clearly and consistently supports the delivery of ACP education to improve provider self-efficacy with ACP. As such, ACP education is an opportunity to improve heart failure Advance Practice Providers (APP) self-efficacy, and to position Advanced Practice Providers (APPs) to be more likely to engage in ACP. In addition, if APPs engage patients in ACP, they may increase patients' opportunity for goal-concordant care without unwanted procedures and hospitalizations.

Organizational Assessment

In an urban university hospital, APPs on the heart failure team, including nurse practitioners (NPs) and physician assistants (PAs), designated in a survey that they felt very uncomfortable discussing living wills and ACP with patients. Given the fact that heart failure is commonly serious and life-limiting, this was concerning. However, the finding was not surprising because the literature shows that ACP is particularly challenging with cardiovascular patients in that unlike cancer, it is difficult to prognosticate (McClung, 2013). ACP for heart failure patients has been recommended as one solution to prevent costly 30-day readmissions(average rate 26.9 %) that are not reimbursed by Medicare (Kripalani, Theobald, Anctil, & Vasilevskis 2014). ACP is also recommended to increase the likelihood of goal-concordant care in this population.

Stakeholders, including the Palliative Care and Heart Failure leaders and APP team members at the hospital were gathered to discuss their concerns about provider discomfort with ACP and to brainstorm potential solutions. Improved ACP is consistent with key components of this health system's mission of providing outstanding patient care while preserving patient dignity. It also aligns with the health system's core value of striving for excellence. Subsequently, plans were made to deliver ACP educational modules with a goal of increasing self-efficacy with ACP among this team of heart failure providers.

The strongest facilitators for this project were APP interest in gaining new knowledge about ACP, and support from physician and APP leadership. Another facilitator was that this hospital has free access to ACP education modules, through membership to the CAPC, that were used for the project. The modules are online, can be accessed at any time, and include free continuing education credits. Moreover, the APPs who completed the surveys and modules received gift cards as incentives.

Potential barriers to this project were identified and included the potential that the APPs could be overwhelmed by the stress of Covid-19 and the usual increase in patient census that is typical during the winter months when this project was launched. Other anticipated barriers were competing education demands, other initiatives, and the fact that APPs had to complete the modules during their free time. Another potential barrier was that some team members may have had discomfort with the ACP concept, while others may have felt that they were already well-educated on the topic.

Problem Statement

Only 36.7% of Americans have completed an AD resulting in a lack of goal-concordant care at the end of life (Yadav et al., 2017). A barrier to ACP completion is that healthcare providers have not received education regarding ACP; therefore, they are not confident facilitating ACP discussions with patients and their loved ones.

Project Purpose

The main objective of this project was to determine if APPs’ self-efficacy regarding ACP conversations changes from pre- to post-completion of ACP education modules. An additional objective was to ascertain if completion of ACP modules impacted the number of self-reported ACP conversations that APPs had during the month after module completion.

Conceptual and Theoretical Framework

The Iowa Model, one of the most widely used by Magnet-Designated hospitals in the United States, was developed by nurses in the 1990s and revised and validated in 2017 (Speroni, McLaughlin, & Friesen, 2020; Iowa Model Collaborative, 2017). It is a systematic process for translating evidence into practice (Figure 2). Additionally, it is a comprehensive, logical, succinct, and practical process that is represented in a clinician-friendly algorithm. The Iowa model differs from others in that it emanates from either an internal trigger such an issue identified at the patient level, or an external trigger such as a state or national initiative (Gawlinski & Rutledge, 2020). Key components include discerning the problem, deciding if it is a priority for the organization, gathering the team, evaluating the literature, implementing a change, evaluating the outcome, assimilating and sustaining the change, and disseminating the findings.

The Iowa Model was selected for this project because it is an algorithmic approach that is commonly used in clinical practice by APPs. The internal trigger for ACP is that APPs at the site have identified a knowledge gap and a lack of self-efficacy with ACP and have a desire to improve both. An external trigger is a national effort to improve ACP (IOM, 2015).

The Iowa Model is based on Rogers' Diffusion of Innovation Theory. This is a change theory that was initially proposed in 1962 and was subsequently revised several times through 2003. The basic tenets of the theory are that there are features of an organization that can impact an innovation, and there are characteristics of the innovation itself that can impact its adoption (Rogers, 2003). Another key concept of Rogers' theory is that individuals within a social system will differ along the spectrum from innovators, early adopters, early majority, and late majority to laggards (Rogers, 2003). An organization such as an academic medical center has many features that support innovation such as a strong emphasis on research, evidence-based practice, and an infrastructure that supports innovation. In terms of the innovation itself, it is more likely to be adopted if it is seen as something that can easily be incorporated into practice and is perceived as an improvement.

This project occurred at a referral center where patients are commonly admitted because they are seeking a cure for a condition for which they have limited options. This cure-focused environment creates clinician, patient, and family barriers to ACP. Clinicians are focused on offering last-ditch therapies and patients and families want to receive them. End of life planning is not the top priority and is an uncomfortable topic for all involved. Although the site is a leader in innovative and experimental therapies, it has been a late majority adopter of palliative care and ACP. It was anticipated that the CAPC modules (the innovation) would likely be adopted by this site since they are evidenced-based, easily accessible with the health system's single sign on credentials and include free continuing education credit.

Methods

Setting

The setting was a 725-bed inner-city medical center. Northeastern city tertiary medical center.. The Cardiology Advanced Practice Heart Failure Service included 24 providers including NPs and PAs. This team managed their patients in-house 24 hours a day, 365 days a year. The patients were typically managed on the cardiac intermediate care unit. The daily census ranged from 35 to 40 patients. Each provider managed an average of 8 patients per shift. The average length of stay was 11 days. The patient population included those with ACC/AHA Stage C and D heart failure requiring advanced therapies such as intravenous inotropes, mechanical circulatory support devices, and heart transplants. This service also managed patients with pulmonary hypertension, adult congenital heart disease, advanced valvular heart disease and post-heart transplant patients with various complications such as allograft rejection and vasculopathy, and infections.

The case mix index (CMI) and Severity of Illness (SOI) of this patient population were high. The CMI in 2020 was 2.23 with a SOI of 82.6%. The SOI >80% means patients scored a major or extreme severity within their disease process. The Lead Nurse Practitioner and Project Site Champion had been a heart failure NP at this site for 17 years. She completed her DNP project on providers' perspectives on the integration of palliative care in advanced heart failure care.

Participants

Project participants included twenty-one APPs on the inpatient heart failure service. This specific team was chosen to be the participants as they are the group that reported low self-efficacy with ACP in a prior DNP project. The resident physicians were not selected for participation as they rotate monthly on the heart failure service and are not a regular presence for this patient population.

Intervention

The project was officially launched after the site and the Project Lead's University Institutional Review Board approved it as a quality improvement initiative. The education intervention included four evidenced-based CAPC modules that were mandatory, accessible on the CAPC website, and were accessed with the medical center employee login credentials. The modules included "Basic Advance Care Planning: Introduce and Motivate," "Guide and Document," and "Beyond the Conversation: Integrating Basic Advance Care Planning into Practice." The fourth was "Communication Skills: Advance Care Planning Conversations (CAPC, n.d.)." A fifth and final module was a brief review of the key components of an advance directive for the nearby states of Pennsylvania, Delaware, and New Jersey created by the Project Lead. This module was not mandatory. Certificates of completion and continuing education credit were immediately available for download. Participants were asked to email their certificates to the Project Lead upon completion. The Project Lead then provided a link to the post-completion survey and sent a $10 e-gift card in appreciation for participation A poster was placed in the Advance Practice Provider office as a way to help the providers keep track of the number of Advance Care Planning conversations they were having after completing the education modules (Appendix F). They were also encouraged to see who was having the most conversations and to reach out to them to learn strategies for engaging patients in conversations. The provider with the most conversations was awarded a $25 gift card at the conclusion of the project. One month later, the Project Lead emailed the final survey to participants.

