

Intervention to Promote Advance Care Planning in the Joint and Spine Surgical Population

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November 14, 2019

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Date of Proposal Submission:

May 23, 2019

Proposal Approval:

May 25, 2019

IRB Approval:

April 8, 2019/ June 19, 2019

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Abstract

Advance care planning allows patients to identify and communicate their goals for future healthcare decisions in the setting where the patient is unable to voice their own preferences. This process has yet to become routine in clinical practice due to an absence of standardization amongst healthcare systems and organizations in both obtaining and documenting these records. Surgery is a critical time for patients and their medical providers to discuss advance care planning options and goals. Yet, individualized advance care planning education is lacking prior to surgery.

Purpose

The purpose of the Doctor of Nursing Practice (DNP) project was to educate elective, surgical patients preoperatively regarding advance care planning options with the goal of increasing their knowledge and readiness to discuss an advanced directive using an established, validated tool.

Methodology

A pre and post-test design was used to measure an increase in patient's knowledge and readiness pertaining to advance care planning and advanced directives. Identical questions from the Advance Care Planning Engagement Survey were administered at the beginning and completion of the educational session developed and led by the nurse practitioner student.

Results

There was a mean increase for 8/9 survey questions, and no decreases were found. Positive ranks were found, and a significance was found for post test scores on question two of the survey. It can be inferred that the project did increase readiness to discuss or file an advanced directive. The lack of significance can be attributed to the smaller sample size (n=34).

Implications for Practice

Discussing advanced directives prior to an admission can prepare patients to optimize their surgical experience. There are opportunities to enhance the education patients receive preoperatively regarding advance care planning and gaps remain in the literature particular to this topic. Quality and safety of patients can be significantly improved when education regarding advance care planning occurs.

Keywords: Advance care planning, preoperative, knowledge, advanced directive

An Intervention to Promote Advance Care Planning in a Joint and Spine Surgical Population

Introduction

Advance care planning is an essential component of patient care that is lacking. Surgery is an optimal time to initiate these discussions amongst providers, patients, and family members. Educating elective, surgical patients provides a unique opportunity to introduce advance care planning opportunities to a specific patient population.

Background & Significance

Numerous challenges are associated with advance care planning for patients, providers, and all persons involved throughout the process. Factors that contribute to providers not prioritizing advanced care discussions include fear, lack of confidence, and lack of comfort (Miller, 2017). Patients and families also avoid the decision-making process because of similar emotions in addition to both a lack of awareness and knowledge (Miller, 2017). Overall, this process has many gaps at an individual, institutional and policy level. In 2012, The Conversation Project collaborated with the Institution for Healthcare Improvement to launch a public campaign to encourage people to talk about their wishes for end of life care. This project led by end of life care experts and ten organizations acknowledges that responsibility must be taken by patients, providers, and healthcare systems to effectively set forth advance care planning discussions and documents (McCutcheon, Kabcenell, Little, & Sokol-Hessner, 2015). Although institutions typically agree that advance care planning is crucial to promote open communication and to improve end of life care in addition to all medical decision making, organizations are lacking the capability to effectively do so (Institute of Medicine, 2015).

Advance care planning has yet to become a standardized process. Advance care planning is a process that involves patients clarifying their medical and personal values (Isenberg, et al., 2018). The goal of advance care planning is for individuals to align their personal goals and values if future serious medical illness were to arise. An advanced directive is a written, legal document that dictates what medical treatments a patient wishes for their end of life care if they were no longer able to make medical decisions for themselves (End-of-life care strategic plan for New Jersey, 2018). According to recent statistics and the Center of Disease Control (CDC), advanced directive completion rates range from 18 to 31% nationally (Miller, 2017) and approximately only 30% of United States residents have made any advance care plans (Yadav et al., 2017). It is common for nurses and medical providers to find themselves in situations where patients and family members have had no conversations about end of life or medical wishes. Discussions about advanced directives or health care representatives are not being had until decisions need to be made quickly and usually during the most emotional and stressful times (Miller, 2017). Making decisions during a medical crisis then becomes ineffective, stressful, and chaotic. There is a lack of research regarding preoperative advance care planning. Advance care planning if addressed, is typically discussed among patients with chronic illnesses and those of an advanced age. Surgery is a pivotal time that can be used for patients of all ages to explore advance care planning options.

Current practice is driven by federal and state law requirements. The Patient Self Determination Act of 1990 requires all healthcare facilities or providers who receive Medicare and Medicaid payments to ask patients if they have an advanced directive. If the patient does not and wishes to complete a document, the law additionally requires the patient the right to do so (1990). If a document is completed it then needs to be filed into the patient's medical record. An

additional component of the law requires educating patients and communities about advanced directives through educational programs that address patient self-determination (Center for Practical Bioethics, 1990). However, this is typically not incorporated into practice. While this act increased documentation of established advanced directives, it has not increased completion rates (Miller, 2017). Numerous organizations and states throughout the United States have acknowledged that this component of the Patient Self Determination Act is lacking and have developed their own initiatives.

In 2015 the Institute of Medicine's (IOM) report: "Dying in America" brought additional publicity to advance care planning. The in-depth report discusses the numerous changes that have occurred throughout the nation regarding end of life care, advance care planning and essentially calls for a reform to improve quality of life through its continuum while simultaneously improving the healthcare system (IOM, 2015). Changes to laws throughout the decade have significantly impacted how patients and providers view and handle advance care planning. The Patient Protection and Affordable Care Act of 2010 initiated paying providers for advance care planning education (IOM, 2015). This provision of the act was quickly removed as the public and media denoted it with a negative connotation and referred to it as a "death panel,". The IOM noted that healthcare systems should foresee that payers will tie standards regarding advance directive completion to reimbursement. Recently in 2016 this was readdressed by the Center of Medicaid and Medicare Services (CMS), and providers are now again paid for voluntary advance care planning while requiring no specific corresponding diagnosis (Center of Medicaid and Medicare Services, 2018). The national changes made to advance care planning have directly impacted all variable populations affected.

Population

Lack of preoperative advance care planning affects patients, family members, providers, policy makers, and healthcare systems. Patients are directly impacted as they are not optimally prepared for surgery with the proper education needed to make advance care plans. Family members then become responsible for making crucial medical decisions. Families, when able, should always be a vital component of the patient's care team (Institute of Medicine, 2014). Providers should be having discussions with every patient and feel competent to discuss options about advanced directives and advance care planning. As the population continues to age, providers should be prepared to help individuals with medical concerns and care regarding end of life and all aspects of advanced care planning. When advance care plans are not made prior to medical emergencies, patients are potentially subjected to medical care not sought or desired.

The American College of Surgeons and American Geriatrics Society recommend advance care planning discussions are had prior to surgical procedures due to the many risks associated with surgery. A team of experts from these organizations recently published guidelines for optimal perioperative care of older adults (Colburn, Mohanty, & Burton, 2017). For immediate preoperative management, it is indicated that teams ensure health care proxies, resuscitation preferences and advance directives are filed for all "older" adults undergoing surgery (Colburn, Mohanty & Burton, 2017). Despite the recommendations from these organizations, consistent education prior to surgery concerning advance care planning is not transpiring into standard practice. Surgery can drastically change one's health status, and research is lacking regarding preoperative advanced care interventions. The United States and the state of New Jersey both independently struggle to educate patients about advance care planning options.

Reimbursement initiatives readdressed in 2016 by the CMS strive to motivate clinicians to actively have discussions with all patients. Voluntary advance care planning is a reimbursable service designated to discuss advance directives between a provider or a designated, qualified health care professional and a patient. (Centers for Medicaid and Medicare, 2018). Medicare pays for this service as a component of a well visit or as a separate entity with two CPT codes: 99497, an initial thirty-minute consultation, and 99498 for each additional thirty-minute consultation. Although payments vary by geographical location, payments are typically \$74.88 to \$85.99 (American College of Physicians, 2015). Hospitals can additionally bill for this educational service with the same CPT codes at a comparable cost. Advanced directives do not need to be completed or filed for the services to be paid but an explanation and discussion of advanced directives using a standard form provided by each state is required. This second effort by the CMS to reenact reimbursement for advance care planning is a strong message to providers that advocates for all patients. This recognizes that advance care planning should become a standard of care versus a rarity.

Institutions are affected by the high cost of chronic inpatient care. When families struggle to make medical decisions, inpatient care is more frequently being escalated, increasing length of stay, and essentially increasing all costs of patient care. While the discussion of whether health care costs are reduced when end of life conversations are had is still being heavily researched, patient provider discussions about end of life medical decisions is typically associated with avoiding unwanted costly medical interventions and cost savings (Hildreth, 2009). A systematic review of seven studies evaluated the cost implications of advance care planning. In six of the seven studies, professional discussions about future medical care impacted savings significantly (Klingler, Inder Schmitten, & Marckmann, 2016).

Current Practice

The prior discussion of best practice recommendations from the American College of Surgeons and American Geriatrics Society encourages preoperative management of advance care planning in the outpatient setting. It is known that there is opportunity to increase discussions regarding personalized plans of care prior to surgeries. Unfortunately, little data exists regarding advance care planning specifically in relation to elective surgeries, making the measurement of quality decision making in this setting difficult (Ankuda et al., 2014). For preoperative decision making to be considered high quality, advance care planning should be an essential component of the process.

Preoperative advance care planning education is not a current, standard practice. Education is provided to patients frequently prior to an elective surgery regarding the post-operative experience and transition. There are many preoperative optimization programs that exist to improve postoperative outcomes that include exercise regimens and dietary interventions (Kata et al., 2018). Innovative models such as these can set the standard for organized preoperative planning to include advance care planning optimization. The Agency for Healthcare Research and Quality has described the completion of advanced directives to not only increase patient satisfaction but to more consistently align patient goals with their individualized plans of care (Ankuda et al., 2014). There is a huge potential for presurgical settings to impact the patient and their decision-making process regarding advance care plans. It needs to be discussed and analyzed further if preoperative advance care planning education can change patient's perspectives and readiness to file an advance directive.

Needs Assessment

Advance care planning for all patients lacks a clear, understandable framework. Legislation governing advanced care directives is enacted in every state, yet, it is complex and variable. Even the strongest and most well-equipped healthcare institutions are inadequately prepared to implement policies for advance care planning. Barriers exist at various levels: local, state, national, and global. Overall, advance care planning is not embedded in routine care due to a variety of factors.

Local

Providing quality, patient care is a standard at a deidentified organization, in New Jersey. The facility's current practice adheres to federal and state regulation by asking all elective, surgical patients if they have an advanced directive at their preadmission testing appointment. All patients present to preadmission testing prior to surgery even if a patient's preadmission testing is primarily completed at an outpatient provider's office. If patients have an advanced directive it is then entered and filed into the electronic health record (M. Morris, personal communication, January 31, 2019). If patients do not have any advanced care planning documents but wish to receive more information, they are then given a paper handout titled "Appointment of Health Care Representative and Living Will", a handout developed by the facility. Further discussions about advanced care planning only occur based on a provider or surgeon's preference. No formal education regarding advanced care planning or an advanced directive is required or takes place prior to surgery.

On the medical center's website there is a section for the "admission process". The only mention of an advanced directive is the instruction for patients to present any personal documents at their preadmission appointment (Admission Process, n.d.). There is no further

discussion or attached information presented on the website if a patient would like to complete a document or receive further education. The surgical patient's admission profile is then typically completed by preoperative nursing staff prior to surgery. If a patient does not have an advanced directive the nurse completing the admission questionnaire is prompted to select whether the "patient wishes to receive further information on advance directives" (N. Wilps, personal communication, January 2019). Documenting a "yes" automatically enters a consult for social work. Additionally, if the patient has a Practitioner Orders for Life Sustaining Treatment (POLST) document, the location needs to be documented. The nurse has selections to document whether there is a copy of the POLST from previous records, a copy is placed on the paper chart, or the family is to bring it in from home. This process is like many other institutional protocols and is typically described as "uncomfortable" by staff and solely viewed as a legal requirement to select a certain option (New Jersey Governor's Advisory Council...2018). This process meets the requirements of the Patient Self Determination Act of 1990.

While these steps may sufficiently meet federal regulations, they provide no additional value to patients. Due to the lack of resources and flaws in the internal system, including time, paperwork, and online documentation, patients' opportunities to engage in advance care planning are being lost. Additionally, there is no formal system to track the encounters made by the social work department for advance care planning. Typically, social services are used to assist post-operative patients for a safe transition to home or a rehabilitation center (N. Wilps, personal communication, January 2019). The consult triggered may be an electronic formality but is typically not incorporated into practice. The company that provides the electronic health record that the Medical Center uses, created a new central repository for advance care planning called "Advance Directive information Exchange, ADiE". This new software allows clinicians to

document patient's care goals while exchanging documents with other providers and community partners ("Advance Directive Information Exchange," 2019). The Medical Center as of recent does not utilize this software feature.

Preoperative education is common in institutions to prepare patients for elective procedures. Preoperative classes at the medical center are held for all elective joint replacement and spine surgeries. This class is held twice weekly, and patients are encouraged to attend prior to their scheduled date of surgery (N. Wilps, personal communication, January 2019). Formal education specific to advance care planning is not a current component of the course. While the Medical Center adheres to federal policy for advance care planning, opportunity exists to enhance the knowledge of patients pertaining to this topic.

