Empower Elderly Chinese Americans: Advance Care Planning Educational Workshop

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I have no known conflict of interest to disclose.

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Abstract

Advance care planning (ACP) is important to ensure values and preferences are followed at an individual's end-of-life. However, elderly Chinese Americans have a much lower advance directive (AD) completion rate than the national average level. This quality improvement project aimed to improve ACP engagement and AD completion rates among elderly Chinese Americans at a local senior center in Arizona. It was a quasi-experimental longitudinal design study guided by the theory of planned behavior and the Plan-Do-Study-Act cycle framework. Participants were recruited using newsletters and in-person events, targeting Chinese Americans aged 55 and older. Three monthly culturally tailored educational workshops were conducted from September to December 2024 after receiving IRB approval from Arizona State University and the project site. A pre-, post-, and 1-month follow-up 9-item ACP Engagement Survey was collected to measure attitudes and readiness to complete AD. This survey is a validated and reliable tool with high Cronbach's alpha values ranging from 0.84 to 0.97. Data analysis using Intellectus Statistics software showed a significant increase in ACP engagement scores over time ($p < .001$). Additionally, AD completion rates rose by 220% after the intervention. These findings indicated that culturally tailored educational workshops could effectively improve ACP engagement and AD completion rates in elderly Chinese Americans. This project provided valuable insights for ACP in culturally diverse communities, and further study can explore the long-term impact on population health outcomes.

Keywords: advance care planning, advance directives, elderly, Chinese Americans

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The aging population is rapidly increasing across the United States. More elderly individuals are facing difficult end-of-life care decisions. Advance care planning (ACP) is a person-centered process that involves conversations with families, loved ones, and healthcare providers to outline the individual's preferences for future medical care while they are still competent to make decisions. ACP empowers individuals to express their values, goals, and medical treatment preferences, especially for those with chronic illnesses who have complex medical decisions and end-of-life care considerations.

Problem Statement

Since the Patient Self-Determination Act was passed in 1990, all Medicare and Medicaid organizations have been required to provide patients with resources for advance directives (ADs) (Sabatino, 2020). In 2008, Congress added end-of-life planning to an initial preventative physical examination for people newly enrolled in Medicare (Sabatino, 2020). In other words, providers can initiate an encounter for end-of-life planning and bill for it in all Medicare and Medicaid patients. The process of ACP is to discuss and plan for future medical care decisions if an individual becomes seriously ill or unable to communicate one's wishes. It is a proactive approach to help elderly people make more effective personal decisions and receive desired high-quality care.

However, there is a gap in completing ACP among ethnic minority populations (Lenoko et al., 2022). Compared to 37% of ACP completion rates among general Americans over 65 years old, elderly Chinese Americans have a much lower rate, which is 14%, according to recent research (Aaron et al., 2022; Wang et al., 2021). Thus, there is a need to improve ACP completion rates among elderly Chinese Americans.

Purpose and Rationale

Chinese Americans are one of the fastest growing ethnic groups in the United States (Budiman & Ruiz, 2021). However, many of them are experiencing health disparities in end-of-life care, including receiving futile medical treatments that do not align with their values, being less likely to use hospice, and high healthcare expenditures (Ernst et al., 2021). The ACP process allows elderly Chinese Americans to make preferred healthcare decisions, decrease potential family conflicts, remove the decision-making burden on providers, and reduce overtreatment and healthcare costs. This project aimed to improve ACP engagement and AD completion rates at a local Chinese American senior center.

Background and Significance

Research on ACP completion rates among Chinese Americans is underdeveloped. There is currently no national or state-level data on ACP completion among Chinese Americans. Several studies conducted in Chinese American communities reported the ACP completion rate was as low as 14% (Wang et al., 2021). Many elderly Chinese Americans have not even heard about ADs or ACP (Zhang et al., 2023).

Barriers to Completing ACP

A thorough literature review indicated three categories of barriers that contribute to low ACP completion rates among elderly Chinese Americans: patients, providers, and healthcare systems. The first category and the most significant barrier to ACP completion is the patients. Researchers found that older Chinese Americans have many challenges, such as age, cultural beliefs, self-reported health, health literacy, English proficiency, employment status, intergenerational support, immigration status, acculturation level, and socioeconomic status (Oh et al., 2023; Wang et al., 2021; Zhang et al., 2023). The young generation of Chinese Americans who

prefer speaking English are more likely to complete ACP than the older generation or who have limited English proficiency (Oh et al., 2023; Ye et al., 2021). The longer Chinese Americans have been residents of the United States, the more likely they are to complete ACP (Zhang et al., 2023). Moreover, the patients' internal thoughts, like the uncertainty of end-of-life preferences, the uncertainty of how and when to have this conversation, miscommunication with providers, and resistance to service providers, also play a role in completing ACP (Kim & Fliegor, 2023; Moore III et al., 2022). In addition, many elderly Chinese Americans hesitate to talk about end-of-life care issues because discussing topics related to death and illness can be considered taboo or uncomfortable in traditional Chinese cultures. (Jia et al., 2021).