Project Implementation

The Project Lead imported the surveys into Qualtrics and then piloted them for clarity and ensured that the features were set up correctly (Qualtrics, Provo, UT). Links for the CAPC education modules and the project surveys were checked by the Project Lead and the Project Champion who were key stakeholders at the site. There was a pre-implementation survey regarding self-efficacy with ACP that was administered through Qualtrics in January 2021. The participants were asked to complete the five education modules between January and February 15th, 2021. Next, the participants were asked to complete the post-implementation ACP-SE survey. One month after that, the participants were asked to complete a final survey related to the feasibility of modules they completed and the ACP conversations they had one month after the education intervention (Figure 3).

Measures

Design The project was a pre-test, post-test design.

Advance Care Planning Self-Efficacy (ACP-SE) Tool. The main outcome of provider self-efficacy was measured using the 17-item ACP-SE tool pre-intervention and immediately post-completion of the five modules (Appendix C). This validated instrument had seventeen items with a Likert scale of 1 to 5 where 1 is *not confident at all* and 5 is *very confident*. The sum total score had a range from 17-85. Higher scores indicated higher confidence. The survey took less than five minutes to complete. ACP-SE was initially reviewed for face and content validity by five family physicians. The population in which it was validated was family physicians (n=188), a population similar to project participants in that all are providers. It differed in terms of type of provider as the project participants were APPs. During validation, the average score for each item on the scale was 3.94 (standard deviation =0.71). The seventeen items showed good reliability with a Cronbach's alpha coefficient of 0.95. Additionally, the scale strongly correlated with the one item that measured overall self-efficacy with ACP ($r = 0.79$, $P<.001$). Test-retest reliability was not included in the validation study (Baughman et al., 2015).

Demographics and Additional Survey Questions. Additional measures that were added to the pre-ACP-SE survey included an additional 13 questions addressing demographics, providers' years of experience, and prior activities related to ACP (Appendix D). The final survey, completed one month after the education intervention, had 17 questions related to ACP activities such as the number of self-reported ACP conversations the APP had with patients and their families after the intervention, if the APP had completed a living will, or selected a healthcare proxy for themselves. The final survey also included a question regarding whether or not the APP would recommend the modules to a colleague (Appendix E). These project-specific survey questions were team-developed and were reviewed for face and content validity by palliative care scholars at the University of Pennsylvania School of Nursing (n=10) and by the health system Project Site Lead who is the manager of the palliative care APPs, a content expert, and an experienced palliative care clinician. Minor edits from these experts were incorporated into the surveys. These surveys took less than 5 minutes to complete.

All surveys were imported into Qualtrics by the Project Lead. Participants were required to answer all questions in the surveys to ensure complete data sets. They were provided with unique identifiers so that their responses remained anonymous while allowing for pre- and post-comparisons. Clear instructions were provided for all project surveys to minimize the risk of measurement error.

Data Management Plan

Survey responses were checked by the Project Lead on a weekly basis throughout the duration of project implementation. Despite the fact that the surveys required all questions to be answered in order to submit, it was anticipated that some participants might decide not to complete all of the surveys. When the Project Lead found survey sets that were not complete, additional reminders were sent to the participants. At the end of each education modules, the participant received a certificate of completion. Participants were asked to email the certificates to the Project Lead to ensure that the CAPC modules were completed in full. At the time of the analysis, if the pre and post surveys were not completed by the de-identified respondent, their data was not included in the analysis. Once all of the data was collected, it was coded and uploaded to the statistical analysis program. An independent coder was enlisted to verify accuracy. Where there were discrepancies, the Project Lead returned to the source data to verify the correct entries.

Data security. The data remained secure, password protected, stored in Qualtrics, and was subsequently uploaded to the SPSS version 27.0 statistics software package (IBM, released 2020). All data was de-identified. The Project Lead and statistician had exclusive access to ensure data protection, so no additional personnel training regarding data management was necessary. Any data that was downloaded and stored by the Project Lead was on the University of Pennsylvania School of Nursing shared drive that was password-protected, behind a firewall, and only accessible to the Project Lead. All back-ups of this drive were encrypted, and all servers and desktops were patched frequently and had up to date anti-virus and software updates. The certificates of completion and the surveys remained secure at all times. The certificates will be destroyed after one year.

Analysis

Descriptive statistics such as frequencies (% [n]) were used to describe characteristics of the sample such as sex, ethnicity, race, gender, age range, and years as an APP. The Wilcoxon Signed Rank Sum Test was used for median sum score comparisons for paired data (pre/post, same APPs) for the total scores, individual items, and sub-domain score comparisons. Graphical analysis by bar chart for total median scores pre/post were used. This inferential analysis allowed for visualization of trends pre- and post-education.

Results

Demographics

Of the 13 APP participants who completed both the pre and post ACP-SE surveys, 69.2% were white, and the majority were female (92.3%), and aged 20-39 (82.7%). More than half of the respondents identified as Christian (53.8%), and slightly to moderately spiritual (77%). More than half of the participants were single (53.8%) and NPs (61.5%). Of the 8 NPs, the majority had 0-5 years of nursing experience prior to becoming a NP (63.5%). Five had 0-5 years of experience as a NP, and the remaining three had 11-20 years of experience. Of the 10 PAs, all had 0-5 years of experience (see table 2). Out of the 13 respondents, one had completed advance care planning for themselves, 10 (77.9%) had completed ACP with family or friends, and 12 (92.3%) had completed ACP with patients and/or their families and loved ones (table 3). Prior to the intervention, three (23%) had completed ACP continuing education and one had "formal education".

ACP-SE related to CAPC modules

On a self-efficacy for ACP scale, where 1 is *not at all confident* and 5 is *very confident*, the median pre-score was 3.3 and post-score was 4.2 (Figure 4). There was a significant median increase in ACP-SE scores between pre and post intervention (W=2.9; p=0.002). The APP providers kept track of each ACP conversation they had post-intervention by placing a star on a poster in their office. The number of conversations ranged from 0-11 with a mean of 3.2 per APP, and a total of 68 conversations for all APPs during the month after the intervention (Appendix F). For this outcome, it is important to note that the conversation practice for all 21 APPs was included. Three (14%) did not complete the education intervention, and eight (38.1%) did not complete the post surveys. Because the paired survey data was de-identified, it was not feasible to pair ACP conversation data with survey respondent data.

Implementation Process Summary

The heart failure APPs were informed by the site champion that the four ACP Center to Advance Palliative Care (CPAC) education modules were mandatory. Additionally, the APPs were encouraged by the DNP Project Lead to complete the state-specific advance directive (AD) module. Consistent with Roger's change theory, there were early adopters who completed the education within the first few days after the links were posted. HF leadership was supportive as they envisioned the CAPC modules as an opportunity to improve patient care in a free, convenient online format that that was accessible with the providers' existing health system login credentials.

Eighty-six percent (18/21) of the entire APPs group completed the CAPC modules. Of the 13 participants included in the analysis, 62% (8/13) completed the state-specific module. Sixty-two percent completed the final survey (8/13) and reported that they felt that the content was "just the right amount" (75% [n=6]), that they would "recommend the modules to their colleagues" (100% [n=8]), and that they "believed they should be required of all APPs in the health system" (100% [n=8]).

Participants who identified as not completing the state-specific survey gave reasons such as “it was not mandatory” and “ not super useful for inpatient management.” Interestingly, the Project Lead had assumed that the reason was because the module was in a separate location than the CAPC modules. Of those who completed the state-specific module, they described it in free text as “very informative,” “relevant,” and “helpful in approaches to conversations.

When the participants emailed their CAPC completion certificates, 4/18 said that the $10 gift card was not necessary as they were happy to participate in the project. Other comments were that they “really enjoyed the modules”, “learned a lot from them”, and “were eager to apply what they learned in their clinical practice.” The poster that was utilized to document ACP conversations by APP also stimulated enthusiasm and healthy competition as the APPs tallied their ACP conversations. The APPS were encouraged to reach out to their top-performing colleagues to learn best practices. Upon witnessing the enthusiasm around the poster, heart failure leadership commented that the poster may be a useful way to encourage competition and the sharing of best practices for other initiatives such as reducing hospital length of stay.