State

State laws are variable. In New Jersey (NJ), patients have the options of proxy directives, instruction directives, as well as the POLST since 2011 (NJ Department of Health, 2018). Informed conversations about advance care planning are not occurring as a standard practice of patient care throughout the state. New Jersey has some of the highest national rates of intensive care at the end of life, in addition to significant low completion rates of living wills, advanced directives, health care representative designees, or completion of POLST forms. As per the NJ Healthcare Quality Institute (NJHQI), NJ “performs poorly on end of life care compared with almost every other state in the nation,” and “has among the highest use of medical interventions in the last six months of life” (2018, page 2). The United Health Foundation senior report from 2018 found NJ to rank 47th in hospital deaths for seniors at the end of life indicating that patients are treated with more aggressive medical care compared to most states. This report also notes that 61% of NJ adults have thought about end of life medical options, yet 60% report having no

documents filed (2018). The Dartmouth Atlas Project uses Medicare data to analyze NJ medical care and revealed that NJ exceeds the cost of all other states, suggesting that NJ patients experience more aggressive care without evidence correlating to medical benefits (NJ Advisory Council, 2018 & Dartmouth Atlas Data, 2019). It is clear statistically, that NJ lacks advancements towards advance care planning when compared nationally.

Disparities that impact preparation and awareness of advance care planning in NJ residents are noted from the Rutgers-Eagleton/NJHQI Health Matters, End of Life Care poll from April 2016. The state-wide poll noted that age was the biggest factor in knowledge regarding advance care planning, with middle aged residents being less prepared than elders (2016). It is of note that the average age of patients getting knee or hip replacement surgery is dropping, with the latest mean ages of 64.9 and 65.9 (Lilleston, 2018). Additionally, differences were noted amongst gender, marital status, income, and race. White, married residents and women in affluent households are more open to advance care planning discussions. This valuable information and recent statistics set forth the development of a focused end of life strategic plan by the state in 2016.

As recent statistics noted the many challenges of end of life care delivery in NJ, a council of experts in 2016 were selected to devise recommendations to benefit the state's healthcare system by New Jersey CARE Act as signed into law by former Governor Chris Christie. The submission of the report notes many reasons why NJ suffers from numerous barriers to advance care planning (New Jersey Department of Health, 2018). The state is heavily populated with those sixty-five and older and this age group is predicted to make up twenty percent of our population by 2030 as population data indicates this age group is living longer. Yet, this

population is suffering from more chronic disease, resulting in more Medicare reimbursement costs than any other state in the last two years of life (Department of Health, 2018).

Numerous private sectors have increased their participation in advance care planning initiatives throughout the past five years. In 2015, the NJ Healthcare Quality Institute initiated “Conversation of Your Life”, a campaign program, which addressed advance care planning from a community perspective (2018). Stakeholders have continued to show interest in improving end of life care across the state through numerous organizations such as the Goals of Care Coalition, the Medical Society of NJ and the NJ Hospital Association. Yet, the recommendation of the New Jersey Governor’s Advisory Council is to unite separate entities into one cohesive coalition that can pass legislation and regulations to further the improvements of advance care planning.

It is recommended that the state encourages NJ Medicaid to pay providers and social workers for advance care planning consultations, as is done by Medicare. California has implemented this, and many other states are considering similar coverage options (End-of-life care strategic plan for New Jersey, 2018). Additionally, it is encouraged that advanced care education for patients in hospitals is based off an “outcomes-based payment method” for advance care planning (2018). Due to providers commonly reporting unpreparedness and lack of confidence to properly educate all patients, the New Jersey Governor’s Advisory Council recommends an annual educational course for all facilities as a licensure requirement. Further, the development of state-wide standardized educational modules to train providers and healthcare professionals to become competent in this skill set is advocated for by the council (2018). Individual policies should then be implemented by distinguished facilities to promote continuity of care through all patient admissions. The state of NJ is making strides to improve advance care planning and end of life care amongst the population. The state continues to

emphasize the importance of advance care planning, especially for those that are elderly and with chronic disease. Educating the elective, surgical population preoperatively achieves many of the recommendations set forth by the council.

National

Most health care decision making is typically considered to be individual state law. Yet, federal regulations still have impacted significant healthcare changes and regulations. Federal strategies should be improved to address the nationwide challenges in advance care planning policy and practice. National demographic trends infer that the United States population is aging significantly and with more chronic disease (Rao, Anderson, Feng-Chang, & Laux, 2014). From 2012 to 2060 the United States Census Bureau predicts that the United states population of those aged 65 and older will more than double, and those 85 and older are expected to triple (Ortman, Velkoff, & Hogan, 2014). Despite this data from 2014, national surveys still currently lack end of life questions creating a significant lack of population-based data regarding advance directive completion (Rao et al., 2014). The IOM's Report (2014) notes that organizations should develop quality standards for advance care planning education that are "measurable, actionable and evidence based,". Since the CMS reenacted the reimbursement of providers for advance care planning conversations in 2016, national statistics indicated that more than two thirds of physicians have reported they are not qualified because of insufficient training and lack of skills, and approximately 86% of providers are not billing for this service (End-of-life care strategic plan for New Jersey, 2018). Two thirds of providers also report not having enough time to partake in these conversations, despite the reimbursements. Changes to the reimbursement policy need to continue to be made, to reflect improvements in billing for services.

As discussed, advanced directive completion rates remain considerably low as a nation and barriers to developing advanced directives remain. As healthcare changes persist and as the population ages, the nation needs to continue bringing awareness to prioritize advance care planning. Despite public attention that has been brought to the issue since reimbursement policies changed, challenges still need to be overcome. As every state has a different variation of an advanced directive, it is difficult to achieve goals as a nation.

Since the 1990 Patient Self-Determination Act has been described as “inadequate” and “ineffective”, legislation strives to continue advances in end of life care. The “Personalize Your Care Act” (2016) included an effort to increase public awareness for advance care planning by making chronic care services more accessible. The act was essentially an educational campaign to raise public awareness (2016). Other features of the proposal included resources to enhance provider training, and easier accessibility of advance care planning documents. This attempted continuation of the Patient Self Determination Act of 1990 was not enacted by Congress.

Global

Global achievements of advance care planning are developing amongst different cultures and countries. Slowly, attention is being delivered more to advance care planning across the world. In Europe, the topic was more thoroughly introduced at the Biomedicine convention of 1997 and was readdressed in 2009 (Andorno, 2012). European legislation put into place the first of any article which notes that advanced directives need to be recognized by each European country (Andorno, 2012). Despite this milestone, consensus still has not become established amongst the many European countries. Advance care planning interventions need to be understood amongst the context of the country in which it will be implemented. Studies have shown that Western culture prefers autonomous decision making versus Asian nations that more

commonly value input from both family and the community (Jimenez et al., 2018). Continued research needs to distinguish how certain programs can be adapted into different cultures. The Advance Care Planning International Society has been holding an annual conference since 2012 to promote engagement and conversation regarding the latest best practices regarding advance care planning with the goal of spreading said practices (Advance Care Planning International, n.d.). Patient self-determination is becoming discussed more, yet consistencies are difficult to achieve globally as they are nationally in the United States as well.

Problem/Purpose Statement

There is a lack of consistency amongst advance care planning across the nation and it is evident by the many attempts to standardize the process for patients, providers, and family members alike since the Patient Self -Determination Act of 1990. The DNP project created a new program at the NJ Medical Center to educate preoperative patients about advance care planning and advanced directives which fostered the research in this area to promote patient's awareness and knowledge.

Clinical Question

The DNP clinical question is as follows: For elective surgical patients 18 and older, does the implementation of preoperative advance care planning education increase patient's confidence and readiness to complete an advanced directive prior to surgery?

Objectives & Aims

The overarching aim of the project was to increase patient's confidence and readiness of advanced care planning with an overall intent to increase completion of advanced directives for elective joint and spinal patients. Education for preoperative patients will initiate the standardization of incorporating advance care planning into preoperative education at the medical center through a series of proposed outcomes:

1. To compare pre and post test scores assessing confidence and readiness of advance care planning after advance care planning education
2. To increase patient understanding and knowledge of advance care planning
3. To incorporate advance care planning into preoperative education at a medical center

Review of Literature

Search Strategy and Results

Literature searches were conducted in the CINAHL, Medline, Web of Science, Joanna Briggs Institute (JBI) and PubMed databases. Additional searches occurred in Google Scholar, reference lists, government agency websites, grey literature websites, and professional organization websites such as the Institute for Healthcare Improvement (IHI) and the Institute of Medicine (IOM). The search terms included surgical patients, preoperative patients, preoperative education, elective surgical patients, which were all grouped as “or” terms and joined with the following search terms by “and”, advance care planning, advanced care planning, advanced directives or advance directives. Phrases such as surgical patients and advance care planning were used in the search. Initial searches were restricted to articles published from 2013 to current, population age 18 years and older, and limited to the English language.

The literature search resulted in 147 results with 30 articles chosen for further analysis after duplicates were removed and abstracts were read. From other sources, including reference lists, an additional nine articles were selected for further evaluation. The initial year limitation was extended as other valuable sources pertinent to the project topic were found from 2001 and 2005. Overall, 39 full-text articles, selected on a review of title and abstract, were assessed and thoroughly reviewed. References were managed using EndNote X7. The final ten articles were selected as they all examined slightly different advance care planning interventions, opinions,

and ongoing opportunities for advance care planning in the United States. A comprehensive appraisal and analysis of ten articles was completed using the Johns Hopkins Research Evidence Appraisal Tool (See Appendix A). The ten articles consist of three Level I randomized control trial (RCT) studies, one Level II quasi experimental study, one Level IV non-research article and five Level III studies which included qualitative, retrospective analysis, and non-experimental studies.

Synthesis of the Literature

The most striking finding of this literature review is the paucity of recent evidence specific to the preoperative population and advance care planning interventions. The literature revealed that numerous decision aids and methods are frequently discussed regarding advance care planning. Yet, specific populations are rarely discussed, including the preoperative surgical population. Few interventions have been tested to facilitate advance care planning education and improvements for the preoperative surgical patient population. Many studies regarding advance care planning and completion of advanced directives are involving geriatric patients in long term care settings (Hinderer & Ching Lee, 2013). The educational interventions that have been conducted both in the surgical and community-based populations have shown improvements in advanced directive completion, facilitation of advance care planning conversations, and increased preparedness reported by the patient (Cooper et al., 2014; Song et al., 2005; Grimaldo et al., 2001 & Hinderer and Ching Lee, 2015).

The most recent RCT that pertains specifically to a presurgical population consists of a smaller sample size of 13 patients (Cooper et al., 2014). Although the primary search criteria excluded studies prior to 2013, articles were additionally obtained from reference lists. It is of note that older studies from 2001 and 2005 had larger sample sizes of 185 and 32 patients, both

with significant results (Grimaldo et al., 2001 & Song, Kirchoff, Douglas, Ward & Hammes, 2005). These articles were also referenced amongst other recent publications, therefore were analyzed for the project's specific presurgical population of interest (Cooper et al., 2014, Kata et al., 2018 & Schuster, et al., 2014). Song et al., (2005) conducted an RCT specific to 32 patients undergoing elective, cardiac surgery. Patient Centered Advance Care Planning (PC-ACP) was compared to usual preoperative care to measure patient- surrogate congruence, knowledge, anxiety levels and decisional conflict regarding advance care planning (2005). The study, located at a cardiothoracic surgery clinic, was successful in showing higher congruence amongst a patient and their surrogate ($p < 0.01$), and showed significantly less difficulty for patients in making choices when compared to the usual care group ($p < 0.05$) (Song et al., 2005). The usual care group participants received an information packet explaining the right to an advanced directive and were asked if they would like more information (Song et al., 2005). This is comparable to the process of the organization where the DNP project occurred, as described prior. Although there was no specific measured knowledge change pertaining to advance care planning, patients in the treatment group reported feeling better informed, more confident, and less pressured (Song et al., 2005). Despite this study being limited because it only involved cardiac surgical patients, it could be easily applied to a different surgical population.

Recent studies have failed to replicate a large sample size but also measured patient surrogate relationships (Cooper et al., 2014). Improved rates of concordance were also found in a preoperative testing center for patients who were having vascular or cardiothoracic surgery and were scheduled for a potential post-operative intensive care unit admission (Cooper et al., 2014). The RCT was successful for most surrogates who reported the structured conversation as being "helpful" and reported that it assisted them in preparing for their new potential role as a decision

maker (Cooper et al., 2014). This study's generalizability is limited because most participants (n=12, 92.3%) were overwhelmingly white and male. Additionally, many barriers were noted to participation, including time constraints for most participants. It is noted that this study was the last part of the lengthy preadmission process at the designated facility (Cooper et al., 2014). Although the results of the pilot study were not statistically significant and homogenous, this level one study indicated that many patients found preoperative discussions regarding surrogacy and treatment preferences beneficial prior to a planned surgery. A restructured program with the same intent as the one described can be adapted to more easily accommodate patient's scheduling needs.

Different methods are viewed as the ideal process to teach patients about advance care planning. The literature review notes that multiple modalities have been used including lecture presentations, structured conversations, websites and the viewing of electronic videos. Hinderer and Ching Lee (2015) used a longer, ninety-minute, educational seminar that consisted of both a lecture- style presentation and a video. 82.6% of participants, (n=71) found the seminar very useful. This study was also notable for finding that 97.7% of participants reported they were likely to complete an AD and to have ACP conversations post intervention showing the importance and impact of education in this area (Hinderer and Ching Lee, 2015). This multi modal pilot study was not specific to presurgical patients but was community based in Maryland and Delaware. Different methods have proven effective for advance care planning education.

Amongst the studies analyzed for the literature review, structured conversations were found to be a favorable method of choice to educate patients (Cooper et al., 2014; Grimaldo et al., 2001; Kata et al., 2018). A script with guidelines was provided to the anesthesiologist to effectively lead the main talking points for the intervention group (n= 89) in Grimaldo et al.

(2001). This RCT (2001) was significant in increasing discussions about advanced directives ($P=0.001$), knowledge about power of attorneys (POA) ($P=0.001$) and in increasing POA completion rates ($P=0.09$) through an information session of five to ten minutes. The results of this study suggest that short, preoperative discussions also offer a unique opportunity to initiate advance care planning while being both statistically and clinically significant (Grimaldo et al., 2001). Similarly, the study by Cooper et al., (2014) used a developed, structured conversation that was led by the facilitator. No other modalities were used for the educational intervention. Yet, numerous studies have included online components as part of an educational intervention for patients.