The second barrier category to completing ACP is the providers. Most primary care providers (PCPs) do not have sufficient time to discuss end-of-life care planning during one encounter because elderly patients always have three or more medical problems to address in a short visit (Aaron et al., 2022; Blackwood et al., 2019). Studies also show that some providers lack ACP knowledge of initiating end-of-life conversations with patients, especially patients from different cultures or religions, due to the fear of negatively impacting the patient-provider relationship (Aaron et al., 2022; Blackwood et al., 2019; Poveda-Moral et al., 2021). What is more, some elderly Chinese Americans prefer to discuss ACP with providers who speak the same language so that they can have more efficient communication (Oh et al., 2023). However, it is difficult to find a provider who speaks the same language. Even if they are able to find a provider who speaks the same language, securing an appointment with that provider is often challenging.

The third barrier category to completing ACP is the healthcare system. Although many well-developed programs and tools are available across the country to help elderly individuals complete their ACP, these resources have not been adopted by local healthcare systems or

communities (Fromme et al., 2023). Recent research indicated that there is a lack of policy support for ACP discussion in most inpatient, outpatient, and community settings (Kim & Flieger, 2023). This, in turn, limits the amount of ACP knowledge and awareness that is relayed to the patient population.

Interventions and Desired Outcomes

Multiple studies have been conducted during the past few years to explore the ACP process among Chinese Americans. For example, Hinderer and Lee (2019) conducted a culturally tailored nurse-led AD and ACP workshop to engage ACP discussions among the Chinese American community in the Washington, D.C. metropolitan area. Researchers developed an interactive educational workshop to introduce the concept and open ACP discussions among participants by using both English and Mandarin languages (Hinderer & Lee, 2019). The researchers found that Chinese Americans' AD attitudes improved after participating in the educational workshop and remained consistent at 1-month follow-ups. They also found a significant positive relationship between attitudes and AD completion among Chinese Americans (Hinderer & Lee, 2019).

Ye et al. (2021) conducted a similar study in Chinese American communities in a central Texas metropolitan area to explore and promote ACP engagement. Researchers developed a web-based culturally tailored ACP education program, and participants were asked to watch a 30-minute video presented in Mandarin (Ye et al., 2021). ACP concepts, steps, and importance were addressed in the education video, and results showed that Chinese Americans' ACP knowledge and attitudes significantly improved after attending the web-based culturally tailored ACP education program (Ye et al., 2021).

The Chinese American Coalition for Compassionate Care, a community-based non-profit organization trying to engage in ACP discussions with Chinese Americans, created Heart to Heart

Cards based on the cultural appropriateness theory (Jia et al., 2021). The card game was an innovative, culturally tailored ACP tool that the organization developed for the purpose of bringing awareness to determining end-of-life preferences within this minority group. Researchers developed a Heart to Heart Café program with several playstyles based on the card game to increase ACP and end-of-life discussion across Chinese American families and communities (Jia et al., 2021). The Chinese American Coalition for Compassionate Care recruited 2,267 Chinese Americans in 5 years; 97% of participants thought the Heart to Heart Café experience was pleasant, and 86.5% of them stated they would complete ADs and recommended the café activity to their families (Jia et al., 2021). The innovative Heart to Heart Cards game and Café program has successfully improved ACP engagement among Chinese Americans.

Different interventions have been tested in the Chinese American community, like culturally tailored ACP workshops (Hinderer & Lee, 2019), web-based bilingual ACP education videos (Ye et al., 2021), and the Heart to Heart Café program in the community center (Jia et al., 2021). These interventions effectively improved ACP knowledge, attitude, and completion rates (Hinderer & Lee, 2019; Jia et al., 2021; Ye et al., 2021). Although there are many barriers and challenges, most elderly Chinese Americans can benefit from culturally tailored education programs.

Internal Data

A senior center in Arizona provides various services and activities for elderly Chinese Americans, such as English conversation classes, computer and painting classes, and gym exercises. This center has been open for over three decades and has an attendance of between 10 to 150 people daily. Over 90% of members are Mandarin- or Cantonese-speaking Chinese aged 55 years or older. However, most elderly members in this center have not heard about ACP, ADs,

or life care planning. Some of them knew of these terms previously but did not understand the details or have not completed ACP yet. This senior center was willing to provide relevant programs to teach elderly members the importance of ACP and learn to make healthcare decisions that align with their wishes.

PICOT Question

A review of the literature led to the clinically relevant PICOT question: Among elderly Chinese Americans in a local senior center (P), how do educational workshops on advance care planning (I) compared to the current status without educational workshop (C) affect advance directive completion rates (O)?