All emails and reminders were forwarded to the site champion who then emailed them to her team. This may have improved the participation rate since they were coming from a familiar colleague who is also the Lead HF APP. The Covid-19 pandemic prevented the Project Lead from physically visiting the site to encourage participation, answer questions, and inquire as to how the project was going.

Discussion

Summary

This project demonstrated a significant improvement in APP self-efficacy with ACP with a median increase in ACP-SE scores between pre- and post-ACP module completion (W=2.9;

p=0.002). The number of conversations per APP provider post-module completion ranged from 0-11 with a mean of 3.2, and a total of 68 conversations for all 21 APPs on the team during the month after the intervention. Strengths of the project were that it used evidenced-based ACP education modules and a validated ACP self-efficacy tool. Other strengths were buy-in from site leadership and HF APPs, free continuing education credit for CAPC module completion, and single sign-on (heath system) credentials for modules. The key process facilitators were that the CAPC modules were mandatory and that they were easily accessible.

One weakness was the inability for the Project Lead to visit with the site/APPs because of Covid-19. As stated above, these in-person visits with the participants could have generated more enthusiasm for the project and would have offered the opportunity for questions. Another weakness was that the state-specific module was not located in the same place (electronically) as the CAPC modules. Lastly, the poster measured all APP conversations (not just the thirteen APPs included in the full analysis) so the Project Lead could not measure the number of conversations by those in whom ACP-SE was measured. It is recommended for those instituting future projects to measure documented ACP conversations per APP 1 month prior, 1 month post- and 6 months post-intervention to facilitate a more precise measurement of the impact and sustainability of education on number of conversations.

Implications for Practice

Studies have demonstrated that ACP education improves ACP self-efficacy. Through this project, the CAPC ACP modules were shown to improve APP self-efficacy with ACP. Assignment of these modules as a requirement for all APPs in the health system would be a beneficial initiative to improve provider self-efficacy and engagement in ACP with patients.

Sustainability Plan

This practice change will be most sustainable if the Director of APPs requires all APPs to complete the modules as part of their annual training. The Project Lead will present the project results to the Director and will share that all final survey respondents were in favor of requiring all APPs in the health system to complete the CAPC modules. These modules have already been purchased for this health system, so there will be no direct cost to the clinical service or the APPs. A bonus is that free continuing education credits are awarded for completion of these modules. The biggest barrier will be competing education and quality improvement priorities. It will be important for the Director of APPs to identify early adopter APPs for each hospital service who can serve as champions to promote completion of the CAPC modules. A poster in each of the APPs group offices may be useful as a behavioral economics approach to encourage providers to engage in ACP and to identify champions who can share best practices. The CAPC and state-specific modules should be electronically linked together to enhance access and increase likelihood of completion.

Of note, the Project Lead has been notified of ongoing enthusiasm for ACP among the HF team. The APP who had the most ACP conversations during the project is planning a new project. This project will be an APP initiative to engage the HF patients who are intubated during their admission in ACP discussions as this is a high-risk group. She plans to use part of the project process of utilizing a poster to stimulate competition and to measure success in meeting this goal. She will take ACP measurement to the next level by measuring ACP conversation documentation in these patients' charts.

Conclusions

There are many barriers to ACP including lack of education and self-efficacy among healthcare providers which are well documented in the literature. The studies outlined in the review above demonstrated that ACP education improves APC self-efficacy. This evidenced-based project demonstrated a significant increase in self-efficacy consistent with this literature. Because the participant group for this project was small and included APPs on only one clinical service at a single site, a larger roll-out is recommended to see the effect. It is recommended that the Director of APPs reach out to the APP Service Leads to determine which services should be targeted first based on their need for ACP education. Alternatively, assignment of these modules to APPs could be targeted to services that typically treat patients with serious illness and could subsequently be rolled out to all services within this hospital and ultimately the entire healthcare system.

Given that the CAPC modules were mandatory not only demonstrated the site's commitment to ACP in this population but it is also likely to have improved the participation rate. Therefore, mandatory participation is recommended for future CAPC module initiatives. As APPs become more comfortable discussing ACP, these discussions will be more likely to become a routine component of patient care. Ultimately if providers can engage more patients in ACP, it is anticipated that patients will receive care that is more consistent with their goals and preferences and that they will be able to achieve a "good" death. An increase in ACP may also result in cost reduction due to a decrease in unwanted heart failure readmissions. These patient-centered outcomes are important measures for future endeavors.

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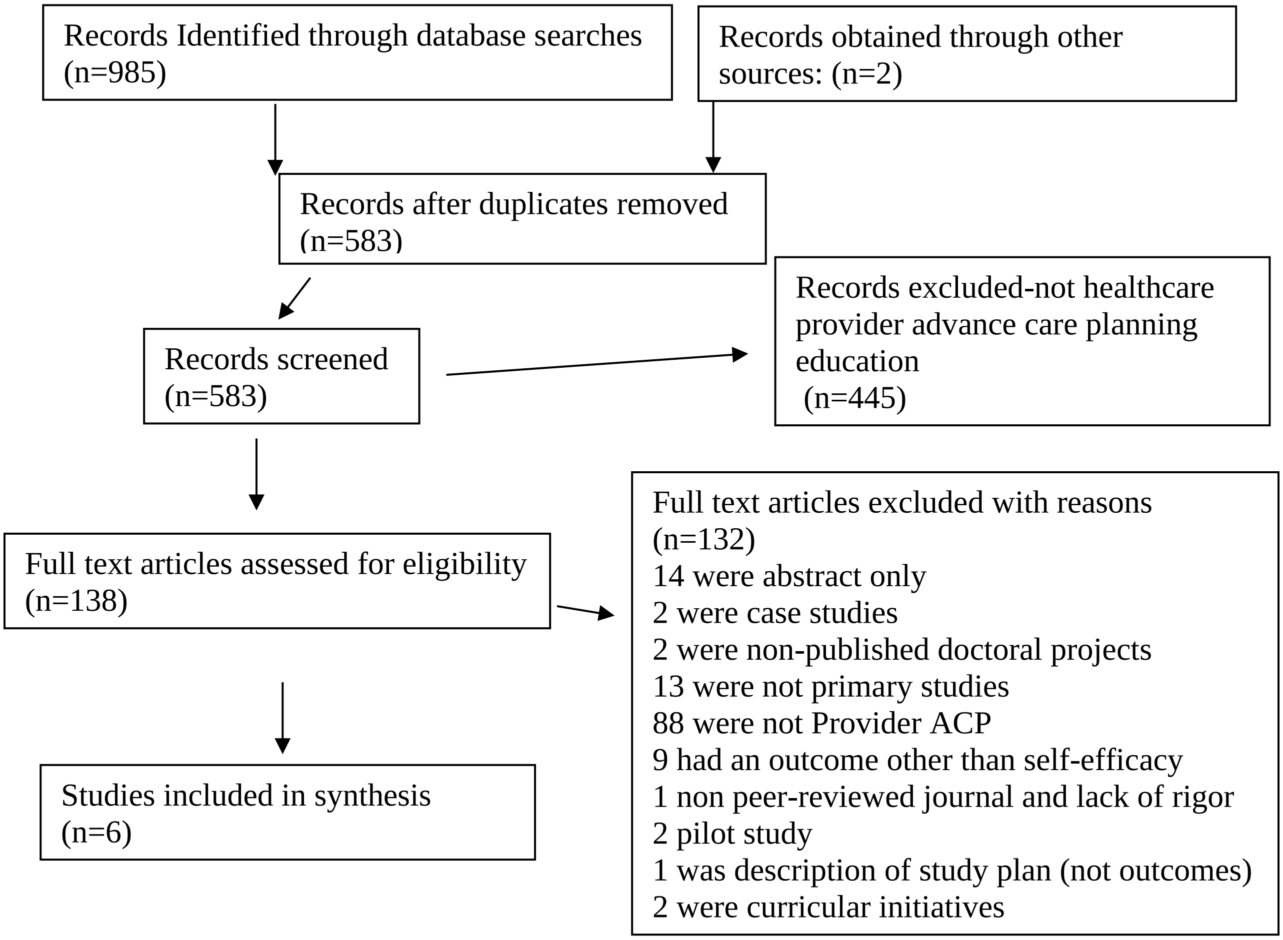
Figure 1