The main educational component of a recent Surgery Wellness Program in San Francisco was also a semi-structured conversation but was created from an interactive, online ACP program, PREPARE for your care (Kata et al., 2018). Recommendations by key stakeholders (Schuster, Aslakson & Bridges, 2014) recommend that discussions are led by patient-based decision aids, and with the use of websites rather than paper education or videos because of its easier reproducibility. Therefore, the key informants argued that if patients are exposed to websites, they can easily be revisited later (Schuster, Aslakson, & Bridges, 2014). This is comparable to Kata's approach of including "Prepare for your care", an online tool and resource for advance care planning in an educational program (2018). The surgical wellness program was significant in increasing participants with a designated surrogate ($p<.001$) and a completed advanced directive that was scanned into the electronic medical record ($p<.001$) (Kata et al., 2018). Incorporating online tools and information for patients can prove beneficial for future studies regarding advance care planning.

Splendore & Grant (2017), another community led intervention not specific to preoperative patients, used a multimodal method to educate patients. A PowerPoint presentation was used to present information on advanced directives and advance care planning and a paper insert was provided for patients regarding the Five Wishes program in addition to a thirty-minute video created by Five Wishes (2017). Five wishes is a hands-on program that provides instructions and information to create a valid, universal advanced directive (Splendore & Grant, 2017). The intervention was successful in increasing the participant's (n=40) understanding of both living wills and power of attorneys, measured by means and standard deviations (Splendore & Grant, 2017). Patients were asked how helpful they found the workshop on a ten-point Likert format, with 1 being not helpful at all, and 10 being extremely helpful. All responses consisted of 8-10 (Splendore & Grant, 2017). Multimodal interventions have been shown to increase advanced directive completion by 12 to 32.3% (Splendore & Grant, 2017). Hinderer & Lee, as discussed prior, similarly intervened. A power point was not used for this study, but the presentation also included a video and time for questions. Both interventions were over an hour long. All interventions, no matter how implemented, should strive to incorporate a patient centered approach for advance care planning education.

Schuster, Aslakson & Bridges' (2014) overall recommendation to promote patient centered advance care planning is comparable to research conducted by Song et al., (2005) which used a "representational approach" to ensure the best decision making amongst patients, family members, and healthcare providers. Similarly, the department of surgery from Rutgers New Jersey Medical School promotes the use of shared decision making for helping patients determine their goals and wishes for medical treatment prior to surgery (Berlin, Kunac & Mosenthal, 2017). A new perioperative consultation model still being developed by the school,

focuses on palliative care consults that strive to have “goal-setting conversations” to preoperatively navigate the many challenges of surgery and advance care planning (Berlin, Kunac & Mosenthal, 2017). Conversation based advance care planning discussions were a common theme among many of the articles in the literature review. While some of the studies used a conversation approach solely (Song et al., 2005; Grimaldo et al., 2001 & Splendore & Grant, 2017), others integrated numerous modalities (Kata et al., 2018 & Cooper et al., 2014).

Although Kata et al., (2018) used a conversational approach to lead the educational intervention, like many other studies, this study differs because it also used multiple points of interaction amongst the patient and the healthcare professional. This includes frequent phone calls by health coaches that readdressed the educational topic. This varies from the other studies that measured results after one preoperative conversation (Song et al., 2005; Grimaldo et al., 2001; Splendore & Grant, 2017). While multiple points of interaction with the patients can be beneficial, it can also hinder recruitment and retention. Kata et al (2018) had some patients who either declined or became unreachable for follow up phone calls. 65 patients did not consent for Cooper’s (2014) study, totaling 14 final participants. Most reasons for refusal were time related: many were already too busy preparing for surgery. Others felt too overwhelmed by surgical demands and appointments (Cooper et al., 2014). Video education is another method that has been used and proven effective for advance care planning.

Isenberg, et al., (2018) and Toraya (2014) used only video education for patients. Isenberg et al., was strategically planned for 359 patients undergoing major surgery at an institution whereas Toraya educated both 37 inpatients and 8 outpatients from a multi-care health system. Toraya (2014) used a brief, twelve-minute video that was created by a multidisciplinary team. It was very specific to advanced directive documents in Washington State including policy

(2014). The education was significant for both the inpatients and outpatients. The study's findings indicated an increase in the patient's understanding of advanced directives and in their intent to complete advanced directives (Toraya, 2014). 97.6% of participants felt they had enough information post intervention to have discussions and complete forms. The video was rated an average 8.8 out of 10 by study participants. Education that incorporates video viewing can increase patient's perceptions and readiness for advance care planning.

Isenberg et al., (2018) created the first video tool for advance care planning to be studied specifically for the preoperative population. Using a "human-centered design" a video was created for patients undergoing major oncological surgery in a Maryland institution. Stakeholders continually edited the video through a six-part process and made advance directives and surrogates a priority in the overarching message for patients (Isenberg, et al., 2018). Prototypes of the video were studied through mock storyboarding of the video, which deemed significant results. 89% of a large sample size, 359 participants at a local fair, found the video information to be "very helpful," (Isenberg, et al., 2018). It is noted that the article is limited to its results from only the prototypes at this time and was not implemented with preoperative patients to date. Therefore, it is not research, but solely engagement. Yet, future research can benefit from future analysis of results and potential incorporation of this video into a specific presurgical population.

The studies selected also vary in what aspect of advance care planning they prioritize within patient education. The overall topic is broad and can be addressed from different perspectives and approaches due to the many sub-topics within advance care planning. Two studies used the Five Wishes, the program discussed prior (Hinderer & Lee, 2014; Splendore & Grant, 2017). This document has helped guide many clinicians in initiating advance care

planning conversations (Hinderer & Lee, 2014). Other studies focused primarily on the advanced directive of the state where the study was conducted. Patients randomized in the 2001 RCT intervention were educated specifically regarding the California POA form similar to a study conducted in Washington state primarily focused on the state's advanced directive (Grimaldo et al., 2001 & Toraya et al., 2014). Different aspects of advance care planning can be incorporated into an educational intervention for patients that strives to increase knowledge regarding the topic.

Surrogacy is another commonly discussed educational topic noted from the studies. A qualitative study that discussed the best method to develop a decision aid for high risk surgery advocated for patient's naming a surrogate as the primary goal specific to preoperative advance care planning. (Shuster, Aslakson & Bridges, 2014). This is like Cooper et al., (2014) as the intervention did not focus on a specific program or document but strived to improve patient concordance with a surrogate selection. Song et al. (2005) used "Respecting Choices" to highlight the patient's treatment preferences prior to cardiac surgery, also emphasizing the importance of naming a surrogate. A "disease-specific statement of treatment preferences" document was also presented to the surrogate during the educational session (Song, et al., 2005). Using the "Prepare Your Care" website as mentioned prior, Kata et al. (2018) focused on having patients name a surrogate, but also educated patients regarding a written, advanced directive. Patients were provided with written information to use Prepare Your Care's website to complete an advanced directive (2018). While studies varied slightly in their approach and selection of the advance care planning topic when educating patients, the advanced directive document and surrogacy selection were commonly discussed.

It is notable that in every study the education was not implemented by the patient's primary medical team or primary care provider. Kata et al. (2018) used a unique, multidisciplinary team consisting of a geriatrician, a physical and occupational therapist, and a dietitian (2018). Nurse practitioner students also were actively part of the study following up with patient's adherence (Kata et al., 2018). While this team brings exceptional knowledge to a project, this is harder to mimic for further research. This study is the most recent and the only to incorporate nurse practitioner students. Both community interventions (Hinderer & Lee, 2014; Splendore & Grant, 2017) were led by professionals with a nursing background: either a nurse or certified nurse practitioner. A nurse facilitator was also used to educate all cardiac, surgical patients (Song et al., 2005) in the intervention group. Research being conducted at Rutgers Medical School is led by surgical faculty and palliative care practitioners (Berlin et al., 2016). Similarly, the intervention led by Cooper et al., (2014) was facilitated by a geriatric physician or surgeon. The randomized patient group in the intervention group (n=14) engaged in an information session also with a physician, but specifically with an anesthesiologist (Grimaldi, 2001). Both nurses and social workers showed patients the video used in Toraya (2014). The research has shown that both physicians and numerous non-physicians led seminars can effectively impact advance care planning engagement for patients and their family members. Overall, patients are receptive to teaching not provided by their primary care providers pertaining to advance care planning.

The literature review has shown that advance care planning educational interventions can be successful in multiple settings and led by various individuals. Both nurses and nurse practitioner students have successfully been a part of numerous interventions. Large, multidisciplinary teams have successfully intervened, yet, at larger, academic settings and at

institutions with costly budgets. It is recognized that incorporating aspects from the state's advanced directive and educating regarding the importance of surrogacy is recognized by key stakeholders and is most beneficial for patients preoperatively (Schuster, Aslakson & Bridges, 2014). Both shorter and longer multimodal interventions have proven significant. Studies with interventions that last longer than an hour can potentially risk a smaller sample size and lack of interest from participants. For this reason, the DNP project implemented a brief educational session.

It is noted that the literature lacks specific education that has been implemented in the preoperative setting. Advance care planning interventions specific to elective joint replacement or spine patients have not been noted in the literature. The proposed project can be one of the first in this specific surgical setting. Methods used for other preoperative specialties, such as cardiac and vascular, and from other community-based interventions, can be adapted for a specific preoperative population. Additionally, the literature in this area is limited to people with a higher level of education, a higher income and those that are white. In three of the included studies, most of the participants were of a higher income and educational level (Kata et al., 2018; Cooper et al., 2014 & Grimaldo, et al., 2001). Opportunity exists to educate patients who are of a more diverse population including those with a lower level of education or income. A nurse led, brief intervention that focuses on New Jersey's advanced directive and surrogacy would provide a unique opportunity to a smaller, community organization with a prestigious joint and spine surgical program.

The study instrument that was chosen for the project, the Advance Care Planning Engagement Survey, measures behavior changes (knowledge, contemplation, self-efficacy and readiness). Permission was granted for its use in this project by the author of the survey, see

Appendix B. Each of these behavioral changes are affected by engagement in 4 advance care planning domains: decision makers, quality of life, flexibility and asking questions (Sudore et al., 2013). Plain language is used throughout the survey. A field test was performed by the author of the survey to examine the reliability of the questions asked in the survey. The survey was administered at baseline and one week later to a diverse sample of older individuals in the community (Sudore et al., 2013). Internal consistency reliability was assessed for the overall scale and each sub scale of behavior change factors and calculated 95% confidence intervals. To evaluate discriminant validity, the survey was also given to a comparison group of younger, healthier individuals aged 18 to 30. T test scores at baseline between the older cohort and the younger cohort were compared, with p resulting less than 0.001 (Sudore et al., 2013). Therefore, the tool was deemed both valid and reliable. In 2017, the survey was modified to create new, shorter versions of the survey. An item reduction and factor analysis were both used to analyze validity, with Cronbach's alpha being high (.84-.97) for all versions (Sudore et al., 2017). The shorter versions deemed valid, internally consistent, and capable of detecting change for a broad range of ACP behaviors. The nine-item survey was selected for this project for time purposes for the participants. The survey contains domains pertaining to medical decision makers, quality of life and subscales of both readiness and self-efficacy (Sudore et al., 2017).

Theoretical Framework

Transtheoretical Model of Change

The Transtheoretical Model of Change, created by Prochaska and DiClemente in the late 1970s, can be used to provide a theoretical foundation for the consideration of advance care planning as a process of behavior change (Prochaska & Velicer, 1997). The foundation of the model is that behavior change occurs through a cyclical process rather than in a single event. The

six stages of this model can be applied to the DNP project. The model was adapted by the PI to meet the needs of the project. (See Appendix C). Prior to the intervention, patients are likely to be in the “precontemplation” phase, with no apparent recognition of the need for education regarding advance care planning or an advanced directive prior to their surgical procedure. During the intervention phase it is likely that the patient was in phases two and three, “contemplation” and “preparation”. The goal of the DNP project was that participants enter phases four and five, “action” where they become ready to adopt new habits, and “maintenance” where they potentially feel ready to sign paperwork regarding medical decisions. The “maintenance” phase can be measured by their post intervention scores on the Preparation Engagement Survey. The ideal stage of behavior in this cycle is the “maintenance” phase. Unfortunately, there is a potential for participants to enter a “relapse” stage after the education in which they would take no action forward to have conversations with others or steps in advance care planning prior to their scheduled surgery. This change model can be used to depict how participants can change their readiness and self-efficacy to file an advanced directive or to initiate conversations with physicians and potential surrogates.

Methodology

Design of Project

As previously discussed in the literature review, there is a lack of preoperative education pertaining to advance care planning. The goal of the project was to increase joint or spinal surgical patient’s knowledge and readiness to discuss and or file an advanced directive. This quality improvement project used a pre and post design to measure an increase in patient’s knowledge and readiness pertaining to advance care planning and advanced directives. A pre and post-test with identical questions was administered at the beginning of the session and

participants were instructed to complete the second survey at the completion of the educational session.

Setting

The project took place at a small community medical center in Monmouth County, New Jersey. The medical center for 2018 had approximately 750 joint and 650 spinal cases per year (N. Wilps, personal communication, April 2019).

Study Population

Inclusion criteria included English speaking women and men 18 years of age with an elective, joint or spinal surgery scheduled at the community facility. Exclusion criteria were men and women under the age of 18 years old, those who are not English speaking, and those who were scheduled for surgeries other than joint or spinal, as they did not fit inclusion criteria. Those who also already had an advanced directive or POLST were also excluded. The desired sample size was 30 participants, who were enrolled with a convenience sample.

