

Advance Care Planning: How Do We Get to Completion?

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Abstract

Purpose. A review of evidence-based interventions of Advance Care Planning (ACP), offering options, and interventions to improve ACP completion and documentation to improve end-of-life (EOL) care. This report will discuss those interventions to improve ACP completion.

Objectives. We explored the impact of appointment phone-call reminders and patient portal message reminders on the number of completed ACP's scanned into the electronic health record (EHR).

Methods. Two interventions were implemented: 1) appointment phone-call reminders 48 hours prior to the appointment, 2) patient portal message one-week prior to their Medicare Wellness Visit (MWV) to those enrolled, informing patients they are scheduled for MWV and will be discussing ACP at their visit. If they already have an ACP they are encouraged to bring the documents, otherwise they will be given the opportunity to complete at the visit. Chart audits were conducted following the intervention to measure the number of completed ACP's in the EHR. Descriptive statistics compared variables.

Results. Retrospective analysis determined the practice received 41 documents over the 19-month period from July 2016 to March 2018. In just under three months, 31 documents were received. The number of documents received increased from two a month prior to the intervention to 10 a month during the intervention. During the intervention, a total of 675 patients were seen, and 164 patients seen for MWV.

Conclusion. A two-prong approach to capture ACP conversation and documentation was implemented without requiring additional staff or increased workload and responsibility. Furthermore, the intervention was incorporated into clinic workflow to support sustainability beyond the intervention timeframe. Additionally, the practice averaged a net profit of \$34,000 during the intervention timeframe by utilizing the ACP common procedural terminology (CPT) code 99497/99498.

Keywords: Advance care planning, primary care, advance directive, end-of-life care, wishes

Advance Care Planning: How Do We Get to Completion?

Implementation of the 1990 Patient Self-Determination Act (PSDA) opened the door for patient and provider to discuss critical information regarding end-of-life (EOL) care. The act mandated patients be advised of their right to express medical wishes in the form of an advance directive (AD). Advance care planning (ACP), the process of discussing and recording patient preferences concerning goals of care for patients, who may lose capacity in the future (Brinkman-Stoppelenburg, Rietjens, & van der Heide, 2014). ACP has fostered increased decision-making satisfaction, patient autonomy, quality of life at EOL, and decreased caregiver/health care burden (Birchley, Jones, Huxtable, Dixon, Kitzinger, & Clare, 2016; Bischoff, Sudore, Miao, Boscardin, & Smith, 2013; Brinkman-Stoppelenburg et al., 2014).

Background/Significance

ADs and ACP has played a major role in healthcare especially since the 1990 PSDA. Providers and healthcare facilities have come to rely on these important documents and discussion to determine the best way to care for patients. However, barriers exist and need to be explored further to improve the current low levels of ACP and AD completion.

Local, state, and national initiatives have been launched to expand the public's knowledge and awareness of the issue. National Healthcare Decisions Day (NHDD) was implemented as a collaborative effort to ensure all adults with decision-making capacity in the United States have the information and opportunity to communicate and document their healthcare decisions (Black, 2010). April 16th was the day chosen for this public initiative, the symbolism being April 15th was "Tax Day", a day selected to reflect Benjamin Franklin's statement "nothing in life is certain except taxes and death" (Black, 2010). NHDD established three main goals: increase awareness of ACP and provide knowledge to obtain and complete

ADs, rally a national media campaign to access the information needed to make future healthcare decisions, and utilization of a media campaign that all American's can utilize including non-English speaking, hearing, or vision impaired (Black, 2010). Several other ACP initiatives exist, either formal programs or locally based initiatives such as: Respecting Choices, Let Me Decide, Let Me Talk, Gold Standards Framework for Care Homes, Evercare, and Five Wishes (Biondo, Lee, Davison, & Simon, 2016).