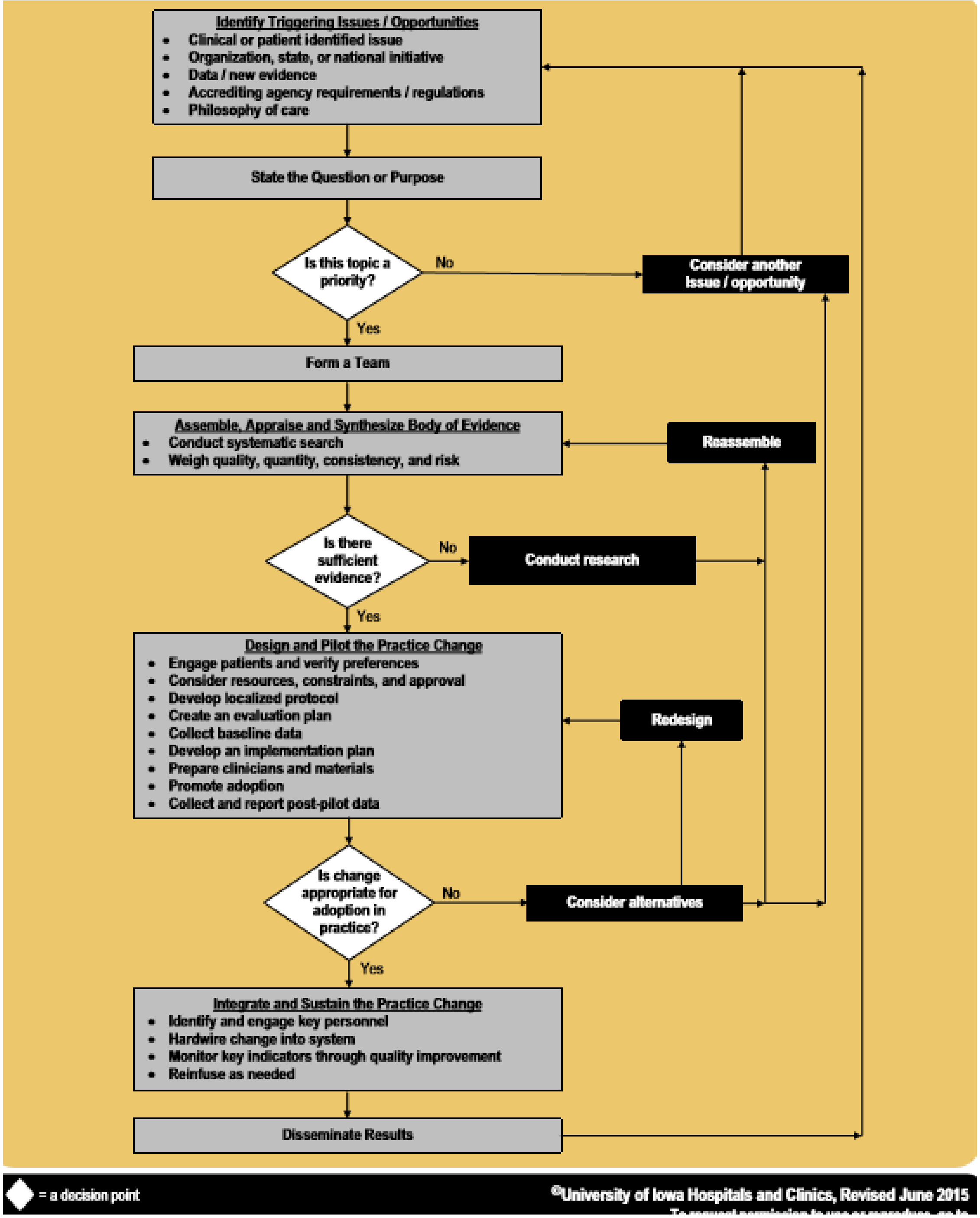
Diagram illustrating the methods for the review of the research on health care provider advance care planning education and the impact on self-efficacy.



Note. ACP=Advance Care Planning.

Figure 2

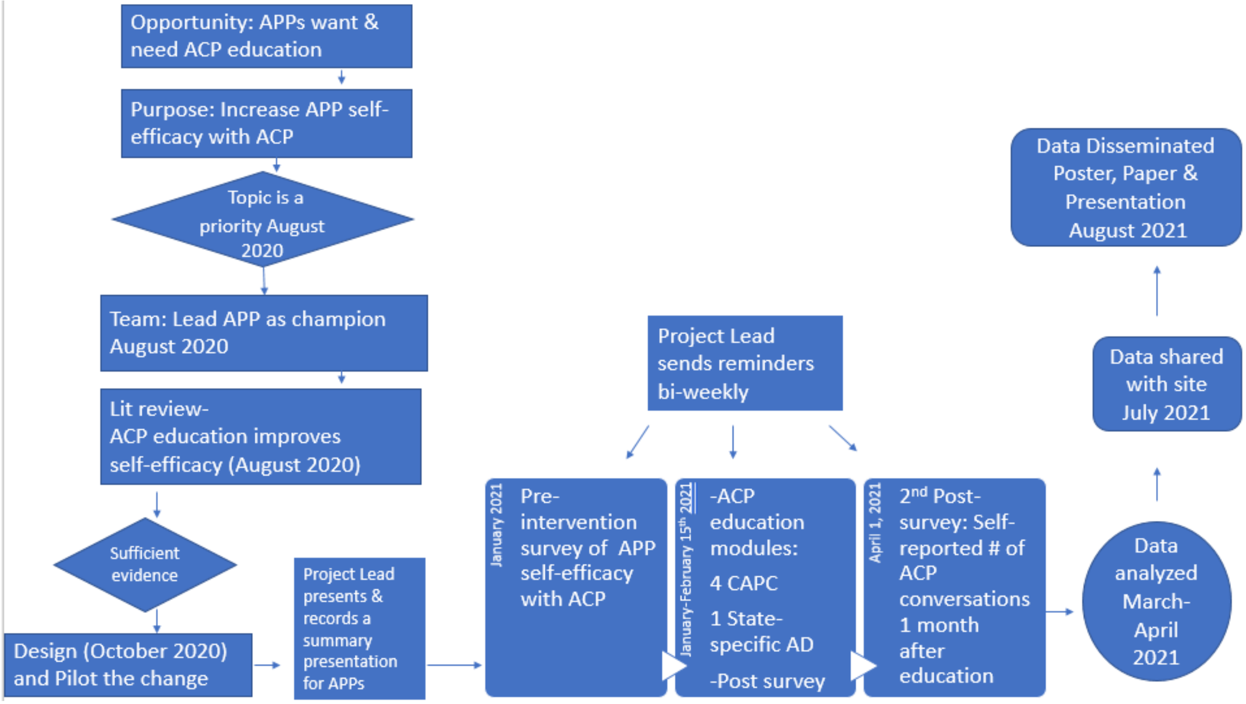
The Iowa Conceptual Model of Evidenced Based Practice



Note. Permission obtained September 27, 2020 (Iowa Collaborative Model, 2017).