Subject Recruitment

A convenience sample was used to recruit participants for the pilot study. Participants attending scheduled preoperative spine and joint classes were asked to participate at the end of their class. No inducements were offered. Potential participants were informed that participation in the program was a voluntary, supplemental service and their decision on participation would not impact the usual care provided. In addition to an educational packet provided by the standard preoperative education, a handout was given to all attending the joint and spine preoperative classes with information about the education (pertaining to the DNP project), including a summary of the educational session for participants to take home which included a copy of the New Jersey POLST form. This handout summarized the educational intervention (see Appendix

D) and additionally provided contact information (email and telephone number of the PI) for any questions or concerns. This handout additionally served as the recruitment flyer.

Consent Procedure

The participants at the joint/spine class were told by Nicole Wilps (joint and spine class coordinator and clinical leader) that a staff nurse from the orthopedic unit and doctoral student working on her DNP project would deliver an approximate ten-minute educational session regarding advanced directives and advance care planning at the end of class. Participants were given the option to choose to stay and participate, or they were free to exit. At the conclusion of the class, the potential participants were greeted by the PI. The PI introduced herself, explained the purpose of the study and provided informed consent forms (see appendix E) to participants that were willing to participate. Informed consent was always obtained by the PI.

Risks/Harms/Ethics

Participation in this study posed minimal risk. The participant's name and the demographic data was deidentified. All were assigned a number. This number coincided with both the pre and post survey. This allowed for the data to be reviewed without direct link to the participant's name. Only the research staff, the PI and Dr. Judith Barberio had access to the list linking the patient to the number associated with the data. Questions the participants were asked could have potentially caused the participant to think about feelings or experiences that could make them sad or upset which was indicated on the consent.

Subject Costs and Compensation

Subjects did not receive compensation for their participation in the project. Potential benefits for participants included increased knowledge pertaining to the project topic. Subjects received light refreshments (coffee and water) at the preoperative class, provided by the facility,

not the PI.

Study Intervention

Participants were given the opportunity to have their questions answered prior to the educational session. Once the session began, the PI distributed the preparation engagement surveys, identical pre and post surveys (see appendix F) and the demographics sheet for the participants to complete (see appendix G). The education, led by the PI, was approximately a ten-minute, educational module (See Appendix H) ending with a two-minute video. Different aspects of advance care planning encompassed education pertaining to the topic. National and state resources were examined for the purposes of this project. Development of the educational module was based on recommendations and evidence-based content that was noted in each of the following state and organizational recommendations (See Appendix I). A video was additionally chosen to be viewed in the education as the literature review noted the clinical significance of incorporating a video to advance care planning education. A video clip, with granted permission by the director of quality from the New Jersey Health Care Quality Institute (see Appendix J) was selected and was viewed. Clips from the video were shown specific to the following times: 1:17 – 3:09 and 3:35- 4:06. After the educational session was completed, the participants were referred to the second copy of the identical survey, that was distributed prior to the session, and participants were asked to complete the second preparation engagement survey.

Once the demographics and surveys were received for each participant, they were safely kept by the PI in one master list. The consent, demographics, and both surveys (pre and post) were numbered for each participant. For example, the first participant received a packet including: consent, demographics sheet, pre, and post survey all labeled with a #1. All completed patient forms were scanned and safely kept on the PI's password protected computer and only

viewed by the research staff, the PI and Judith Barberio. Data was entered and analyzed in SPSS. All data was password protected. The locked computer was never left unattended. All data was destroyed within 6 months of the end of the project's IRB closure.

Outcomes to be Measured

The objectives were to measure significant changes in pre and post surveys regarding the patient's behavioral change process factors: confidence (patient's self-efficacy) and readiness about medical decision makers and medical decision making. Changes were measured by comparison of the pre and post survey responses. An objective was that the responses to the 5-point Likert Scale post intervention should increase the total mean score by two points (Sudore et al., 2017). For self-efficacy, if a patient response is a "1, Not at all" on the pre-intervention survey, the objective was for the patient response to be a "3, Somewhat" on the post intervention survey. Similarly, to measure the patient's readiness, if a patient response is "1, I have never thought about it," the objective was also a two-point increase "3, I am thinking about doing it in the next 6 months," (Sudore et al., 2017). The final objective was to increase patient's advance care planning behaviors, showing significance with a P level less than 0.05.

The demographics chosen (Appendix G) to inquire for the project's participants included age, education, religiosity, and financial status. The Rutgers-Eagleton/NJHQI Health Matters, End of Life Care poll from April 2016 discussed prior explored the differences in age and financial status regarding the disparities for advance care planning preparation. Other sample characteristics of interest that are included on the demographics are education and religiosity. These factors can heavily impact one's readiness to file an advanced directive and would provide valuable feedback for the principle investigator. The demographics also inquired whether the

patient is having elective joint or spinal surgery to distinguish the two elective surgical populations.

Project Timeline

See Appendix K for Gantt Chart.

Resources Needed/Economic Considerations (Project Budget)

The costs associated for this project were the sole responsibility of the PI. Costs included economic considerations for paper, printing services, and pens for educational handouts and pre and post surveys. A projector was provided by the organization, and the space was provided at no cost. The power point presentation was accessed via the principal investigator's personal laptop. A detailed, anticipated budget is in Appendix L.

Evaluation Plan**Data Analysis Plan**

A demographic data analysis was conducted, and descriptive statistics were used to describe the sample of participants. Frequency distributions for each variable summarize the demographic information. Statistical methods were used to measure the change of self-efficacy and readiness from pre-test to post-test. These include paired t tests and the non-parametric Wilcoxon rank sum test by comparing Likert scores. The statistical software package SPSS (IBM Corp: Released 2017. IBM SPSS Statistics 23) was used for completion of data analysis. See the results section for further explanation.

Data/Maintenance Security

All participant information was deidentified: no data collection of identified personal health information was obtained. The only information that was recorded for demographic purposes of the project are the following: age, gender, educational level, spirituality and or

religious beliefs and financial situation, specific to work status. See the attached survey in Appendix G for specifics related to demographics. The participants were additionally asked whether their elective scheduled surgery is spinal or joint.

All participant information was kept confidential. Each participant was assigned a number, and that number was on the consent, the pre and post-test. There was only one list that was stored in the investigator's password protected computer, with a password protected document, that only the PI accessed. All results will be destroyed within 6 months of the end of the study. Conditions that led to the disqualification of data or participants included if they decide to stop their participation during the session and if participants did not complete their surveys. The duration of the study was from the date of IRB approval June 2019 to October 2014, the final date of data collection. Upon completion of the project, closure of the IRB, and final writing of the manuscript, all data will be destroyed in accordance with Rutgers guidelines. Hard copies of consents and aggregate data will be housed in Dr. Judith Barberio's office at Ackerson Hall, Rutgers University, in Newark, NJ for 6 months after IRB is closed at both the facility and Rutgers University.

Recommendations and Discussion of Anticipated Findings

Economic/Cost Benefits of Project

New models of healthcare payment are reflected on quality versus quantity. This project took an innovative approach to educate patients preoperatively prior to surgery. While the PI did not bill or charge for any educational services as part of this project, implementation of this project further into the community can economically benefit providers. Promotion of advance care planning initiatives and awareness of reimbursements can occur as a result of this project. Hospitals additionally can bill for this service. The medical center where the project occurred can potentially benefit in the future from these billing services. As discussed in the background and

significance, it is still argued whether advance care planning discussions and education can directly reduce inpatient costs. This project is a new opportunity for the medical center to explore cost savings and potential benefits from advance care planning to a specific population. There is a potential for cost savings due to not implementing life-sustaining or prolonging procedures.

Impact on Healthcare Quality/Safety

Healthcare quality can be significantly improved with the project's success. It is anticipated patients will become more informed regarding advance care planning prior to surgery. The medical center where the project will take place will be promoting recommendations set forth by the Institute of Medicine while addressing advance care planning measures. There is tremendous opportunity for healthcare quality and safety, specifically prior to surgery, to become improved at the medical center of choice and the community in which it resides. Routine practice at the medical center for advance care planning can be changed, in turn, increasing routine discussions amongst the topic. Addressing advance care planning will promote the encouraged practice of shared decision making, ensuring patient's values and wishes are honored. A culture that encourages preoperative goal setting highly values the quality and safety of medical care for all patients.

Policy Implications

It is anticipated that after patients receive education regarding advance care planning, they will become more knowledgeable and have the resources and education to take next steps to initiate advance care planning discussions with family and friends. Additionally, it is expected they feel more prepared to proceed if they wish, regarding documentation of advanced directives. This could affect policy at an institutional level, requiring advance care planning discussions to occur prior to elective procedures. With continuation of the project's goals, there is potential for

advance care planning to become incorporated into routine practice prior to all elective procedures at the medical center. In turn, policy can change at the medical center, with the possibility of discussions becoming required prior to elective surgical procedures. The medical center is also part of a larger healthcare organization. Results from the project can in turn be shared with other organizations. A positive change in practice can be reflected to other medical organizations and can help address changes to state policy.

Translation

Plans for Dissemination and Reporting

The informational session could possibly be incorporated routinely into the joint and spine classes at the medical center. The findings can also be translated into practice by education being incorporated into other elective surgical programs and further preoperative education at the medical center. There is a large opportunity for the project to be translated to other areas and specialties. Preadmission testing can incorporate a similar educational handout. The project's results will possibly be presented at Grand Rounds at the medical center in 2020. Additionally, it is anticipated that a poster presentation at Rutgers University will be completed in April of 2020. The project's results will also be shared with the New Jersey Healthcare Quality Institute as was discussed with Adelisa Perez, the director of quality for the organization (A.Perez, personal communication, March 15, 2019). Additionally, the findings of the project can possibly be discussed at a future charter meeting for New Jersey Healthcare Quality Institute.

Recommendations

Advance directive and advance care planning education should become incorporated into all preoperative elective surgery educational sessions as part of routine practice. This project advocates for recommendations set forth by the New Jersey Governor's Advisory Council 2018

Plan. This can begin first as a new protocol at the project's selected site and can subsequently spread to other medical centers within the larger organization, Robert Wood Johnson/ Barnabas Health. Results of the project can also be disseminated to team member, Santina Mazzola's, place of work, University of Pennsylvania's outpatient surgical center. This project has the potential to create and spread awareness amongst advance care planning education specific to the preoperative population. Collaborations with hospital staff and administration will be required to disseminate information and to advocate for preoperative educational sessions to include advance care planning.

Results

Implementation occurred July 18, 2019 through October 14, 2019 at the local medical center where IRB approval was obtained. The local medical center has a Joint Commission credentialed joint replacement and spinal program with about approximately 750 joint and 650 spinal cases per year. In total, 34 participants were included in the study. 5 participants were excluded from the study because they reported they had an advanced directive or POLST. The desired sample size was met, which was 30 participants as indicated in the IRB application set by both the medical center and Rutgers University School of Nursing. The first figure below distinguishes the participant population by elective surgery type and gender.

Scheduled Elective Surgery	Joint (N=27) 79.4%	Spine (N=7) 20.6%
Gender	Male (N=15) 44.1%	Female (N=19) 55.9%

Figure 1. *Surgery Type and Gender of Participants*

The age range of participants (Figure 2) was consistent with the growing elective joint surgical population with the majority being greater than 60 years old. As stated, the average age of patients opting for joint surgery is 65, which is consistent with the trend of data from the demographic analysis (Lilleston, 2018).

		N=	Percent
Age Group	Middle Aged (35-60)	12	35.3
	Older Aged (greater than 60)	21	61.8
	Elderly (Greater than 85)	1	2.9
	Total	34	100

Figure 2: Age Range of Participants

Prior studies in New Jersey have shown that women are more willing to have discussions about advance care planning as discussed in the literature review (Rutgers Eagleton Poll, 2016). When comparing men versus women when asked, “Have you ever had any prior interest in advance care planning?”, women did not stand out amongst men. Men and women were consistently split, with only three more women than men reporting yes (Figure 3).

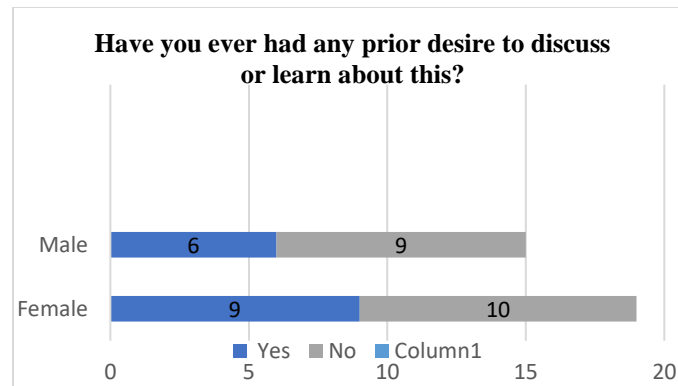


Figure 3: Comparison of gender and prior desire to discuss/learn

Education level varied widely (See Figure 4). In addition to figure 4 below, it is notable that 23 participants overall had some or complete college education, making up more than the entire population. Those who responded yes to “Have you ever been educated on or discussed an advanced directive” were mostly those who completed graduate school (n=3) followed by those who completed high school (n=2) and a two-year college (n=2). This is consistent with what would be expected for the graduate school population. Yet, those who had the highest reported “no” (n=7) are those who completed a four-year college (see Figure 5).