In addition to public initiatives healthcare facilities have decided to tackle this dilemma head on. A review of the literature highlighted interventions to either raise awareness regarding ACP, improve ACP discussions, and increase AD completion. One facility recognized their minimal rates of ACP and AD completion in the electronic health record (EHR) and acted; through a series of Lean Methods, they aimed to improve ACP and increase documentation in their oncology, nephrology, and primary care setting (Kamo et. al., 2017). The intervention involved one-on-one training with staff to normalize ACP discussions throughout the medical center. The staff were provided standardized tools such as AD notes and an EOL planning electronic folder in the EHR. This folder encompassed EOL planning discussions with providers and nurses, palliative care notes, and AD legal documents (Living will, Physician Order for Life Sustaining Treatment (POLST), durable power of attorney for healthcare (DPOAH) (Kamo et al., 2017). Furthermore, staff in each clinic were tasked to evaluate the providers schedule and monitor for the absence of ACP in the EHR. This initiative became an internal quality metric. The same approach was utilized in the nephrology and primary care clinic. Following the intervention, all three clinics saw a statistically significant increase in ACP rates.

Biondo and colleagues (2016) conducted a systematic review to evaluate ACP implementation and sustainability across various settings. The review included 46 studies in

various countries and included settings such as acute care, primary care, outpatient care, continuing care, and community care. Multiple ACP initiatives were utilized in these settings and data was collected using questionnaires, chart audits, qualitative interviews, as well as telephone interviews. Documentation of patient's wishes was the most common outcome measure, reported by 35 of 46 (75%) studies, occurrence of ACP/AD/EOL discussion was the second most common occurrence (57% of the studies); furthermore, healthcare utilization was reported in 39% of the studies (Biondo et al., 2016). The least commonly measured outcome was patient-, family-, or HCP-reported outcomes. Dying in place of choice was reported by one quarter of the studies. Only one study reported on economic outcomes associated with ACP initiative implementation (Biondo et al., 2016). The authors noted that document completion is frequently and easily evaluated, however, quality of care remains more difficult but necessary to evaluate the effectiveness of ACP implementation.

Courtright et al. (2016) examined the impact of increasing the number of options for completing the AD among seriously ill patients. Participants were randomized to receive either the option to complete a brief AD, or expanded options including brief, expanded, or comprehensive. Participants were given the option to decline or bring a copy home, with the primary objective being a completed AD. Even though offering more options for AD was not significantly associated with increased rates of completion, it did have an impact on the number of participants who wanted to complete an AD or took one home (Courtright et al., 2016). This study highlights the importance of removing barriers to improve completion rates without restricting choices.

For the current situation to improve one must take a deep look at the barriers present and find resolve. Tung and North (2009) conducted a study to better understand the perception of

ACP in the primary care setting by providers. A survey was given to primary care providers and internal medicine residents to appreciate their experience with ACP and identify barriers.

Interestingly providers reported they were more likely to discuss ACP after prompting from the patient or due to a change in health status. Additionally, the providers felt non-physician members of the healthcare team should be responsible for ACP. System wide barriers were also identified to include: lack of time and lack of formalized process to educate patients (Courtright et al., 2017; Tung & North, 2009).

Internal Evidence

A primary care practice located in Glendale, Arizona employs two family practice physicians, one endocrinologist, one internal medicine specialist, one obstetrician gynecologist, and five family nurse practitioners. The predominate payer at this practice is Medicare. Providers at this practice frequently perform Medicare Wellness Visits (MWV) and are aware of the Centers for Medicaid & Medicare (CMS) advisory regarding current procedural terminology (CPT) billing for ACP. To date no evidence exists to support the use of these CPT codes and data has not been tracked regarding ACP practices in this clinic. The providers report time constraints, uncertainty regarding documentation, and utility of the current forms as barriers to completing ACP and billing the appropriate codes.

Problem Statement

The average life expectancy in the United States is expected to increase as medical technology advances. An aging population places increased demand on healthcare and providers in addition to individuals with chronic conditions. In 2016, 2.7 million Americans died, over 80% of those being Medicare beneficiaries (Centers for Disease Control & Prevention, 2017). In addition, the CDC (2011) reported more than 25% of the Medicare budget is allocated to care

during the last year of life. According to Splendore and Grant (2017) the U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation (2007) reported that 80% of deaths occur in the acute care setting, when most individuals would rather spend their last moments at home. Although the importance of ACP has been studied and emphasized, the rates of ACP and AD completion remain relatively low. It has been estimated the rates range between 5% and 39%; additionally, three of four individuals with completed ADs share their wishes with family and only one in three shared with their healthcare provider (HCP) (Splendore & Grant, 2017). Unfortunately, low levels of completion have a direct relationship with higher levels of Medicare spending, in-hospital deaths, lower use of hospice care, and lower quality of life (Splendore & Grant, 2017). In addition to low rates for ACP and AD completion, remains the issue of documentation in the EHR.