Figure 3

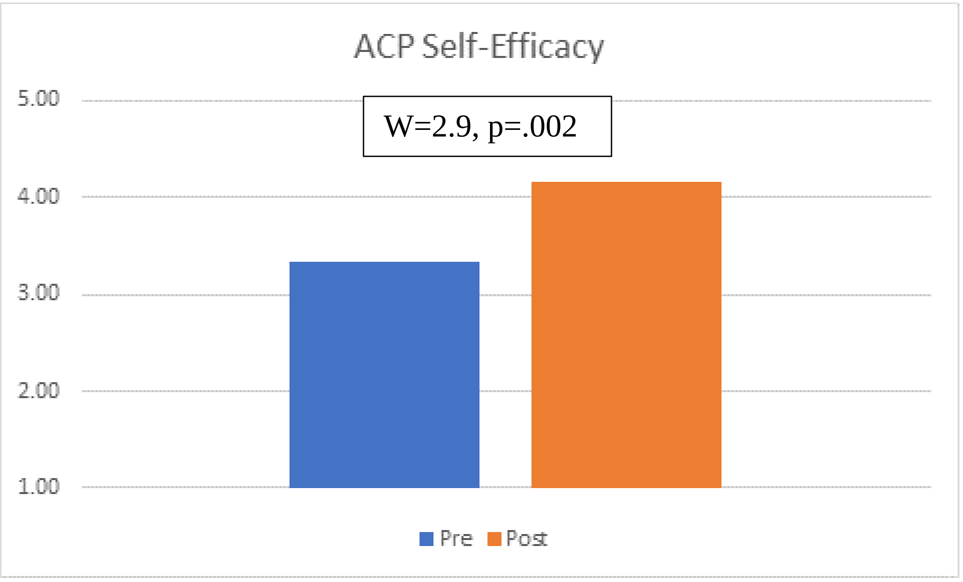
Process Flow Chart: APP education regarding ACP and the impact on self-efficacy



Note. ACP=Advance Care Planning, AD=Advance Directive, APP=Advanced Practice Provider, CAPC=Center to Advance Palliative Care, Lit=Literature, # =Number

Figure 4

Average Advance Care Planning self-efficacy (ACP-SE) score pre and post intervention



Note. The scale for the ACP-SE tool is 1-5 where 1 is not at all confident and 5 is very confident. It is a 17-item scale for which the individual's score is the average score of the items (Baughman et al., 2017). The median pre-score was 3.3 and post-score was 4.2. A Wilcoxon Signed Rank test was used to compare the pre- and post-ACP-SE survey results to determine if there was a significant difference. An exact test and a W score (as opposed to a Z score) were performed because of the small sample size.

Table 1

Primary Evidence for Advance Care Planning Education and Self-efficacy

Note. GRADE=Grading of Recommendations, Assessment, Development, and Evaluation; ACP=advance care planning; AD=advance directive

Authors	**Year**	**Purpose of Study**	**Intervention**	**Design & Method**	**Setting & Sample**	**Findings and Implications**	**Quality of Evidence (GRADE[a])**
Bond, W. et al	2017	Measure effect of ACP training program	Video, lecture, & simulation	Surveys, tests Quasi-Exper. Quant	Health system n=67 IDT	Increased confidence $p<0.001$ and self-perceived competence $p<0.001$	low quality; risk of bias-small sample; no CI; no imprecision or inconsistency
Chan, D. et al	2016	Measure effect of education on comfort with ACP	Video, lecture, SP role-play & pt. practice	Surveys Quasi-Exper. Quant	Health system n=16 Med residents	Increased comfort with initiating AD and POA $p <0.001$	low quality; risk of bias-small sample size; no CI; no imprecision
Lally et al.	2019	Measure effect of education on comfort with GOC discussions	Lecture & role play	Surveys Quasi-Exper. Quant	Health system n=150 IDT	Increased comfort with GOC (Likert 1-4): Lecture $p <0.01$ to <0.001 Role play $p <0.01$ to $p<0.05$	low quality; no CI; small sample; no imprecision or inconsistency
Nussbaum et al.	2019	Measure effect of ACP training on confidence	Video, lecture, SP role-play	Reflections & surveys Qual & Quant	Health system n=223 Med students	Ability to explain ACP improved $p= <0.001$	low quality; no CI; no imprecision or inconsistency
Tully et al.	2018	Improve self-efficacy with ACP by providing training	Lecture and Discussion	Surveys Quasi-Exper. Quant	Single hospital n=133 IDT	Comfort & knowledge with ACP improved $p <0.000$ 95% CI	low quality; risk of bias-small sample size; no imprecision or inconsistency
Verdoorn, B. et al	2019	Measure effect of education on confidence with ACP	Role play, discussion	Post-surveys Quasi-Exper. Quant	Med School Intervention n=53 control n=47 Med students	<50% felt comfortable with ACP tasks p values for each task ranged $p= 0.29-0.89$ (Likert scale for comfort)	low quality; risk of bias-small sample size; no CI; no imprecision or inconsistency

Note. CI=confidence interval; Exper=experimental; GOC=goals of care; IDT=interdisciplinary team; Med=medical; POA=power of attorney; pt.=patient; Qual=qualitative; Quant=quantitative; SP=standardized patient

[a] The GRADE method is an evaluation tool for assessing the quality level of evidence. Evidence is rated down for presence of risk of bias, inconsistency, indirectness, imprecision, and publication bias. Evidence is rated up for a large magnitude of effect, a dose-dependent gradient, or plausible confounders that boost confidence in the study's stated effect.

Table 2

Demographics

Baseline characteristics		**Target Population: (Entire APP Team n=21) n (%)**	**Complete Pre and Post Data Sets (analysis sample n=13) n (%)**
Age	20-29	8 (38.1)	6 (46.2)
	30-39	8 (38.1)	5 (38.5)
	40-49	3 (14.3)	1 (7.7)
	50-59	1 (4.8)	-(-)
	60-69	1 (4.8)	1 (7.7)
	>70	- (-)	-(-)
Gender	Male	4 (19)	1 (7.7)
	Female	16 (76.2)	12 (92.3)
	Other	- (-)	- (-)
	Prefer not to Answer	1 (4.8)	- (-)
Marital status	Married	11(52.4)	6 (46.2)
	Single	10 (47.6)	7 (53.8)
	W/D/S	- (-)	- (-)
Race		- (-)	-(-)
	AI or AN	5 (23.8)	3 (23.1)
	Asian	2 (9.5)	1 (30.8)
	Black or AA	- (-)	-(-)
	NH or PI	14 (66.7)	9 (69.2)
	White		
Ethnicity	Hispanic or Latin	1 (4.8)	-(-)
	Not Hispanic or Latino	20 (95.2)	13(100)
Role	NP	11 (52.4)	8 (61.5)
	PA	10 (47.6)	5 (38.5)

Baseline characteristics		Target Population: (Entire APP Team n=21) n (%)	Complete Pre and Post Data Sets (analysis sample n=13) n (%)
Years of Experience as a Nurse	0-5	7 (33.3)	4 (30.8)
	6-10	3 (14.3)	3 (23.1)
	11-20	1 (4.8)	1 (7.7)
	21-29	- (-)	-(-)
	30-39	- (-)	-(-)
	N/A	10 (47.6)	5(38.5)
Years of Experience as a NP	0-5	6 (28.6)	5 (38.5)
	6-10	- (-)	-(-)
	11-20	5 (23.8)	3 (23.1)
	21-29	- (-)	-(-)
	30-39	- (-)	-(-)
	N/A	10 (47.6)	5 (38.5)
Years of Experience as a PA	0-5	9 (42.9)	5 (38.5)
	6-10	- (-)	-(-)
	11-20	- (-)	-(-)
	21-29	1 (4.8)	-(-)
	30-39	- (-)	-(-)
	N/A	11 (52.4)	8 (61.5)
Religious Affiliation	Christian	10 (47.6)	7 (53.8)
	Jewish	- (-)	-(-)
	Muslim	- (-)	-(-)
	Buddhist	2 (9.5)	1 (7.7)
	Hindu	- (-)	-(-)
	Atheist	4 (19)	3 (23.1)
	Agnostic	2 (9.5)	1 (7.7)
	Other	1 (4.8)	1 (7.7)
	Prefer not to answer	2 (9.5)	-(-)

Baseline characteristics		**Target Population: (Entire APP Team n=21) n (%)**	**Complete Pre and Post Data Sets (analysis sample n=13) n (%)**
Extent to which they consider themselves to be spiritual	Not	4 (19)	2 (15.4)
	Slightly	7 (33.3)	5 (38.5)
	Moderately	6 (28.6)	5 (38.5)
	Very	3 (14.3)	1 (7.7)
	Prefer not to answer	1 (4.8)	-(-)

Note. AA=African American; AI=American Indian; NH=Native Hawaiian; NP=Nurse Practitioner; PA= Physician Assistant; PI=Pacific Islander*;* W/D/S=widowed, divorced, separated; - (-) means 0 (0%).