		N=	Percent
Education	Completed 8th grade	3	8.8
	Completed high school	6	17.6
	Completed GED	2	5.9
	Completed some college	6	17.6
	Completed a 2-year college	4	11.8
	Completed a 4-year college	8	23.5
	Completed a graduate degree	5	14.7
	Total	34	100

Figure 4: Education of Participants

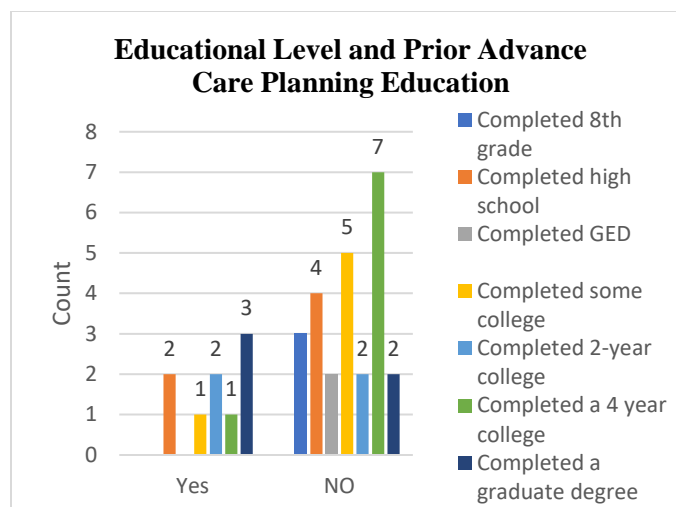


Figure 5: Educational level of participants and prior advance care planning education/discussion

Religious beliefs of participants were also analyzed (Figure 6). Religion can largely reflect with patient's preferences for end of life care planning. Demographic analysis revealed varying religious standpoints: most participants attend religious services occasionally, consistently, or do not believe they are religious.

		N=	Percent
Religion	Attend religious services consistently	9	26.5
	Attend religious services occasionally	10	29.4
	I do not believe I am spiritual	1	2.9
	I do not believe I am religious	14	41.2
	Total	34	100

Figure 6: Religion of Participants

The demographic analysis also analyzed the work status and financial status of participants. Most (61.8%) reported living on a fixed income (Figure 7).

		N=	Percent
Work Status/ Financial	Living on a fixed income	21	61.8
	Working part time	3	8.8
	Working full time	5	14.7
	Occasional work	5	14.7
	Total	34	100

Figure 7: Financial Status of Participants

To develop an initial understanding of the participants' knowledge regarding advance care planning, research participants were also asked three additional questions regarding advance care planning and advanced directives. When asked whether they had ever been educated on or discussed an advanced directive, the majority, 73.5% responded no (figure 8). This highlights the importance of quality improvement projects striving to educate patients about this topic of healthcare.

		N=	Percent
Have you ever been educated on advanced directives?	Yes	9	26.5
	NO	25	73.5
	Total	34	100

Figure 8: Have you ever been educated on advanced directives?

Similarly, when asked if they had ever thought about the topic of advance care planning prior to the education, 64.7% responded no (Figure 9).

		N=	Percent
Have you ever thought about this topic?	Yes	12	35.3
	NO	22	64.7
	Total	34	100

Figure 9: Have you ever thought about this topic prior?

The below graph highlights that despite 55.9% of participants reported they had no prior desire to discuss or learn about advance care planning, 44.1% did report interest. This is nearly half of the participants, reiterating similarly how many New Jersey residents were reported eager to learn about advance care planning and fill out official documents as highlighted by the Rutgers Eagleton Poll (2016).

		N=	Percent
Previous desire to learn about advance care planning	Yes	15	44.1
	NO	19	55.9
	Total	34	100

Figure 10: Prior desire to discuss/learn about advance care planning

Notable patterns can be identified from the demographic analysis. Those who strikingly replied “No” to the question, “Have you ever been educated on or discussed an advanced directive?” include those who completed a four-year college, the older aged (those greater than 60), and those with a fixed income. It would not be expected for the older age (n=17) to report “No”. In contrast, only 4 older aged participants reported “yes”. This reiterates the lack of advance care planning education occurring in practice. Also, for this question, religion can potentially play a unique role as both those who attend religious services consistently and those who do not believe they are religious scored the highest with “No”, totaling half of the total sample size (see Figure 11).

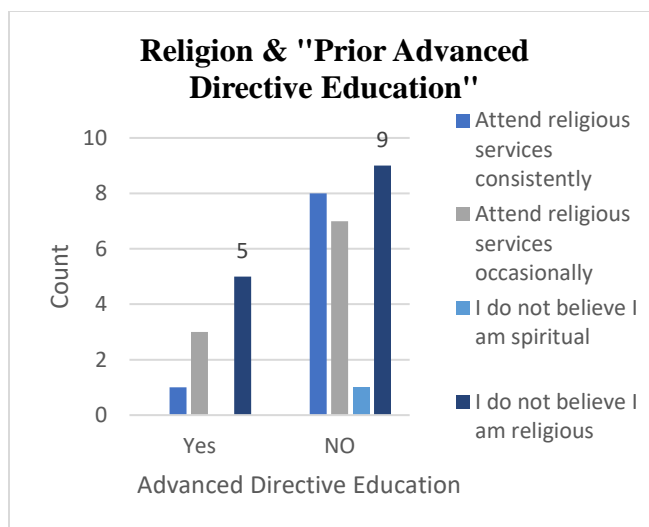


Figure 11: Religion & Prior Advance Care Planning Education

Similarly, those who do not report themselves as being religious had the most participants with no desire to learn about advance care planning. Whereas those who attend religious services consistently had the highest reported yes (Figure 12). Therefore, perhaps, religion encourages patients to seek advance care planning behaviors. Further exploration of religion and advance care planning would benefit a similar future study.

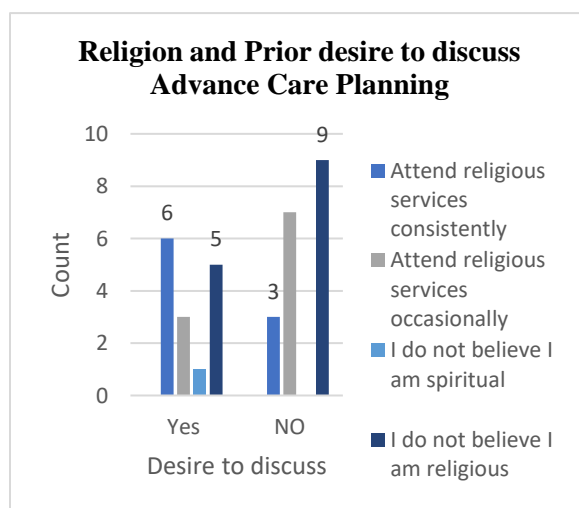


Figure 12: Religion & Prior desire to discuss/learn about advance care planning

When asked “Have you ever had any desire to learn/discuss this topic” responses pertaining to education were widely variable. Again, religion uniquely was distributed as both

those who attend religious services consistently and those who do not believe they are religious scored nearly the highest with “No”. This does not infer that religion particularly plays a role in advance care planning. Those living with a fixed income largely were also split on this question as well as the older aged population. When asked “Have you ever thought about this topic” those living with a fixed income largely reported “no” (Figure 12) which is consistent with the results from the older aged and elderly.

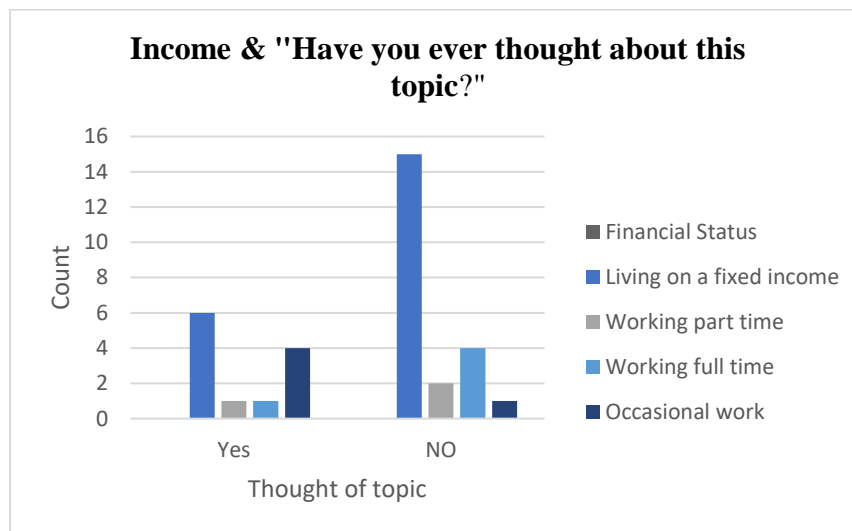


Figure 12: Income & Prior thought about advance care planning

Those who reported not being religious mostly reported “yes” along with 4-year college graduates. All patients who completed some college reported “no” similarly to the older aged population. This project has a comparable group of men and women, unique to most studies pertaining to this topic as many others discussed in the prior literature review were largely males.

A paired sample t test (Figure 13) was conducted in SPSS for the nine questions on the survey. Paired differences did not show statistical significance as the lowest p score was not less than 0.05. The lowest p score was ($p=.111$) for question two on the survey: “How ready are you to formally ask someone to be your decision maker?”.

Questions	1	2	3	4	5	6	7	8	9
Sig.	.404	.111	.312	.216	1.000	.216	.264	.221	.365

Figure 13: Paired Samples T Test Results

While the results are not statistically significant, the mean score for this question increased from 1.7059 to 2.1765, a 27% increase. Mean scores increased for every question, except for question five which had a mean difference of 0. Additionally, a Wilcoxon rank test was conducted in SPSS (Figure 14) as the data was not normally distributed. Statistical significance was found for question two on the survey with a p value of 0.035.

Questions	1	2	3	4	5	6	7	8	9
Z Score	-.846	-2.109	-1.174	-1.401	-.103	-1.307	-1.371	-1.780	-1.104
Asymp-Sig 2 Tailed	0.398	0.035	0.241	0.161	0.918	0.191	0.170	0.075	0.270

Figure 14: Wilcoxon Rank Analysis

Positive ranks (Figure 15) were found for every question except for question five, which had 5 positive ranks, 5 negative ranks and 24 tie scores.

Question #	1	2	3	4	5	6	7	8	9
Negative Rank	6	4	5	6	5	3	4	2	4
Positive Rank	9	16	13	13	5	10	11	12	13
Ties	19	14	16	15	24	21	19	20	17

Figure 15: Wilcoxon Ranks

Discussion

The project objective was that the responses to the 5-point Likert Scale post intervention surveys would increase the total mean score by two points and that an increase would be found in the patient's advance care planning behaviors, with a significance level less than 0.05.

Although this was not reflected in the results, there was a mean increase for 8/9 questions, and

no decreases were found. As discussed, positive ranks were found, and a significance was found for post test scores on question two on the survey. Therefore, it can be inferred that the project did increase readiness to discuss or file an advanced directive. The lack of significance can be attributed to the smaller sample size ($n=34$). A future study intending to intervene in a similar manner would benefit from a larger sample size. This project was unique as it was specific to an orthopedic population of elective, surgical patients. As indicated in the literature review, multimodal interventions have been shown to increase advanced directive completion by 12 to 32.3% (Splendore & Grant, 2017). When asked “How ready are you to formally ask someone to be your decision maker”, there was a 27% increase. Although advance directive completion was not measured, the project utilized a multimodal method to educate patients with the use of a power-point and video. Future studies could also benefit from the addition of a structural conversation to increase post test results.

Limitations

Barriers impacting completion of the objectives includes participants having left after their preoperative class to complete their preadmission testing. Participants had already participated in an hour-long preoperative course when the intervention was being completed. A future study could benefit from allotting more time and possibly on an entirely different day as opposed to after their regularly scheduled preoperative education. Additionally, a lack of preoperative participation in the summer months could have potentially contributed. If implementation occurred in the early winter and spring months, participation could have potentially been higher due to a higher number of cases. Some participants had difficulty filling out paperwork due to their eyesight and needed assistance from their family members. Others were hesitant to participate due to the context of the material. Yet, many patients were eager and

interested in learning about the topic and expressed some of their prior barriers and concerns regarding advance directives. It was anticipated that spinal patients would be a smaller portion of the study's participants as the spine program is smaller than the joint program at the medical center. Overall, there is opportunity for a future project to develop more opportunities for advance care planning education to be integrated into preoperative education.

Implications

Clinical Practice

In terms of clinical practice, the DNP project strove to improve patient knowledge regarding advance care planning. The project's demographic analysis noted that most participants were not ever educated regarding this aspect of healthcare. Prior to surgery it is crucial that patients are aware of advanced directives and are educated on their options within their state of residency. Educating patients prior to surgery prepares patients to determine their goals and values when making healthcare decisions. Incorporating advance care planning into a preoperative educational course can positively impact a patient and their family members. Overall, discussing advanced directives prior to an admission can prepare patients to optimize their surgical experience. This project's goals can be adapted to numerous clinical practices: inpatient settings, ambulatory care centers, and in the outpatient setting. Additionally, there is opportunity to even create an educational module online that can educate patients at home while preparing for surgery. There are numerous methods that can be used to prepare providers to educate their patients regarding advance care planning. Specific to the surgical population, all preoperative providers should incorporate advance care planning into their preoperative medical management.

Healthcare Policy

There is ample opportunity for advance care planning to be enhanced throughout healthcare policy at a local, state and national level. Numerous acts including the Patient Self Determination Act have failed to change standards across the nation. Advanced directives and advance care planning are lacking to be completed and discussions are overall lacking to be had. New Jersey statistically falls behind many other states throughout the nation regarding advance care planning and end of life care. Numerous organizations have promoted that education be provided to all medical students and providers in their basic curriculums. The New Jersey Governor's Advisory Council recommends it be required that all healthcare providers are taking an annual course on advance care planning (2018). An educational session such as the one had for this DNP project, would benefit numerous healthcare organizations, surgical centers and offices while advocating for recommendations set forth by the Council. Advance care planning needs to become crucial to the preadmission process regarding preoperative services. Ideally, advance care planning education should be a required documentation prior to an elective hospital admission, such as with an elective surgery. Advance care planning consultations and education sessions such as the one had with this DNP project are capable of instilling change, even if small, into policies at a local and state level.