CMS (2016) recognizes the importance of ACP therefore implementing a Medicare Physician Fee Schedule for ACP. Providers may bill and be reimbursed for having a discussion with the patient, family member(s), or surrogate for the first 30 minutes. Each additional 30 minutes can be billed on the same day with a different CPT code. This new policy recognizes that other professionals may help or discuss with patient's regarding their wishes, therefore, providers may bill for services by other team members such as: nurses, social workers, and chaplains. Additionally, the policy does not restrict the time or limit to the number of conversations, allowing the conversation to evolve and allow for adequate decision-making.

Despite the lack of ACP and AD completion, the issue remains relevant and needs to be further investigated. ACP has been associated with fewer deaths in the hospital or intensive care unit (ICU) and an increased use of hospice or palliative care. The benefits of a death at home (should the patient desire this) embrace decreased health care cost/burden and decreased use of

treatment considered futile (Karnik & Kanekar, 2016). Lastly, ACP enables the patient to make choices in line with their own personal beliefs and goals. Considering the significance of this clinically relevant problem the following PICOT question was developed; “In the primary care setting, are adult patients (P) who have a documented discussion regarding ACP (I), compared to those without an ACP or having no conversation (C), more likely to complete an ACP or AD (O) over the course of three months (T)?”

Search Strategy

An exhaustive search was performed in the electronic databases PsycINFO, PubMed, Cumulative Index of Nursing and Allied Health Literature (CINAHL), and The Cochrane Library. These databases were chosen for factors encompassing medical relevance, research base, peer review, and relevance to PICOT question. All three databases yielded relevant and applicable articles. The search process for each database has been described below. The Cochrane Library yielded four studies; however, all four were pulled because they were out of date. Those articles were not utilized for this project.

Inclusion Criteria, Exclusion Criteria, and Limitations

The inclusion criteria concentrated on studies published in English and dates ranged from 2009 to present. Articles greater than five years were excluded. Criteria for inclusion consisted of adults, primary care, community settings, inpatient, hospice, as well as in-home settings. Additionally, the term advance care planning and advance directive were included synonymously. Studies from multiple countries were included unless they were not published in English. Most studies examined American regions. Studies that were not primary research were excluded, as well as opinion articles or studies lacking evidence to support. Inclusion and exclusion criteria were the same for all databases. The limitations prescribed were English

published articles and within the last five years.

Keyword Selection

Keywords were thoroughly considered based on the PICOT question and relevant information yielded with each search. The following keywords were utilized in the initial search: *advance care planning* and *adults*. This search yielded numerous articles related to adults and advance care planning, however, not all results met the above inclusion criteria. A second search was performed with a more specific choice of words: *advance care planning*, *reimbursement*, *primary care*, *adults*, *revenue*, *cost*, and *delivery of care*. This refined search yielded a more concise selection of literature to utilize.

Search Yield

A subsequent search of PsycINFO utilizing *advance care planning* and *reimbursement* yielded seven results. A database search of PubMed utilizing key terms *advance care planning*, *adults*, *primary care*, and *delivery of care* yielded 157 results, and the initial search of *advance care planning*, *cost*, and *reimbursement* yielded seven studies in CINAHL. Once the terms were revised in CINAHL to *advance care planning* and *reimbursement* 14 studies were retrieved. Critical appraisal was performed on 13 citations and following careful consideration 10 were chosen for this project. The chosen studies addressed the PICO appropriately and examine the relationship between ACP, quality of life, shared decision making, patient decision satisfaction, implementation, documentation, and provider barriers (Appendix A).