Table 3

Advance Care Planning Activities

		Target Population: (Entire APP Team n=21) n (%)	**Completed Pre and Post Surveys (Analysis Sample n=13) n (%)**
APP-ACP completed for themselves	Yes	1(4.8)	1(7.7)
	No	18(85.7)	10(76.9)
	Planning to do it soon	2(9.5)	2(15.4)
# ACP conversations with AAP's loved ones	0	5 (23.8)	3 (23.1)
	1-5	7 (33.3)	5 (38.5)
	6-10	3(14.3)	2 (15.4)
	>10	6 (28.6)	3 (23.1)
# ACP conversations APP completed with patients & loved ones	0	2(9.5)	1(7.7)
	1-5	6 (28.6)	5 (38.5)
	6-10	3 (14.3)	2 (15.4)
	11-50	10 (47.6)	5 (38.5)

Note. ACP=advance care planning; APP=advanced practice provider; #=number.

Appendix A

University of Pennsylvania
School of Nursing
Doctor of Nursing Practice Program

DNP Team and Project Implementation Form

This form is to be completed by the student(s), institutional/organization project member(s), and school of nursing project lead and submitted for approval to the DNP Program Director.

Student Name: Caroline Doherty

Project Title: Advance Care Planning Provider Education: Solution to Improve Provider Self-Efficacy

School of Nursing DNP Project Faculty Lead: Nancy Hodgson

Institutional/Organization DNP Project Member(s): Rachel Klinedinst

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I hereby accept the following proposed project pending IRB approval (completed by student[s]):
Project Site: Hospital of the University of Pennsylvania

Project Purpose: To measure the effect of ACP education modules on APP self-efficacy

Project Activities:
Heart Failure APPs will complete the following modules:

CAPC: “Basic Advance Care Planning: Introduce and Motivate,” “Guide and Document,” and “Beyond the Conversation: Integrating Basic Advance Care Planning into Practice, “Communication Skills: Advance Care Planning Conversations.” AND a State-Specific Advance Directive Module (PA, NJ, DE)
Participants (Describe target group; approximate # in project):24 Heart Failure APPs

Site(s) Support (Resources):CAPC Modules

Data Management Plan: Surveys will be completed in Qualtrics. Participants will be deidentified. Results will be analyzed in SPSS. All data will be password protected and accessible only by the Project Lead and Statistician.

Anticipated Start Date: 1/1/20
Anticipated End Date: 5/1/20

I hereby consent to serve on the DNP Project Committee.
We understand that this site’s participation will only take place during the project’s active IRB approval period. All project activities must cease if IRB approval expires or is suspended. We understand that any activities involving Personal Private Information of Protected Health Information may require compliance with HIPAA laws and the University of Pennsylvania’s policy. Our organization agrees to the terms and conditions stated above. If we have any concerns related to this project, we will contact the project team. For concerns regarding IRB policy or human subject welfare, we may also contact the UPENN IRB.

As a doctoral student member of this team, I agree to conduct the project to the best of my abilities with professionalism.

Student Signature: Caroline L. Doherty

As an institutional/organization member of this project team, I agree to read and review all drafts of the project within a timely turnaround (approximately 2 weeks).

Team Member Signature:
Contact Information (email and phone number):
Rachel Klinedinst, DNP, CRNP, AGACNP-BC, ACHPN rachel.klinedinst@pennmedicine.upenn.edu**, 215-380-8698**

As the School of Nursing DNP Project faculty lead, I agree to meet with the student(s) and consult throughout the project.

Faculty Lead Signature: Nancy A. Hodgson PhD, RN
Contact information (email and phone number):
Nancy A Hodgson, PhD, MSN, RN, FAAN
hodgsonn@nursing.upenn.edu (215)573 7387

APPROVED BY DIRECTOR, DOCTOR OF NURSING PRACTICE PROGRAM:
Director Signature:
Date Approved:

Appendix B

Advance Care Planning Provider Education: Solution to Improve Provider Self-Efficacy

AIM

To determine if advance care planning (ACP) education modules improve heart failure (HF) advanced practice provider's (APP) self-efficacy with ACP.

PROBLEM

When previously surveyed in a DNP Project, heart failure APPs reported a lack of confidence related to discussing ACP with patients. As a result, APPS do not engage in these discussions and patients are not as likely to advance directives (ADs) or to express their goals of care. When patients do not make their wishes known, they are less likely to receive goal-concordant care and are more likely to be readmitted for heart failure.

IMPORTANCE

Studies have shown that ACP education results in an increase in provider self-efficacy with ACP. This project is important as the site's mission is to provide patient-centered care, and goal-concordant care is a key example of this. An increase in APP self-efficacy with ACP may result in an increase in ACP patient engagement and ultimately, a reduction in heart failure readmissions and thereby reduced costs. There is no downside for patients or APPs except that engaging in ACP may feel uncomfortable for them. Despite the fear that ACP may take away hope, there is no evidence to support this.

EXPECTED OUTCOMES

APP self-efficacy will be improved after completion of ACP education modules. APPs will engage in more ACP activities in the month after the intervention.

MEASURES

Outcome-ACP-SE pre- and post-implementation of ACP education modules
Process: Are these modules the best way to deliver the content? Will the ACP education modules result in an increase in ACP engagement?
Balancing measures: Will this project detract from other important health system initiatives? Will patients, APPs, or heart failure attending physicians respond negatively to increased engagement in ACP? Will there need to be an increase in the number of APP on the HF service if they are expected to engage in ACP routinely?

RISKS/BARRIERS

A barrier may be that there are competing projects during the implementation period. Coronavirus may lead to staffing constraints and fatigue among APPs. Some APPs may be uncomfortable with the subject and may believe the ACP should be done by physicians or in the outpatient setting; therefore, they may not be motivated to complete the modules.