Quality & Safety

Patients are placed at the forefront of their care when they are in control of decisions and are knowledgeable about options in their care. Advance care planning education can overall increase patient satisfaction. Patients are ideally safer when they have a strong say in their own medical decisions and in their healthcare. A lack of advance care planning can cause confusion, emotional stress and chaos amongst a family when a patient becomes ill unexpectedly. Medical centers have failed to document advanced directives and no effective system is in place to

educate patients. Advance care planning prior to surgery allows patients and family members to advocate for themselves overall improving the safety and quality of their care. Educating patients prior to an elective surgery provides them the empowerment they need to ensure that patient centered care is being provided. The DNP project instilled the idea of advance care planning into many that had never even heard about the topic once prior. Quality healthcare ensures that patients are optimally prepared for a surgical procedure. The addition of an advance care planning consultation or educational session can promote quality, safe care to preoperative joint and spinal patients.

Education

The DNP project largely suggests that there is ample opportunity for providers and organizations to be educated on ways to include advance care planning into their practices and programs. Incorporating advance care planning into preoperative education can impact patient's readiness and preparedness for an elective procedure. One of the demographic questions highlights this issue as it pertained to the sample size: when asked whether they had ever been educated on or discussed an advanced directive, almost $\frac{3}{4}$ of the sample size, 73.5% responded no. Other surgical programs can adapt the education that was provided during the DNP project and it can be shared with organizations to further assess the success of advanced directive education. Education can also be presented in different manners: with structured conversations or other adaptations to multimodal interventions as indicated in the literature review.

Sustainability

The additional education attributed to advance care planning and advanced directive education can be applied to the standard preoperative joint and spine classes offered by the medical center. The educational module developed can be shared with the orthopedic clinical

leader and can be incorporated into the education. Education can also be adapted to the general surgical population and all patients undergoing preadmission testing at the facility for elective surgery. The goal is to continue to educate elective, surgical patients prior to their surgery regarding advance care planning, and advance directives. Multimodal interventions have proven effective in prior educational sessions for advance care planning and preoperative patients. Structured conversations or other teaching methods can additionally be incorporated into educational sessions to measure success. Additionally, it is of interest to explore how education is received when delivered by the same presenter of the preoperative course or by their surgeon. It may be difficult for patients to discuss advance care planning as it presents as a difficult topic to some with a stranger.

Plans for Future Scholarship

The results of this project were shared with the Director of Orthopedics, the Joint and Spine committee, as well as the Performance Improvement Committee at [REDACTED]. Additionally, the results were shared with the surgical day stay manager at the [REDACTED] and [REDACTED]. The results will also be shared with the nursing research council at [REDACTED] and at the 2020 Robert Wood Johnson Research Symposium. The research will also possibly be presented at [REDACTED] Grand Rounds in 2020. It is a goal of the doctoral candidate for the results to be disseminated to the Journal of Perioperative Nursing.

Conclusion

Advance care planning is an opportunity for patients to explore their preferred healthcare decisions in any event where they may be unable to speak for themselves. Unfortunately, there is a lack of advance care planning education and advanced directive completion nationally and in

the state of New Jersey. Preoperative advance care planning education is an ideal time for patients to be educated about their options regarding advanced directives. Using an educational module developed based on various organizations the doctoral candidate educated elective, surgical patients preoperatively regarding advance care planning. The objective was to increase the participant's knowledge and readiness to discuss an advanced directive. While the results do not indicate statistical significance, positive results were found for almost every question on the participant's post test survey results. A further study would benefit from a larger sample size. There are opportunities to enhance the education patients receive preoperatively regarding advance care planning and gaps remain in the literature particular to this topic.

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Appendix A Table of Evidence

DNP Project Chair: Judith Barberio

DNP Project Title: Advance Care Planning Intervention in a Joint and Spine Surgical Population

Article	Author & Date	Evidence Type	Sample & Setting	Intervention & Findings	Limitations/ Comments	Level & Quality
1	Hinderer, K.A., Ching Lee, M. (2013)	Quasi Experimental Study, Pilot	N=86 Convenience sample Nurse led educational seminar Maryland & Delaware	Post-test repeated measures, paired t tests 82.6% of participants found the seminar useful, 97.7% reported they were likely to complete an AD and participate in ACP conversations Results suggest that community-based interventions facilitate AD completion and ACP conversations	Advance Directive Attitude Survey used Two states 1 ½ hour educational seminar: presentation, video, step by step overview of the 5 wishes, question and answer time Used 5 Wishes Limitations: Homogeneous population, not diverse No pretest Not specific to surgical population	Level II, Good Quality
2	Cooper, Z., Corso, K., Bernacki, R., Bader, A., Gawande, A., Block, S. (2014)	RCT, Pilot	N=13 18 and older, English, had capacity, had a surrogate, and had general, vascular, or cardiothoracic surgery within 30 days, and scheduled for postoperative ICU care Preoperative testing center at a tertiary academic hospital	20-minute baseline survey, pairs were randomized to either have the Structured conversation versus a typical visit Conversation was led by a geriatrician or a surgeon trained in palliative care Post 5-minute survey Telephone survey 1-3 days before surgery to reassess worry Most post-conversation patients were less worried and more hopeful Surrogates felt more prepared,	Mostly male (92%), highly educated and white 79 approached, 65 did not consent Low recruitment Specialist physician coordinated the discussion, hard to replicate	Level I, Good Quality

Article	Author & Date	Evidence Type	Sample & Setting	Intervention & Findings	Limitations/ Comments	Level & Quality
				found the conversation about the patient's goals and preferences for medical treatment helpful		
3	Schuster, A., Aslakson, R.A. & Bridges, J. (2014).	Qualitative	<p>Purposive and snowball sampling</p> <p>Key informants were informed and invited to participate</p> <p>22 participants, 21 USA, 1 Europe</p>	<p>Interviews were conducted with leading clinical, research, policy, and patient advocacy key informants</p> <p>Created a "Recipe" for appropriateness and design of a decision aid for ACP in a high-risk surgery population: included recommendation of internet/websites</p> <p>Stakeholders supported incorporating advance care planning in surgical settings</p> <p>For elective surgical patients: patients: ideal opportunity to prepare for the event of not being able to make decisions</p> <p>Overall support for preop discussions to initiate ACP</p>	<p>Focus on patient centered advance care planning aids</p> <p>Shift the focus from end of life to alternative times (Surgery) to file advanced directives</p> <p>Limitations: Diversity of opinions could have been expanded if sample inclusion criteria had been broader, or more stakeholders from outside US were included</p> <p>Interviews were not recorded, taken from interview notes</p>	Level III, Good Quality
4	Kata, A., Sudore, R., Finlayson, E. et al (2018).	Retrospective analysis of clinical demonstration project	<p>N=131</p> <p>2+ years</p> <p>Preop optimization program for older adults undergoing surgery</p> <p>796 bed academic tertiary hospital</p> <p>Surgery Wellness Program in California</p>	<p>All participants met with a geriatrician who engaged them in a semi-structured ACP discussion. Trained medical /NP students were used as health coaches who contacted participants regularly to address and document ACP.</p>	<p>Geriatrician led</p> <p>ACP was intentionally integrated into the SWP to augment the current practice at UCSF surgical and preoperative anesthesia clinics, where ACP is typically limited to assessing documentation, without a facilitated discussion regarding goals and wishes.</p> <p>Team consists of a geriatrician, physical</p>	Level III High Quality

Article	Author & Date	Evidence Type	Sample & Setting	Intervention & Findings	Limitations/ Comments	Level & Quality
				<p>Included more than one point of contact with participants</p> <p>Participants with a designated surrogate increased from 67% to 78%, completed AD from 51% to 72%, and an AD scanned into the medical record from 14% to 60%.</p>	<p>therapist, occupational therapist, and dietician.</p> <p>Patients: High levels of education and income</p>	
5	Splendore & Grant, 2017	Pre-post measures design with evaluation component (Quasi-experimental)	<p>N=40</p> <p>Rural, PA</p>	<p>Five Wishes used</p> <p>Postworkshop evaluations indicated an overall acceptance and understanding of ADs and ACP. Completion rates of ADs and discussion in the ACP process significantly increased at 1-month follow-up.</p> <p>The participants in this workshop had an overall positive response to the material and rated the workshop very helpful.</p>	<p>Rural community, homogenous sample</p> <p>No instrument reliability or validity</p> <p>Instruments developed specifically for the project</p> <p>Community intervention, not specific to surgical population</p> <p>Multimodal: PowerPoint, paper insert, thirty-minute video</p>	Level III, Good
6	Song, Kirchoff, Douglas, Ward & Hammes 2005	RCT	<p>32 dyads of patients undergoing cardiac surgery, with their surrogates</p> <p>Cardiothoracic clinic</p>	<p>PCACP intervention versus control group</p> <p>PCACP group significantly improved patient surrogate congruence, reduced patient's decisional conflict</p>	<p>Anxiety change did not differ</p> <p>No difference in knowledge of advance care planning</p> <p>Not easily applied to other surgeries</p>	I, Good
7	Isenberg, S. et al. (2018)	Non-Experimental, engagement	<p>N= 359</p> <p>Over 450 stakeholders engaged</p>	Implementation of support video for patients and their family preparing for major surgery	First study for video based advance care planning specific to patents undergoing major surgery	Level III, Low quality

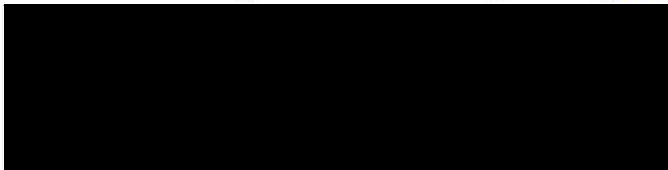
Article	Author & Date	Evidence Type	Sample & Setting	Intervention & Findings	Limitations/ Comments	Level & Quality
		Potential RCT (stage 6- results not finalized)		Tested the video through storyboarding, large sample 89% noted they would find the story boards very helpful or helpful and would recommend the story to others preparing for major surgery	Results from video research not yet complete/conducted Generalizable, diverse sample from tested prototypes Was made for oncological surgeries	
8	Toraya, 2014.	Non-experimental Prospective, nonrandomized, pre- post survey design	N=45 Inpatient and outpatient 37 outpatients (internal medicine and family medicine clinics) 8 inpatients All 18, English Washington State	Video education is helpful to patients, improved perceived understanding of AD and increased intent to discuss and complete AD with family and providers 12- minute video was created, brief Nurses and social workers showed the video to patients	Unknown how many declined to view the video Limited demographics Not specific to surgical population	Level III, good quality
9	Grimaldo, D. A., Wiener-Kronish, J. P., Jurson, T., Shaughnessy, T. E., Curtis, J. R., & Liu, L. L. (2001)	RCT	Preoperative evaluation clinic at 200 Randomized 96 completed from control group, 89 completed from intervention 65+, English	Patients randomized to control group received standard preop anesthesia screening Discussion based Short information session (5-10 minutes) importance of communication between patients and proxies Significant increased discussions about end of life care between patients and proxies, 87% versus 66% Increased POA completion rate to 27% versus 10%	Facilitated by anesthesiologists Older, 2001 publication Most patients were white, had a high school diploma or higher level of education	Level I, Good

Article	Author & Date	Evidence Type	Sample & Setting	Intervention & Findings	Limitations/ Comments	Level & Quality
10	Berlin, Kunac, & Mosenthal, 2017.	Non-research	<p>██████████ ██████████ ██████████ ██████████</p> <p>Patients with high risk oncologic resections are referred for preoperative, palliative outpatient consultations by their surgeon</p>	<p>New model: a perioperative palliative care consultation to promote shared decision making in surgery</p> <p>Goal: to streamline and integrate perioperative palliative care processes into the usual workflow</p> <p>Patient's wishes regarding end-of life care as well as who should act as surrogate is discussed</p>	<p>Promotes surgeons using a palliative care consult, particularly being beneficial when accessed preoperatively for the purposes of goal concordant decision making and advance care planning</p> <p>Surgeon led Continued to be developed/studied/ and promoted by the Rutgers NJ Medical School</p>	Level IV, Good

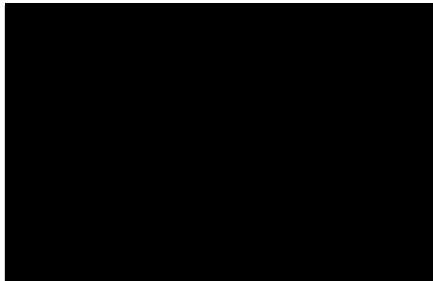
Appendix B

Permission to use survey

Re: Doctoral Project: Advance care planning engagement survey



go for it. instructions for how to measure and analyze on the PREPARE website under research. Good luck



"Not everything that counts can be counted, and not everything that can be counted counts."
Sign hanging in Albert Einstein's office at Princeton

From: Caroline Castro [REDACTED]
Sent: Tuesday, February 5, 2019 10:48:28 AM
To: [REDACTED]
Subject: Doctoral Project: Advance care planning engagement survey