Evidence Synthesis

The 10 studies selected for this project were evaluated using rapid critical appraisal (Melnik & Fineout-Overholt, 2015). These studies have been presented in synthesis tables (Appendix A) to summarize the data. The studies were of varying levels of evidence: two

systematic reviews (SR) for level one evidence; three randomized control trials (RCT) for level two evidence; one cohort (observational) for level four evidence; one scoping review, one retrospective, one quasi-experimental, and one quality improvement initiative for level five evidence. With five of the studies coming from the two highest levels of evidence, the literature review represents a high-quality sample to address the specific clinical question. Several studies reported confidence intervals (CI), standard deviation (SD), level of significance (p), and effect sizes (ES). One study (Sudore et. al., 2015) addressed the sensitivity and specificity of their measurement tools, as well as, how they were developed and validated. All the studies had a large sample size and control was utilized in the RCTs.

Reliability and validity are dependent on the methods used to obtain results and measured outcomes. Most of the results reported were statistically significant unless otherwise noted. The methods utilized to measure outcomes were consistent throughout the references. Process and outcomes of the intervention were the two most commonly measured data points. Interventions took place between three months and 14 years. Selection bias was identified in four of the 10 studies. All the studies were healthcare related and involved ACP or AD. Therefore, overall the sample had a high degree of homogeneity, however, within each study was a degree of heterogeneity with regards to demographics. This varying degree of homo/heterogeneity is appropriate since the population consists of adults in primary care, and not all participants are of the same demographic. Most study participants were 65 years and older and mostly women. The importance of this demographic is evident as it represents the population demographic and allows for generalizability.

There was a moderate amount of homogeneity amongst the outcomes and interventions across the studies. The most common interventions evaluated were expanding choice sets of

AD's, type of ACP, and education/training. Two of the 10 studies were qualitative research; common themes with regards to these studies included barriers to ACP and improving quality of life at EOL. The most common outcomes of ACP processes included decreased hospitalization at the EOL, increased use of hospice, and increased presence of an ACP (Appendix A). Given the degree of homogeneity for both interventions and outcomes- transferability and generalizability are reasonable.

Purpose Statement

Many studies have been done to assess and validate the effectiveness of ACP for the patient, patients' family, and provider. The advantages of ACP include: fewer visits to the emergency room near the EOL, reduced admissions to the hospital, increased patient satisfaction, families increased satisfaction with EOL care, enhanced trust in the health care system, and diminished stress and anxiety near the EOL (Birchley et al., 2016; Bischoff et al., 2013). The purpose of this paper is to highlight the importance and implementation of effective ACP. Extensive ACP goes beyond an AD or stated wishes, it involves careful consideration of a durable power of attorney (DPOA), goals and beliefs, discussion with family and loved one's as well as the healthcare team and placing the document in a location key stakeholder can access. Furthermore, the purpose of this project was to explore the impact of appointment phone call reminders and patient portal messages on AD completion and documentation in the EHR.

Conceptual Framework and EBP Model

Social cognitive theory (SCT) was the chosen conceptual framework to guide this project. The premise of SCT lies in how people acquire and maintain certain behavioral patterns, as well as, provide a basis for intervention strategies (Glanz, Rimer, & Lewis, 2002). The theory has three main focuses: cognitive, emotional aspects, and aspects of behavior for understanding

change (Bandura, 2011; Glanz et. al., 2002). Bandura (2011) proposes that certain factors affect a person's behavior and the cycle is continuous. Behavior itself does not result just from the environment but the person and situation. The environment refers to factors physically external to the person; these can be social including family and friends, in addition to, size and temperature of the environment. The situation refers to cognitive or mental factors that may affect the behavior. Situation is also the perception of time, physical features, and activity (Glanz et. al, 2002). SCT is especially relevant for health education and health behavior programs. SCT was chosen specifically for this project as behavior change will be the key theme, not only for patients and families, but healthcare providers and the healthcare system. SCT specifically factors in the environment and will guide how to best understand the environment for which the intervention will be implemented.

The Rosswurm and Larrabee Evidence Based Practice (EBP) (Appendix B) model was the guiding principle for the project. This model was chosen as it recognizes that to translate research into practice there must be a solid grounding in change theory and research utilization (Pipe, 2007; Rosswurm & Larrabee, 1999). The model will guide healthcare providers through the entire process of developing and integrating an EBP change. Additionally, the model supports EBP changes derived from a combination of quantitative and qualitative data, clinical expertise, and contextual evidence (Rosswurm & Larrabee, 1999). The model guides the change agent to: 1) assess the need for change, 2) link the problem with interventions and outcomes, 3) synthesize the best evidence, 4) design a change in practice, 5) implement and evaluate the practice change, and 6) integrate and maintain the practice change (Pipe, 2007; Rosswurm & Larrabee, 1999).