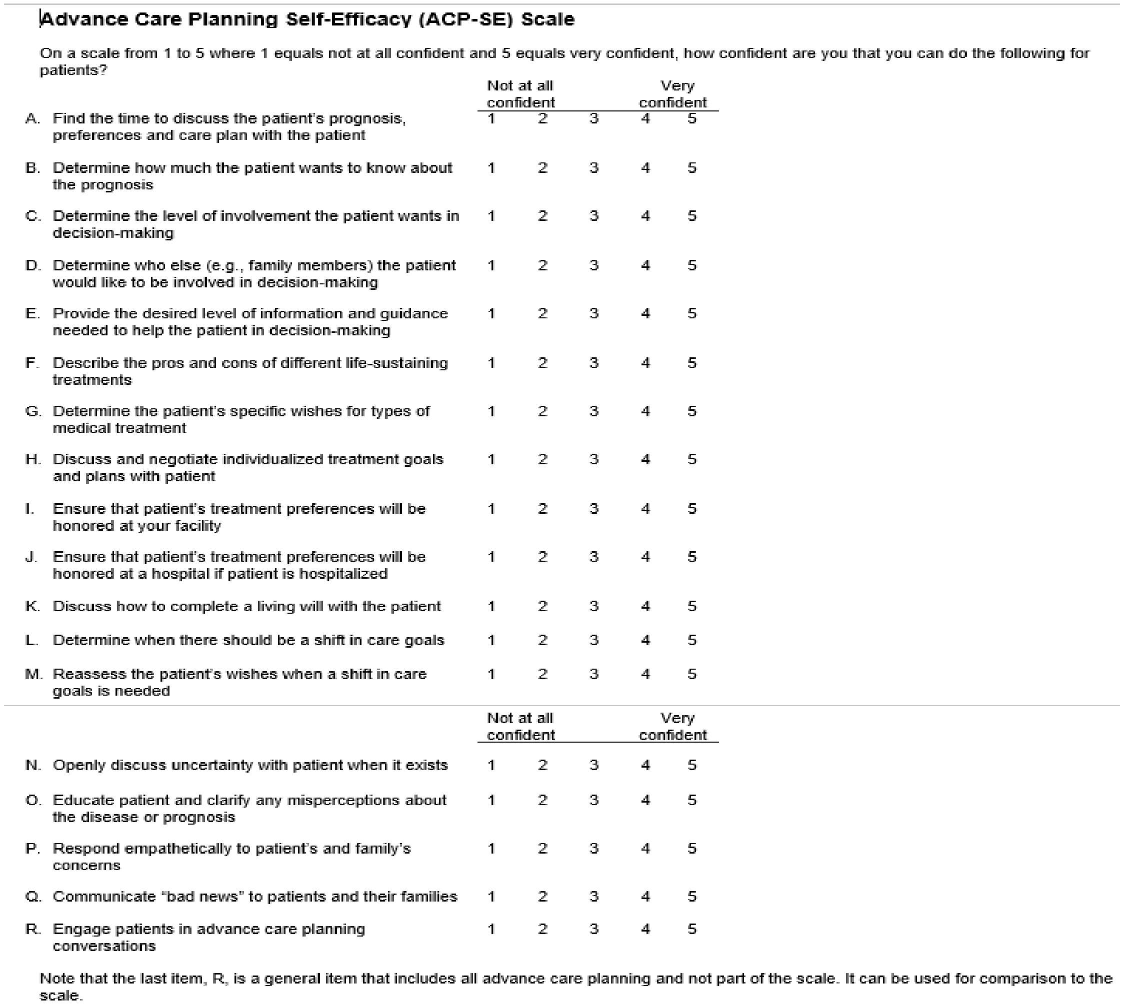
STAKEHOLDERS

Key stakeholders: HF APPs; Site Lead (Rachel Klinedinst, DNP), Lead Heart Failure APP (Ylenia Quiaoit, DNP), Director of APPs (Corinna Sicoutris, NP); Chief of Heart Failure (Dr. Lee Goldberg, MD) who support the project.

SCOPE

In Scope:	Out of Scope:
ACP education modules for HF APPs. Measurement of self-efficacy and ACP activities pre- and post-implementation.	Involvement of patients and families as the intervention is targeted for APPs. Involvement of medical residents as they are transient members of the team and they were not included in the prior DNP project that measured ACP self-efficacy.
SCHEDULE	
Key dates: 1/4/20 APPs will be recruited to complete ACP education modules between 1/4/20-2/15/20. They will complete a pre-intervention self-efficacy survey at that time. Upon module completion, they will do a post-intervention self-efficacy survey. One month later (around 3/1/20), they will complete a survey about feasibility of the modules and the ACP activities that they have engaged in during the month after the intervention.	
PROJECT TEAM	
Team Member	Project Role
Caroline Doherty, AGACNP-BC, AACC	Project Lead
Rachel Klinedinst, ACNP-BC, DNP	Lead Palliative Care APP-Site Lead
Ylenia Quiaoit, ACNP-BC, DNP	Lead Heart Failure APP-Site Champion

Appendix C



Advance Care Planning Self-Efficacy (ACP-SE) Scale

On a scale from 1 to 5 where 1 equals not at all confident and 5 equals very confident, how confident are you that you can do the following for patients?

	Not at all confident				Very confident
A. Find the time to discuss the patient's prognosis, preferences and care plan with the patient	1	2	3	4	5
B. Determine how much the patient wants to know about the prognosis	1	2	3	4	5
C. Determine the level of involvement the patient wants in decision-making	1	2	3	4	5
D. Determine who else (e.g., family members) the patient would like to be involved in decision-making	1	2	3	4	5
E. Provide the desired level of information and guidance needed to help the patient in decision-making	1	2	3	4	5
F. Describe the pros and cons of different life-sustaining treatments	1	2	3	4	5
G. Determine the patient's specific wishes for types of medical treatment	1	2	3	4	5
H. Discuss and negotiate individualized treatment goals and plans with patient	1	2	3	4	5
I. Ensure that patient's treatment preferences will be honored at your facility	1	2	3	4	5
J. Ensure that patient's treatment preferences will be honored at a hospital if patient is hospitalized	1	2	3	4	5
K. Discuss how to complete a living will with the patient	1	2	3	4	5
L. Determine when there should be a shift in care goals	1	2	3	4	5
M. Reassess the patient's wishes when a shift in care goals is needed	1	2	3	4	5

	Not at all confident				Very confident
N. Openly discuss uncertainty with patient when it exists	1	2	3	4	5
O. Educate patient and clarify any misperceptions about the disease or prognosis	1	2	3	4	5
P. Respond empathetically to patient's and family's concerns	1	2	3	4	5
Q. Communicate "bad news" to patients and their families	1	2	3	4	5
R. Engage patients in advance care planning conversations	1	2	3	4	5

Note that the last item, R, is a general item that includes all advance care planning and not part of the scale. It can be used for comparison to the scale.

Note: Advance Care Planning Self-Efficacy: survey to be completed pre- and post-intervention. Permission obtained (Baughman et al., 2017)

Appendix D

Pre-Intervention Survey: Demographics and Advance Care Planning Education Questions

Age	0=20-29 1=30-39 2=40-49 3= 50-59 4=60-69 5= >70
Gender I identify with	0=Male 1=Female 2=Other_____________ 3=Prefer not to answer
Marital status	0=Married 1=Single 2=Widowed/divorced/separated
Race	0=American Indian or Alaska Native 1=Asian 2=Black or African American 3=Native Hawaiian or Other Pacific Islander 4=White
Ethnicity	0=Hispanic or Latino 1=Not Hispanic or Latino
Role	0=Nurse Practitioner 1=Physician Assistant
Years of experience as a nurse prior to becoming a NP	0=0-5 1=6-10 2=11-20 3=21-29 4=30-39 5=N/A
Number of years as a NP	0=0-5

	1=6-10 2=11-20 3=21-29 4=30-39 5=N/A
Number of years as a PA	0=0-5 1=6-10 2=11-20 3=21-29 4=30-39 5=N/A
Religious affiliation	0=Christian 1=Jewish 2=Muslim 3=Buddhist 4=Hindu 5=Atheist 6=Agnostic 7=other___________ 8=prefer not to answer
To what extent do you consider yourself to be spiritual?	0=Not spiritual 1=Slightly spiritual 2=Moderately spiritual 3=Very spiritual 4=Prefer not to answer
Have you done advance care planning for yourself?	0=No 1=Yes 3=Planning to do it 4=Not planning to do it
If yes, please select all that apply:	0=Advance directive/living will 1=Healthcare power of attorney/proxy

Have you had ACP conversations with family/loved ones	0=No 1=Yes
If yes: Number of ACP conversations you have had with family/loved ones	0= 0 1= 1-5 2= 6-10 3= >10
Have you had ACP conversations with patients or patients' families?	0=No 1=Yes
Number of ACP conversations you have had with patients or patients' families (not only addressing DNR status, but can include any component: discussing AD, healthcare proxy, other wishes for future care)	0= 0 1=1-5 2= 6-1 3=11-50 4=51-99 5= >100