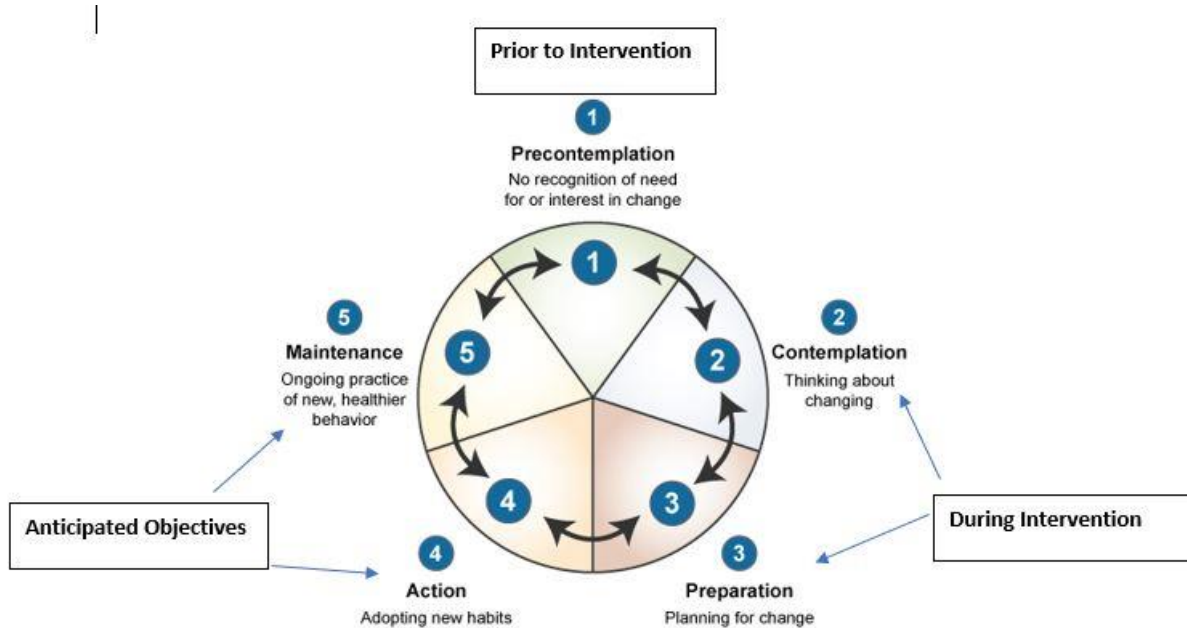
Hi Rebecca,

I am a nursing doctoral student from Rutgers University in Newark, New Jersey. I am planning my doctoral project and came across your tool the: Advance Care Planning Engagement Survey. I would preferably use one of the shorter versions for time purposes during my project, the 9 item or 15 item survey. I plan on educating preoperative patients approximately 1 month prior to their surgeries about advanced directives/their advanced care planning options. Your tool encompasses the qualitative aspect of my project that I hope to obtain through my work. I'd love to discuss this with you more/use your tool for my project's success.

Appendix C

Conceptual Framework Image

The Transtheoretical Model of Change



The Original model was retrieved from the below link and was adapted to meet the needs of the project.

Adapted from

<http://www.esourceresearch.org/Portals/0/Uploads/Images/Glanz/Transtheoretical.png>

INTERVENTION TO PROMOTE ADVANCE CARE PLANNING

Appendix D

Handout (Recruitment Flyer)

You are being asked to participate in a doctoral study at the completion of your preoperative education today. It will consist of approximately ten minutes regarding the topic below and will conclude with a brief video. Your participation is voluntary. If you have filed an advanced directive/ POLST please let the PI know as you will be excluded from the study.

Intervention to promote advance care planning in a joint and spine surgical population

If you have any questions or concerns please email/contact the primary investigator, Caroline Castro, [REDACTED]

What is advance care planning?

- The process to help patients with decision making capacity to guide future health care decisions if they become unable to participate directly in their care.
- By carrying out advance care planning, your substitute decision-makers, family, friends and healthcare providers will be aware of what is important to you. It can help to ensure that any decisions they may need to make for you, are consistent with your values, beliefs and preferences.

New Jersey options for patients:

- **Living Will** (also known as an Instruction Directive)
 - A Written, legal document that spells out medical treatments you would and would not want to be used to keep you alive
 - Instructions that serve as a guide to those responsible for your care
- **Proxy Directive** (Durable Power of Attorney for Health care)- When you name a person to make decisions for you when you are unable to do so
- **POLST**: A medical order for the specific medical treatments you want during a medical emergency

Other terms:

- Life Support Treatment
 - Any medical procedure, device, or medication used to keep someone alive
 - Most common examples: medical devices to breathe (Intubation), tube feeding, CPR, major surgery, blood transfusion, dialysis, artificial nutrition
- DNR (Do not Resuscitate), CPR will not be performed
- CPR- Cardiopulmonary Resuscitation, a treatment administered by healthcare professionals when a person's heartbeat and breathing stops

Where to get additional information/ access to such documents:

<https://www.nj.gov/health/advancedirective/ad/forums-faqs/>


INTERVENTION TO PROMOTE ADVANCE CARE PLANNING

Handout (Will include copy of New Jersey POLST)

HIPAA PERMITS DISCLOSURE OF POLST TO OTHER HEALTHCARE PROFESSIONALS AS NECESSARY

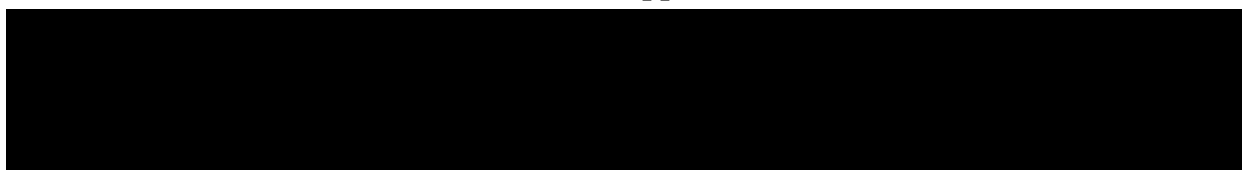
NEW JERSEY PRACTITIONER ORDERS FOR LIFE-SUSTAINING TREATMENT (POLST)

Follow these orders, then contact physician/APN. This Medical Order Sheet is based on the current medical condition of the person referenced below and their wishes stated verbally or in a written advance directive. Any section not completed implies full treatment for that section. Everyone will be treated with dignity and respect.

Person Name (last, first, middle)		Date of Birth	
A	GOALS OF CARE (See reverse for instructions. This section does not constitute a medical order.)		
B	<p>MEDICAL INTERVENTIONS: Person is breathing and/or has a pulse</p> <p><input type="checkbox"/> Full Treatment. Use all appropriate medical and surgical interventions as indicated to support life. If in a nursing facility, transfer to hospital if indicated. See section D for resuscitation status.</p> <p><input type="checkbox"/> Limited Treatment. Use appropriate medical treatment such as antibiotics and IV fluids as indicated. May use non-invasive positive airway pressure. Generally avoid intensive care.</p> <p><input type="checkbox"/> Transfer to hospital for medical interventions.</p> <p><input type="checkbox"/> Transfer to hospital only if comfort needs cannot be met in current location.</p> <p><input type="checkbox"/> Symptom Treatment Only. Use aggressive comfort treatment to relieve pain and suffering by using any medication by any route, positioning, wound care and other measures. Use oxygen, suctioning and manual treatment of airway obstruction as needed for comfort. Use Antibiotics only to promote comfort. Transfer only if comfort needs cannot be met in current location.</p> <p>Additional Orders: _____</p>		
C	<p>ARTIFICIALLY ADMINISTERED FLUIDS AND NUTRITION:</p> <p>Always offer food/fluids by mouth if feasible and desired.</p> <p><input type="checkbox"/> No artificial nutrition.</p> <p><input type="checkbox"/> Defined trial period of artificial nutrition.</p> <p><input type="checkbox"/> Long-term artificial nutrition.</p>		
D	<p>CARDIOPULMONARY RESUSCITATION (CPR)</p> <p>Person has no pulse and/or is not breathing</p> <p><input type="checkbox"/> Attempt resuscitation/CPR</p> <p><input type="checkbox"/> Do not attempt resuscitation/DNAR</p> <p>Allow Natural Death</p>		<p>AIRWAY MANAGEMENT</p> <p>Person is in respiratory distress with a pulse</p> <p><input type="checkbox"/> Intubate/use artificial ventilation as needed</p> <p><input type="checkbox"/> Do not intubate - Use O2, manual treatment to relieve airway obstruction, medications for comfort.</p>
E	<p>If I lose my decision-making capacity, I authorize my surrogate decision maker, listed below, to modify or revoke the NJ POLST orders in consultation with my treating physician/APN. <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Print Name of Surrogate (address on reverse) _____ Phone Number _____</p>		
F	<p>SIGNATURES:</p> <p>I have discussed this information with my physician/APN.</p> <p>Signature _____</p> <p><input type="checkbox"/> Person Named Above</p> <p><input type="checkbox"/> Health Care Representative/Legal Guardian</p> <p><input type="checkbox"/> Spouse/Civil Union Partner</p> <p><input type="checkbox"/> Parent of Minor</p> <p><input type="checkbox"/> Other Surrogate _____</p> <p>Has the person named above made an anatomical gift:</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown</p> <p>These orders are consistent with the person's medical condition, known preferences and best known information.</p> <p>PRINT - Physician/APN Name _____ Phone Number _____</p> <p>Physician/APN Signature (Mandatory) _____ Date/Time _____</p>		

INTERVENTION TO PROMOTE ADVANCE CARE PLANNING

Appendix E

Informed Consent: IRB Approved, see attached**INFORMED CONSENT**

Intervention to promote advance care planning in a joint and spine surgical population
Principle Investigator: Caroline Castro, RN, BSN

You are being invited to participate in a doctoral nursing research study at [REDACTED] because you are having elective spinal or joint surgery at this facility. The investigator in charge of the study is Caroline Castro, a registered nurse, and a 2020 doctoral candidate from Rutgers University, School of Nursing. Your participation is voluntary.

Purposes of the study:

- The principle investigator is studying how education can impact an elective, surgical candidate's readiness and confidence to complete an advanced directive.
- Previous educational sessions have proven effective in increasing rates of advanced directives or have changed perceptions of patients.
- The purpose of this research study is to measure whether implementation of preoperative advance care planning education, as compared to standard practice, increases participant's confidence and readiness to complete an advanced directive prior to surgery.
- The expected number of participants is 40-50 from [REDACTED]

Your participation in the study will last 10-15 minutes.

Procedures

Before you take part in this research study, the study must be explained to you and you must be given the chance to ask questions. You must read and sign this informed consent form. You will be given a copy of this form to take home with you.

If you agree to take part in this study, the following will happen:

- You will fill out a short survey prior to the educational session
- A five to ten-minute educational session will occur, including a power point and video
- You will fill out a short survey, the same prior survey, again.

This study may involve the following risks and discomforts to you

You will likely not experience any risks from this study. You may feel sad/upset by the questions asked in the survey.

Benefits

INTERVENTION TO PROMOTE ADVANCE CARE PLANNING

The benefits to you of participating in this study is knowledge gained regarding options for New Jersey residents about advance care planning.

Confidentiality

The participants in this study will be treated as confidential to the utmost of our ability. They may be made available, on a confidential basis, to the sponsor of the study, the members of the Institutional Review Board and the staffs of regulatory agencies entitled by law to access those records. You will not be identified in any reports or publications resulting from the study.

Costs

There will no costs to you for participating in this study.

Questions/Concerns

If you have additional questions about this study, please contact the principle investigator, Caroline Castro, at [REDACTED] or [REDACTED]. If you have questions about your rights as a participant in this research study, you should contact the [REDACTED]
[REDACTED]

You may consult with anyone you choose about your participation in this study.

Voluntary Participation

Your participation in this study is voluntary. You may decide not to participate now, or to discontinue your participation at any time during the study. If you decide not to participate, or to end your participation during the study, you will not be penalized or lose any benefits to which you would be otherwise entitled. The investigator may end your participation if you fail to follow instructions or for administrative reasons.

Agreement to Participate

I have read or been read this consent form and have had an opportunity to ask questions about the study. All my questions have been answered to my satisfaction.

I voluntarily agree to participate in the study

_____	_____	_____
Printed name of research participant	Signature	Date

_____	_____	_____
Printed name of person obtaining Consent	Signature	Date

INTERVENTION TO PROMOTE ADVANCE CARE PLANNING

Appendix F

Validated Tool, Pre and Post Test Survey

PREPARATION ENGAGEMENT SURVEY

Introduction We will ask about your experiences and opinions. We may ask about things that you have already done, or have not thought about at all. Just answer as honestly as you can.

Over the next few sections we will be asking you about 2 topics:

1. Medical decision makers, or surrogates
2. Deciding what matters most in life

INTERVENTION TO PROMOTE ADVANCE CARE PLANNING

1. Medical Decision Makers

This set of questions ask about medical decision makers. A medical decision maker is a family member or friend who can make decisions for you if you were to become too sick to make your own decisions.

Remember, please give us your honest opinions and there are no right or wrong answers.

SELF-EFFICACY

(1 – DM)

These questions ask about how confident you are to actually talk to someone about who you choose as your decision maker. You can use the red answers. *[Read options.]*

How confident are you that today you could...	Red	Not at all	A little	Somewhat	Fairly	Extremely	Not sure/ Ref.
1. Ask someone to be your medical decision maker? (PE_S1_ST1)		1	2	3	4	5	8 / 9

READINESS

(1 – DM)

The following questions are about how ready you are to talk to others about who you want your medical decision maker to be and to put this information in writing.