Project Methods

A primary care practice located in Glendale, Arizona, serving a predominant Medicare population, sought to improve ACP conversations during MWV. This evidence was used to develop an evidence-based project incorporating patient appointment reminders and portal messages. Prior to project implementation Institutional Review Board (IRB) approval was obtained at Arizona State University (ASU). The intervention started October 1, 2018 and completed December 21, 2018. The target population was adults age 65 and older scheduled for MWV. Front office staff were provided a standardized script to use during patient appointment reminder calls. Patients were called 48-hours prior to their appointment to remind them of the appointment. During this time, the script was read to the patient. In addition to the appointment phone call, patients enrolled in the secure portal received the same scripted message one week prior to their MWV. The message informed patients they would be discussing ACP during their visit, patients were also encouraged to bring existing documents with them. Once at the visit they would be given the forms to complete. Patients were also instructed to return the forms to the front office upon completion. Participating patients were given a survey regarding their motivating factors for completing and returning the documents, as well as which intervention they received. Surveys were collected by front office staff or the medical assistant (MA). Chart audits were conducted to determine completion of ADs. A report was generated in the EHR using a keyword “advance directive”. Inclusion criteria consisted of: documented MWV, type of ACP in the EHR, as well as, the survey if completed. If a survey was not done patients were contacted individually to answer motivating factors. Responses received were kept in a password-protected excel file.

Outcomes/ Project Results/ Impact

Retrospective analysis determined the practice received 41 documents over the 19-month period from July 2016 to March 2018; however, prior to the intervention no formal process was in place to capture ACP conversation or documentation. The intervention was implemented October 1, 2018 and concluded December 21, 2018. In just under three months, 31 documents were received. The number of documents received increased from two a month prior to the intervention to 10 a month during the intervention. During the intervention, a total of 675 patients were seen, and 164 patients seen for MWV. Descriptive statistics were utilized to analyze the demographics. Of the 31 returned documents, 81% of the individuals were enrolled in the patient portal, 61% recalled receiving the portal message versus 32% received the appointment phone call. Approximately, 74% of the participants were married and 67% were female. The chart audit determined 55% of patients returned more than one type of ACP such as: Arizona State AD, Living Will (LW), Durable Power-of-Attorney (DPOA), and Mental Health Power-of-Attorney (MHPOA). Moreover, 77% of patients reported having prior knowledge of ACP before receiving this message and 45% of patients reported the staff of the practice as a motivating factor. Patients were also given the opportunity to provide additional motivating factors. One response received was “My husband was diagnosed with cancer, so we got our affairs in order”, another response was “Didn’t want to leave the decision to my kids”, and “Just to get it done”. Although these results are not statistically significant they are clinically significant and support practice change progress.

Additionally, the practice earned approximately \$34,000 in billing revenue with the utilization of ACP CPT code 99497 for initial encounter and 99498 for subsequent encounter. The intervention was implemented without requiring additional staff or increased workload and

responsibility. Furthermore, the intervention was incorporated into clinic workflow to support sustainability beyond the intervention timeframe.

Discussion

By utilizing tools such as appointment phone calls, patient portal, and MWVs the intervention was successful in increasing ACP conversations and documentation in the EHR. The 31 documents received were significantly higher than the practice was able to obtain previously; the intervention impacted approximately 164 patients. The intervention was incorporated into current clinic practice and was implemented without requiring additional staff. The practice was also able to earn revenue by utilizing the ACP CPT code 99497/99498. Additionally, planning has begun to implement phase 2 and continue the project within the current practice to reach a larger population. Limitations of the project include staff resistance to change and uncertainty regarding conversations surrounding EOL care. Stakeholders reported resistance to implementation due to fear of time constraints, however, the project was incorporated into current workflow without increasing workload or time to complete tasks. Lastly, the intervention was completed with one of nine providers; following success and explanation of the project other providers are beginning to show support for further expansion.