Appendix E

Final Survey: 1 Month After Completion of Intervention

I completed the CAPC Modules	0=no 1=yes
I completed the State-Specific Advance Care Module	0=no 1=yes
If no: The main reason I did not complete the State-Specific Advance Directive presentation was:	1=I did not watch it because I am already confident regarding State-specifics related to Advance Directives 2= It was not clear from the instructions that I was supposed to complete the State-Specific Advance Directive Module 3= It was not easy to navigate to the State-Specific module because it was in a different place than the CAPC modules 4= It was not mandatory for us to complete this module
Do you think the state-specific module should be included in future advance care planning education initiatives?	0=no 1=yes
Please rate the AMOUNT of content in the Advance Care Planning (ACP) CAPC modules on a scale of 1-5 where 1 is way too little and 5 is way too much:	1= Way too little Too much 2= Too little 3= Just right 4=Too much 5=way too much
Please rate how likely would you be to recommend these ACP CAPC modules to a colleague on a scale of 1-5 where 1 is very unlikely and 5 is very likely:	1=Very unlikely 2=Unlikely 3=Not sure 4=Likely 5=Very Likely

Do you think these modules should be required for all Advance Practice Providers in the health system?	0= No 1= Yes
Have you completed any ACP education prior to this project?	0=No 1=Yes
If yes: I completed the following ACP education prior to this project:	0=formal class 1=continuing education 2=palliative care certificate 3=End of Life Nursing Consortium (ELNEC) training 4=other
Have you done advance care planning for yourself?	0=No 1=Yes 2=No, but planning to do it soon
Which of the following have you done for yourself?	0= Advance directive/living will 1= Healthcare proxy/Power of attorney
Number of ACP conversations you had with your family/friends/loved ones: (not only addressing DNR status at EOL, but can include any component: discussing AD, healthcare proxy, other wishes for future care)	0=0 (if 0-skip logic to last question) 1=1-5 2=6-10 3=11-50 4=51-99 5= >100
If >0 then skip logic leads here: On a scale of 1-5 where 1=not receptive at all and 5 =very receptive, how receptive were your family/loved ones to the ACP discussion?	How receptive were they? 1=1 not receptive at all 2 3 4 5=Very receptive
Have you had ACP conversations with patients or patients' families (not only	0=No 1=Yes

addressing DNR status at EOL, but can include any component: discussing AD, healthcare proxy, other wishes for future care)	
If yes -skip logic How many?	1=1-5 2=6-10 3=11-50 4=51-99 5= >100
On a scale of 1-5 where 1=not receptive at all and 5 =very receptive, how receptive were patients and/or families to the ACP discussion?	1= not very receptive 2= 3= 4= 5=Very receptive
Please feel free to add additional comments/suggestions here:	Free text (optional)

Note. ACP=Advance Care Planning; AD=Advance Directive; CAPC=Center to Advance Palliative Care; DNR=Do Not Resuscitate; ELNEC=End of Life Nursing Education Consortium; EOL=End of Life

Appendix F

Note. This poster was placed in the Advance Practice Provider office as a way to help the providers to keep track of the number of Advance Care Planning conversations they had after completing the education modules.

Appendix G

Permissions

Permission to use the ACP-SE Tool

From: Kris Baughman <kbaughma@neomed.edu>
Sent: Wednesday, September 9, 2020 4:18 PM
To: Doherty AGACNP, BC, Caroline Lloyd <ctl@nursing.upenn.edu>
Cc: "Ruth Ludwick" <rludwick@kent.edu>
Subject: RE: request to use ACP-SE tool

Hi Carrie,

We would be glad to share our scale with you to be used for your DNP project (see attached). We only ask that you let us know how the scale worked for your project, and to cite us in any finished projects.

I have copied Dr. Ruth Ludwick, a colleague and coauthor, who has lots of experience with DNP projects. She will be thrilled to hear that another DNP student is using our scale.

Let us know if you have any questions or concerns about the scale.

Best wishes,
Kris

Kristin Baughman, PhD
Associate Professor
Family & Community Medicine
Northeast Ohio Medical University
Rootstown, OH 44272
330.325-6161 (O) 330.962.3795 (M)

Permission to use the CAPC Modules

From: Deborba-silva, Maria <maria.deborba-silva@mssm.edu>
Sent: Monday, September 28, 2020 5:33 PM

To: Doherty AGACNP, BC, Caroline Lloyd <ctl@nursing.upenn.edu>
Subject: ACP courses
Hi Caroline –
I left you a voicemail a little bit ago from my cell phone – 310-409-7576.
You are free to using anything on capc.org as long as you attribute properly. We have 4 ACP courses – one in the suite of our 5 Communication Skills courses (created by CAPC) and the 3 Respecting Choices courses. As I'm not sure what you're planning to do with the courses, if it is the Respecting Choices courses, I would recommend reaching out to them.

Good luck with your DNP project! I hope you'll consider submitting an abstract from it for one of our future Seminar poster presentations.
Please don't hesitate to reach out with any questions, any time!
Kind regards,
Maria De Borba-Silva
Senior Member Relationship Associate
CENTER TO ADVANCE
PALLIATIVE CARE
55 West 125 Street, Suite 1302
New York, NY 10027
D 212-201-2671
O 212-201-2670
capc.org
getpalliativecare.org

Permission to use the Iowa Model

From: Kimberly Jordan - University of Iowa Hospitals and Clinics <noreply@qemailserver.com>
Sent: Saturday, September 26, 2020 3:12 PM
To: Doherty AGACNP, BC, Caroline Lloyd <ctl@nursing.upenn.edu>
Subject: Permission to Use The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care

You have permission, as requested today, to review and/or reproduce *The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care.* Click the link below to open.

The Iowa Model Revised (2015)

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Citation: Iowa Model Collaborative. (2017). Iowa model of evidence-based practice: Revisions and validation. *Worldviews on Evidence-Based Nursing, 14(3), 175-182. doi:10.1111/wvn.12223*

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Please contact UIHCNursingResearchandEBP@uiowa.edu or 319-384-9098 with questions.

Permission to use Respecting Choices Advance Care Planning Modules

From: Pat Tadel <ptadel@respectingchoices.org>
Sent: Wednesday, December 9, 2020 5:37 PM
To: Doherty AGACNP, BC, Caroline Lloyd <ctl@nursing.upenn.edu>
Subject: RE: WEBSITE-General Contact Form-Other (please describe in Comments below)

Thanks for getting back to me Carrie. Thanks for the information. This looks straightforward and we look forward to seeing the project report/data when you have completed the work on this. We appreciate the consideration you are giving our work!

You mention that you will use the ACP-SE validated tool, as we have a few “ACP-SE” tools can I ask which one you are referring to?

I look forward to hearing more about your experience with this project.

From: Doherty AGACNP, BC, Caroline Lloyd <ctl@nursing.upenn.edu>
Sent: Thursday, December 3, 2020 11:52 AM
To: Pat Tadel <ptadel@respectingchoices.org>
Subject: RE: WEBSITE-General Contact Form-Other (please describe in Comments below)

Hi Pat:

My DNP Project Title is Advance Care Planning Provider Education: Solution to Improve Provider Self-Efficacy

The modules I plan to use the intervention are “Basic Advance Care Planning: Introduce and Motivate,” “Guide and Document,” and “Beyond the Conversation: Integrating Basic Advance Care Planning into Practice.”

Participants are Advance Practice Providers on an inpatient heart failure service

Self-efficacy will be measured pre and post completion of the modules using the ACP-SE validated tool.

Please let me know if you need more information.

Thanks!

Carrie

From: Pat Tadel <ptadel@respectingchoices.org>
Sent: Friday, November 6, 2020 2:08 PM
To: Doherty AGACNP, BC, Caroline Lloyd <ctl@nursing.upenn.edu>
Subject: RE: WEBSITE-General Contact Form-Other (please describe in Comments below)

How exciting to be on this journey! In order to have a better understanding of how you might use these materials, could you please send forward a brief synopsis/abstract of your project?

From: Pat Tadel <ptadel@respectingchoices.org>
Sent: Wednesday, December 9, 2020 5:37 PM
To: Doherty AGACNP, BC, Caroline Lloyd <ctl@nursing.upenn.edu>
Subject: RE: WEBSITE-General Contact Form-Other (please describe in Comments below)

Thanks for getting back to me Carrie. Thanks for the information. This looks straightforward and we look forward to seeing the project report/data when you have completed the work on this. We appreciate the consideration you are giving our work!