2. How ready are you to formally ask someone to be your medical decision maker? (PE_S1_ASKDM_RDY) 1 <input type="checkbox"/> I have never thought about it 2 <input type="checkbox"/> I have thought about it, but I am not ready to do it 3 <input type="checkbox"/> I am thinking about doing it in the next 6 months 4 <input type="checkbox"/> I am definitely planning to do it in the next 30 days 5 <input type="checkbox"/> I have already done it		8 <input type="checkbox"/> Not sure 9 <input type="checkbox"/> Refused
OPTIONAL: If they answered, "I have already done it," then ask "When did you do this?" (PE_S1_DECDM_WHEN)		1 <input type="checkbox"/> Less than 6 mo 2 <input type="checkbox"/> >6 months ago 99 <input type="checkbox"/> NA
3. How ready are you to talk with your DOCTOR about who you want your medical decision maker to be? (PE_S1_TELLOR_RDY) 1 <input type="checkbox"/> I have never thought about it 2 <input type="checkbox"/> I have thought about it, but I am not ready to do it 3 <input type="checkbox"/> I am thinking about doing it over the next few visits 4 <input type="checkbox"/> I am definitely planning to do it at the next visit 5 <input type="checkbox"/> I have already done it		8 <input type="checkbox"/> Not sure 9 <input type="checkbox"/> Refused
OPTIONAL: If they answered, "I have already done it," then ask "When did you do this?" (PE_S1_DECDM_WHEN)		1 <input type="checkbox"/> Less than 6 mo 2 <input type="checkbox"/> >6 months ago 99 <input type="checkbox"/> NA
4. How ready are you to SIGN OFFICIAL PAPERS naming a person or group of people to make medical decisions for you? (PE_S1_PAPER_RDY) 1 <input type="checkbox"/> I have never thought about it 2 <input type="checkbox"/> I have thought about it, but I am not ready to do it 3 <input type="checkbox"/> I am thinking about doing it in the next 6 months 4 <input type="checkbox"/> I am definitely planning to do it in the next 30 days 5 <input type="checkbox"/> I have already done it		8 <input type="checkbox"/> Not sure 9 <input type="checkbox"/> Refused
OPTIONAL: If they answered, "I have already done it," then ask "When did you do this?" (PE_S1_DECDM_WHEN)		1 <input type="checkbox"/> Less than 6 mo 2 <input type="checkbox"/> >6 months ago 99 <input type="checkbox"/> NA

INTERVENTION TO PROMOTE ADVANCE CARE PLANNING

2. What Matters Most in Life

We are switching topics now. The previous questions were about how people would or would not want to live.

The following questions are about specific medical treatments that people may or may never want if they were very sick or at the end of their life. For instance, some people know they would want to be on a breathing machine. Other people know they would never want to be on a breathing machine. Please give us your honest opinions to the following questions about medical treatments. There are no right or wrong answers.

SELF-EFFICACY

(2B – CARE AT EOL)

The next two questions ask about how confident you are to actually talk to someone about your medical wishes. You can use the red answers. *[Read options.]*

How confident are you that today you could...	Red	Not at all	A little	Somewhat	Fairly	Extremely	Not sure/Ref.
5. Talk with your decision maker about the care you would want if you were very sick or near the end of life? (pe_s2a_sc1)		1	2	3	4	5	8 / 9
6. Talk with your doctors about the care you would want if you were very sick or near the end of life? (pe_s2a_sc2)		1	2	3	4	5	8 / 9

READINESS

(2B – CARE AT EOL)

The following questions are about how ready you are to decide and talk about the care you would want if you were very sick or near the end of life.

7. How ready are you to talk to your DECISION MAKER about the kind of medical care you would want if you were very sick or near the end of life? (pe_s2a_YELLOW_READY) 1 <input type="checkbox"/> I have never thought about it 2 <input type="checkbox"/> I have thought about it, but I am not ready to do it 3 <input type="checkbox"/> I am thinking about doing it in the next 6 months 4 <input type="checkbox"/> I am definitely planning to do it in the next 30 days 5 <input type="checkbox"/> I have already done it		8 <input type="checkbox"/> Not sure 9 <input type="checkbox"/> Refused
OPTIONAL: If they answered, "I have already done it," then ask "When did you do this?" (pe_s1_DECIDM_WHEN)		1 <input type="checkbox"/> Less than 6 mo 2 <input type="checkbox"/> >6 months ago 99 <input type="checkbox"/> NA
8. How ready are you to talk to your DOCTOR about the kind of medical care you would want if you were very sick or near the end of life? (pe_s2a_YELLOW_READY) 1 <input type="checkbox"/> I have never thought about it 2 <input type="checkbox"/> I have thought about it, but I am not ready to do it 3 <input type="checkbox"/> I am thinking about doing it in the next few visits 4 <input type="checkbox"/> I am definitely planning to do it at the next visit 5 <input type="checkbox"/> I have already done it		8 <input type="checkbox"/> Not sure 9 <input type="checkbox"/> Refused
OPTIONAL: If they answered, "I have already done it," then ask "When did you do this?" (pe_s1_DECIDM_WHEN)		1 <input type="checkbox"/> Less than 6 mo 2 <input type="checkbox"/> >6 months ago 99 <input type="checkbox"/> NA

INTERVENTION TO PROMOTE ADVANCE CARE PLANNING

<p>9. How ready are you to SIGN OFFICIAL PAPERS putting your wishes about the kind of medical care you would want if you were very sick or near the end of life? (PE_S2S_PAPER_RDY)</p> <p>1 <input type="checkbox"/> I have never thought about it</p> <p>2 <input type="checkbox"/> I have thought about it, but I am not ready to do it</p> <p>3 <input type="checkbox"/> I am thinking about doing it in the next 6 months</p> <p>4 <input type="checkbox"/> I am definitely planning to do it in the next 30 days</p> <p>5 <input type="checkbox"/> I have already done it</p>	<p>8 <input type="checkbox"/> Not sure</p> <p>9 <input type="checkbox"/> Refused</p>
<p>OPTIONAL: If they answered, "I have already done it," then ask "When did you do this?" (PE_S3_DECIDM_WHEN)</p>	<p>1 <input type="checkbox"/> Less than 6 mo</p> <p>2 <input type="checkbox"/> >6 months ago</p> <p>99 <input type="checkbox"/> NA</p> <p>8 <input type="checkbox"/> Not sure</p> <p>9 <input type="checkbox"/> Refused</p>

INTERVENTION TO PROMOTE ADVANCE CARE PLANNING

Appendix G***Participant Demographics: Intervention to promote advance care planning in a joint and spine surgical population***

1. Do you have an advanced directive or a POLST:
 - a. Yes
 - b. No
2. Please specify your gender:
 - a. Male
 - b. Female
 - c. Other
 - d. Do not wish to disclose
3. Please specify your age group:
 - a. Young Adult (18-35)
 - b. Middle Aged (35-60)
 - c. Older Aged (Greater than 60)
 - d. Elderly (Greater than 85)
4. Please specify whether you are having elective joint or spinal Surgery
 - a. Joint
 - b. Spine
5. Please specify your highest educational level:
 - a. Completed 8th grade
 - b. Completed high school
 - c. Completed GED
 - d. Completed some college
 - e. Completed a 2-year college
 - f. Completed a 4-year college
 - g. Completed a graduate degree
6. Please specify your religiosity/spiritual beliefs as best able:
 - a. Attend religious services consistently
 - b. Attend religious services occasionally
 - c. I do not believe I am spiritual
 - d. I am spiritual but not religious
7. Please specify your financial status:
 - a. Living on a fixed income
 - b. Working part time
 - c. Working full time
 - d. Occasional work

The following are YES/NO questions:

1. Have you ever been educated on or discussed an advanced directive?
 - a. Yes

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- b. no
- 2. Have you thought about this topic prior to attending this session?
 - a. Yes
 - b. No
- 3. Did you ever have any previous desire to discuss or learn about this issue?
 - a. Yes
 - b. No

INTERVENTION TO PROMOTE ADVANCE CARE PLANNING

Appendix H

PowerPoint Slides used for Education



RUTGERS
THE STATE UNIVERSITY
OF NEW JERSEY

School of Nursing

Intervention to promote advance care planning in the joint and spine surgical population

Caroline Castro, BSN, RN-BC
Doctoral Candidate 2020



What is advance care planning?

- The process to help patients with decision making capacity to guide future health care decisions in the event that they become unable to participate directly in their care.
- It is important to carry out advance care planning before an urgent issue arises. It is never too early to plan.
- By carrying out advance care planning, your substitute decision-makers, family, friends and healthcare providers will be aware of what is important to you. It can help to ensure that any decisions they may need to make for you, are consistent with your values, beliefs and preferences.



Advance Directives in New Jersey

- **Living Will** (also known as an Instruction Directive)
- A Written, legal document that spells out medical treatments you would and would not want to be used to keep you alive
- Instructions that serve as a guide to those responsible for your care

Have conversations with your primary care doctor, family, friends or anyone you feel comfortable with to determine your personal wishes regarding these issues

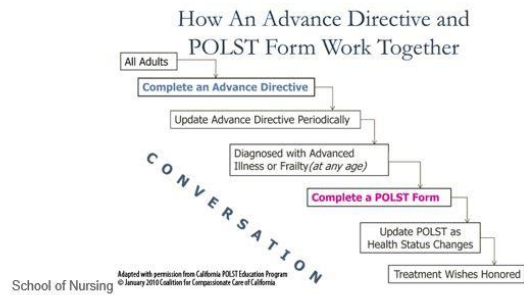
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POLST

A medical order for the specific medical treatments you want during a medical emergency



Other terms commonly used

- Life Support Treatment
 - Any medical procedure, device, or medication used to keep someone alive
 - Most common examples: medical devices to breathe (Intubation), tube feeding, CPR, major surgery, blood transfusion, dialysis, artificial nutrition
- DNR & CPR
 - Do not Resuscitate, CPR will not be performed
 - CPR- Cardiopulmonary Resuscitation, a treatment administered by healthcare professionals when a person's heartbeat and breathing stops

INTERVENTION TO PROMOTE ADVANCE CARE PLANNING



New Jersey's Conversation of Your Life

- <https://www.youtube.com/watch?v=dWg0sjjY1mk>
- Video 1:17-3:09, 3:35-4:06
- National Healthcare Quality Institute



References

- New Jersey Practitioner Orders for Life Sustaining Treatment. Retrieved from <http://www.niha.com/media/84188/NJPOLSTFORM.pdfv>
- New Jersey Department of Health. Retrieved from <https://www.state.nj.us/health/advancedirective/ad/forums-faqs/>
- The New Jersey Commission on Legal and Ethical Problems in the Delivery of Health Care Retrieved from https://www.nj.gov/health/advancedirective/documents/instruction_directive.pdf
- POLST Form Elements. Retrieved from <https://polst.org/>
- What are advance directives? Retrieved from <http://www.caringinfo.org/i4a/pages/index.cfm?pageid=3285>

School of Nursing

INTERVENTION TO PROMOTE ADVANCE CARE PLANNING

Appendix I

Comparison of Advance Care Planning Initiatives/ Guidelines used for Education

	New Jersey's Conversation of Your Life, Healthcare Quality Institute	National POLST Paradigm	New Jersey Department of Health	New Jersey Commission on Legal and Ethical Problems in the Delivery of Health Care and its Task Force	The Conversation Project, Institute for Healthcare Improvement	
Proxy Directive/ Healthcare Proxy	<i>Included</i>		<i>Included</i>	<i>Included</i>	<i>Included</i>	<i>Included</i>
Instruction Directive	<i>Included</i>		<i>Included</i>	<i>Included</i>		
POLST		<i>Included</i>	<i>Included</i>			<i>Included</i>
State specific Advanced Directive		<i>Included</i>	<i>Included</i>		<i>Included</i>	<i>Included</i>
Mention of other terms such as: CPR, Artificial Nutrition, Comfort measures		<i>Included</i>				
Use of a Video	<i>Included</i>					

This table was created by the author of this paper.

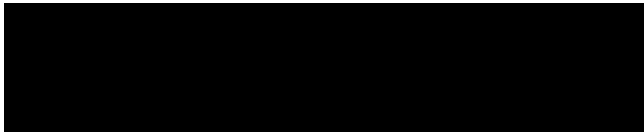
INTERVENTION TO PROMOTE ADVANCE CARE PLANNING

Appendix J

Permission to use video clips

With credit given to the New Jersey Healthcare Quality Institute for the following sections of the video: 1:17 – 3:09 and 3:35- 4:06

The following is the link to the video: <https://www.youtube.com/watch?v=dWg0sjjY1mk>



To: Caroline Castro

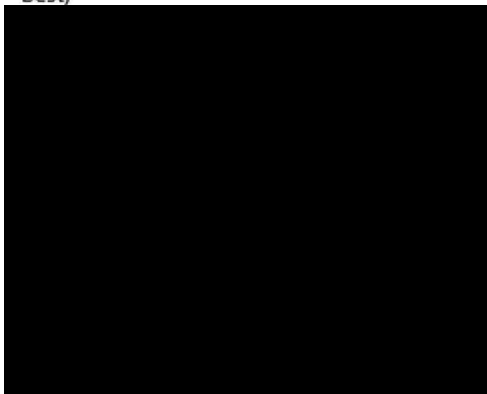
Hi Caroline,

Sounds like an interesting project. It would be great if we could connect so I could learn more about what you will be doing. Let me know if you have any availability for a call next week.

Regarding the video, yes, you have permission to use it, but we ask that you credit the New Jersey Health Care Quality Institute. Happy to answer any additional questions you may have on this.

I look forward to hearing from you.

Best,



INTERVENTION TO PROMOTE ADVANCE CARE PLANNING

Appendix K*Gantt Chart of project's timeline*

Key Steps	January 2019- May 2019	June 2019- October 2019	October 2019- November 2019	November 2019- February 2020
Proposal drafts and IRB approval from medical center and Rutgers	Site IRB Approval: April 2019	Rutgers IRB Approval July 2019		
Intervention Implementation		Final Implementation Date: 10/18/2019		
Data collection Pre- and post- test analysis			Analysis completed by 10/28	
Evaluation/Writing, Final data/ Presentation of Final Project				Presentation Date: 11/22/2019

INTERVENTION TO PROMOTE ADVANCE CARE PLANNING

Appendix L

Project Budget

<i>Budget Item</i>	<i>Anticipated Cost</i>	<i>Actual Cost</i>	<i>Accumulated Cost</i>
Box of Pens	\$5.00	\$7.99	\$7.99
Paper/ Printing	\$40.00	\$75.00	\$82.99
SPSS Purchase	\$100.00	\$45.00	\$127.99

The PI was under the anticipated budget final cost. Transportation costs were not calculated.