Conclusion

Primary care providers can have a significant impact on EOL care and decision-satisfaction related to ACP by recognizing the importance and implementing it into everyday clinical practice. The evidence highlights numerous benefits, not only to patients and their families but providers and the healthcare system. ACP conversations that take place early and frequently in the continuum of care will better prepare patients for EOL decision making, aide in establishing rapport, and foster trust in the healthcare system. Starting the ACP conversation will

enhance communication between patients, their families, and HCP to deliver care in line with the patient's wishes. The act of deciding ones wishes at the EOL is a poignant moment and deserves to be fostered and documented.

The purpose of this project was to explore the impact of appointment phone call reminders and patient portal messages on AD completion and documentation in the EHR. Despite the results lacking statistical significance the project was effective and clinically significant. Thirty-one documents were returned, 164 patients were impacted, and staff and provider awareness has been introduced. Lastly, 31 patients and families will likely experience less distress at the EOL and their family will find comfort in knowing they made their wishes known.

References

- Bandura, A. (2011). Social cognitive theory. In P. Van Lange, A. W. Kruglanski, & E. Tory Higgins (Eds.), *Handbook of Theories of Social Psychology: Vol. 1.* (pp.349-370). doi: <http://dx.doi.org.ezproxy1.lib.asu.edu/10.4135/9781446249215.n18>
- Biondo, P. D., Lee, L. D., Davison, S. N., & Simon, J. E. (2016). How healthcare systems evaluate their advance care planning initiatives: results from a systematic review. *Palliative Medicine, 30*(8), 720-729. doi: 10.1177/0269216316630883
- Birchley, G., Jones, K., Huxtable, R., Dixon, J., Kitzinger, J., & Clare, L. (2016). Dying well with reduced agency: a scoping review and thematic synthesis of the decision-making process in dementia, traumatic brain injury and frailty. *BMC Medical Ethics, 17*(46). doi: 10.1186/s12910-016-0129-x
- Bischoff, K. E., Sudore, R., Miao, Y., Boscardin, W. J. & Smith, A. K. (2013). Advance care planning and the quality of end-of-life care in older adults. *Journal of the American Geriatrics Society, 61*, 209-214. doi: 10.1111/jgs.12105
- Black, K. (2010). Promoting advance care planning through the national healthcare decisions day initiative. *Journal of Social Work in End-of-Life & Palliative Care, 6*, 11-26. doi: 10.1080/15524256.2010.489220
- Brinkman-Stoppelenburg, A., Rietjens, J. AC., & van der Heide, A. (2014). The effects of advance care planning on end-of-life care: a systematic review. *Palliative Medicine, 28*(8), 1000-1025. doi: 10.1177/0269216314526272
- Centers for Disease Control & Prevention (2011). *Advance Care Planning: An Introduction for Public Health and Aging Services Professionals*. Retrieved from: <https://www.cdc.gov/Aging/AdvanceCarePlanning/Care-Planning-Course.htm>

Centers for Disease Control & Prevention (2017). *Deaths and Mortality*. Retrieved from <https://www.cdc.gov/nchs/fastats/deaths.htm>

Centers for Medicare & Medicaid Services (2016). *Advance Care Planning*. Retrieved from: <https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/Downloads/AdvanceCarePlanning.pdf>

Courtright, K. R., Madden, V., Gabler, N. B., Cooney, E., Kim, J., Herbst, N., . . . Halpern, S. D. (2016). A randomized trial of expanding choice sets to motivate advance directive completion. *Medical Decision Making, 37*, 544-554. doi: 10.1177/0272989X16663709

Glanz, K., Rimer, B. K. & Lewis, F. M. (2002). Explanation of behavioral patterns. Retrieved from: https://www.utwente.nl/en/bms/communication-theories/sorted-by-cluster/Health%20Communication/Social_cognitive_theory/

Kamo, N., Williams, B. L., Smith, D. L., & Blackmore, C. C. (2017). Improving the electronic capture of advance care directives in a healthcare delivery system. *Journal of American Geriatric Society, 65*, 973-979. doi: 10.1111/jgs.14695s

Karnik, S. & Kanekar, A. (2016). Ethical issues surrounding end-of-life care: a narrative review. *Healthcare, 4*(2), 24. doi: 10.3390/healthcare4020024

Melnyk, B. M., & Fineout-Overholt, E. (2015). *Evidence-based practice in nursing & healthcare: A guide to best practice*. (3rd ed.). Lippincott, Williams, & Wilkins

Pipe, T. B. (2007). Optimizing nursing care by integrating theory-driven evidence-based practice. *Journal of Nursing Care Quality, 22*(3), 234-238. doi: 10.1097/01.NCQ.00002777780.27777.91

Rosswurm, M.A. & Larrabee, J. J. (1999). A model for change to evidence-based practice. *Journal of Nursing Scholarship, 31*(4), 317-322. Retrieved on April 13, 2018, from

http://library.armstrong.edu/eres/docs/eres/NURS4445-1_TAGGART/444502tagModelforChange.pdf

- Splendore, E., & Grant, C. (2017). A nurse practitioner–led community workshop: Increasing adult participation in advance care planning. *Journal of the American Association of Nurse Practitioners*, 29(9), 535-542. doi: 10.1002/2327-6924.12467
- Sudore, R., Le, G. M., McMahan, R., Feuz, M., Katen, M. & Barnes, D. E. (2015). The advance care planning PREPARE study among older veterans with serious and chronic illness: study protocol for a randomized clinical trial. *Trials*, 16(570), 1-16. doi: 10.1186/s13063-015-1055-9
- Tieu, C., Chaudhry, R., Schroeder, D. R., Bock, F. A., Hanson, G. J. & Tung, E. E. (2017). Utilization of patient electronic messaging to promote advance care planning in the primary care setting. *American Journal of Hospice and Palliative Medicine*, 34(7), 665-670. doi: 10.1177/1049909116650237
- Tung, E. E., & North, F. (2009). Advance care planning in the primary care setting: a comparison of attending staff and resident barriers. *American Journal of Hospice & Palliative Medicine*, 26(6), 456-463. doi: 10.1177/104990910934187

Appendix A

Table 1
Synthesis Table

Author	Biondo	Bischoff	Brinkman- Stoppelenburg	Courtright	Kamo	Splendore	Sudore	Tieu	Birchley	Tung
Year	2016	2013	2014	2016	2017	2016	2015	2017	2016	2009
LOE	I	IV	I	II	V	IV	II	II	V	V
Study Design										
	SR	CO	SR	RCT	Retro	QE	RCT	RCT	ScopR	QI
Setting										
Community	X	X	X			X			X	
Inpatient	X	X	X				X		X	
Outpatient	X	X		X	X			X		X
Hospice		X								
Skilled Nursing Facility	X		X						X	
Demographics										
Sample N/n	46/645 K	4399	113/>600 K	316	77,350	40	350	2526	49	144
Patient	X	X	X	X		X	X	X	X	
Provider	X		X		X					X
Intervention/Construct										
Survey										X
Presence of any ACP		X	X		X					
Expanded/complex ACP				X						
Education/training					X	X	X	X		
Outcome										
Discussion	↑				↑					
Author	Biondo	Bischoff	Brinkman- Stoppelenburg	Courtright	Kamo	Splendore	Sudore	Tieu	Birchley	Tung
Outcome										
Documentation	↑				↑		↑			

Key: ACP– Advance Care Plan, CO– cohort observational, DM – Decision Making, DNH– do not hospitalize, DNR– do not resuscitate, ED – Emergency department, EOL – End of life, HCS – Healthcare system, ICU – Intensive care unit, n– number of studies, N– number of participants, ND – no difference, QE– quasi experimental, QI– quality improvement initiative, QOL– quality of life, RCT– randomized control trial, Retro– retrospective, ScopR– scoping review, SDM – shared decision making, SR– systematic review, ↑- increased, ↓ - decreased

Hospice use		↑	DNR/DNH ↑							
Inpatient death		↓						↓		
ICU-ED visits		ND								
ACP completion				↑	↑	↑	↑	↑		
HCS utilization	↓	↓	DNR/DNH ↓							
Extensive ACP			↑	↑						
Compliance with EOL wishes			↑							
Satisfaction/QOL				ND				↑		
Knowledgebase						↑				
Themes									*SDM did not include the pt. *DM limits intensity of tx *EOL DM	*Respondents felt confident *most wait for family to prompt conversation *wait for a change in status *residents are more likely to initiate

Key: AC – Acute care, ACP– Advance Care Plan, ADC – Adult day care, AD – Advance Directive, CPR– cardiopulmonary resuscitation, CS – Community setting, CSK– conversation starter kit, DM – Decision Making, DPOAH – Durable Power of Attorney for Healthcare, ED – Emergency department, EOL – End of life, EM – Electronic messaging, f – female, FOP – Frail older people, FM –Family member, , HC – Healthcare, HCS – Healthcare system, HCP – Healthcare professional, HD – Hemodialysis, HSP – Hospital, ICU – Intensive care unit, LW – Living will, M – Male, ND – no difference, NH – Nursing home, NW – Non-White, OP – Outpatient, PallC– Palliative care, PC – Primary care, QI – Quality Improvement, QOC– quality of care, QOL– quality of life, R – resident, S – staff, SDM – shared decision making, SFVAMC – San Francisco Veterans Administration Medical Center, STBI – Severe traumatic brain injury, W – White, ↑- increased, ↓ - decreased

Appendix B

Figure 1. The Rosswurm and Larabee Model

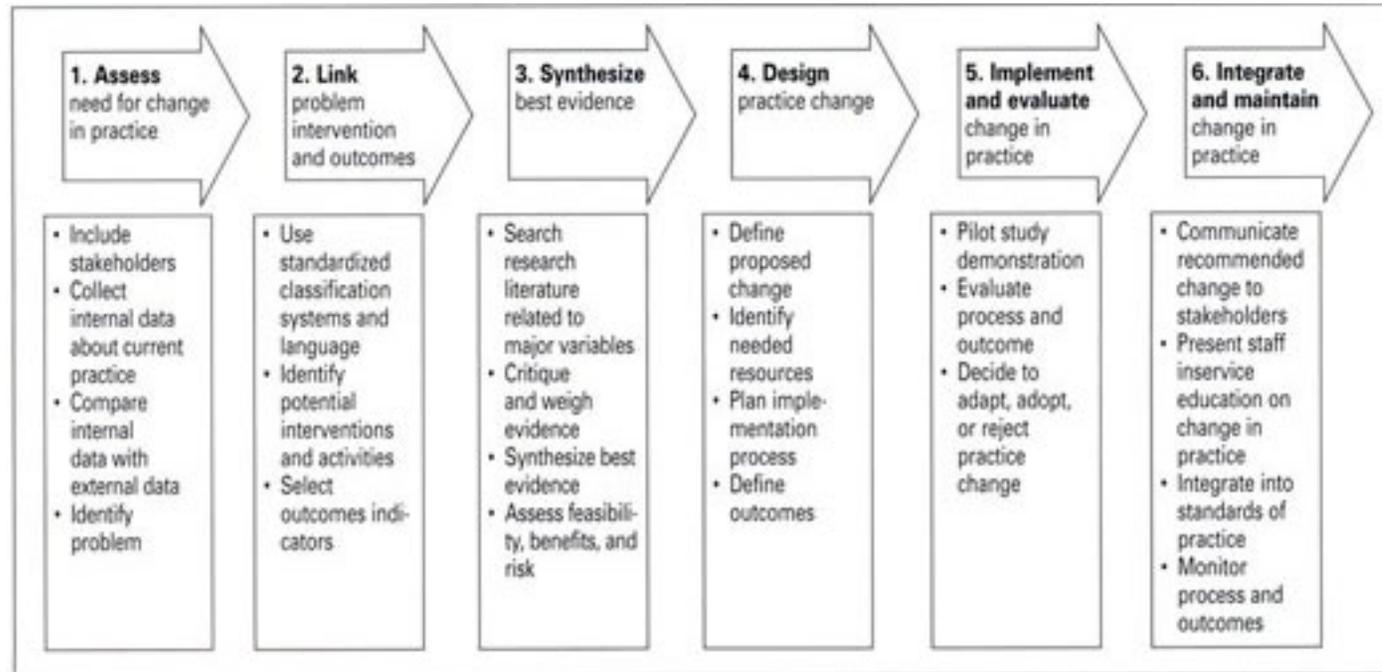


Figure 1. Diagram of the Rosswurm and Larabee Model for EBP (Rosswurm & Larabee, 1999).