Search Strategy

The following databases were extensively searched: PubMed, Cumulative Index of Nursing and Allied Health Literature (CINHAL), Psych INFO, Cochrane Library, and Embase. All these databases offer access to a wide range of peer-reviewed journals and publications that are relevant to the topic of ACP in elderly Chinese Americans. Combinations of keywords were searched, including *advance care planning, advance directives, end-of-life planning, life care planning, personal directives, medical directives, advance care plan, advance decisions, advance health care plan,* and *Chinese Americans*. The limitations set during the literature search included studies published within the past 5 years in scholarly peer-reviewed journals and written in English.

The initial search of PubMed yielded 19,898 articles in the last 5 years by using search terms *advance care planning* or *advance directives* or *end-of-life planning* or *life care planning* or *personal directives* or *medical directives*. Limits added *Chinese Americans* abstract and English language yielded 117 articles.

The initial search of CINAHL used the terms *advance care planning* or *end of life planning* or *advance directive* or *advance care plan* or *advance decision* or *advance health care plan*. This search yielded 38,287 articles. Then a search of *Chinese Americans* yielded 49,637 articles. Limits placed for the two search terms together yielded 100 articles. Sixty-four articles were published in the last 5 years.

The initial search of PsycINFO used the terms *advance care planning* or *advance directives* or *end of life planning* or *life care planning* yielded 8,697 articles. Then a search of *Chinese Americans* yielded 7,785 articles. Limits placed for the two search terms together yielded 27 articles. Twelve articles were published in the last 5 years.

The initial Cochrane Library search used the terms *advance care planning* or *advance directives* or *life care planning* or *personal directives* or *end of life planning* yielded 25,023 articles. Then a search of *Chinese Americans* yielded 869 articles. Limits placed for the two search terms together yielded 20 articles in the last 5 years.

The initial search of Embase used the terms *advance care planning* or *advance directives* or *end-of-life planning* or *life care planning* and *Chinese Americans* yielded 39 articles. Limits placed in the last 5 years yielded 21 articles.

A thorough search of PubMed, CINAHL, PsycINFO, Cochrane Library, and Embase yielded 234 articles meeting the keywords of the PICOT question. Many articles were not applicable or were duplicated in different databases. A total of 34 articles were identified by reviewing the titles and abstracts for relevance to the topic. Finally, the 10 most relevant and high-quality studies were yielded by reviewing the 34 full-text copies of the studies. Inclusion criteria included interventions, facilitators, or barriers in improving ACP completion among

Chinese Americans. Exclusion criteria included interventions to engage ACP completion among non-Chinese Americans.

Critical Appraisal and Synthesis of Evidence

This literature review focused on ACP research among Chinese Americans. The rapid critical appraisal checklists were used to evaluate the quality of the most relevant 10 studies (Melnyk & Fineout-Overholt, 2011). There were four quantitative studies and six qualitative studies including one systematic review, one cross-sectional study, two retrospective studies, two repeated measures design studies, two community-based participatory studies, and two qualitative studies (see Appendix A). Most studies reported their funding resource, and a few studies recognized bias. The majority of studies reported no attrition rates. Of those that did, the attrition rates were less than 20%.

All these studies were conducted among Chinese Americans, except the systematic review paper which reviewed the published studies of the ACP process among the Chinese diaspora in six countries: United States, Canada, the United Kingdom, Australia, Singapore, and Malaysia (Jia et al., 2020). All 10 studies have either listed or inferred theory. The health belief model was used twice. The literature was homogenous in relation to knowledge, attitude, discussion, and ACP completion among Chinese Americans. Of the 10 articles, six focused on community settings, while three studies focused on healthcare settings. The systematic review study focused on both communities, outpatient and inpatient settings (Jia et al., 2020). In these 10 studies, all participants were adults older than 18 years. The majority reported the mean age in years, which ranged from 52.34 to 75.3. All these studies have an adequate sample size. Half of the studies did not require participants to report their health status or chronic illness.

Most studies discussed factors that affect ACP knowledge and attitude, like having United States citizenship, English proficiency, and individuals' acculturation level. Four studies addressed barriers among Chinese Americans, and another two studies discussed Chinese Americans' ACP language preferences. Different interventions that engage the ACP process were reported, such as web-based video education programs, in-person bilingual ACP workshops, social worker education programs, Heart to Heart café programs, and intergenerational support events. All these interventions successfully promoted ACP discussion and AD completion.

Discussion

The ACP process is complex for elderly Chinese Americans and involves multiple layers of challenges at the patient, provider, and healthcare system levels. Multiple high-quality studies have identified these barriers and demonstrated the effectiveness of community-based interventions in enhancing ACP awareness and engagement among Chinese Americans. Such interventions are especially impactful as they are often more trusted and accessible within the community. Moreover, bilingual ACP tools also play a critical role in facilitating ACP discussions and increasing AD completion rates by addressing language barriers and ensuring cultural appropriateness. Integrating these strategies into this evidence-based project strengthened its effectiveness by promoting culturally sensitive and inclusive ACP education. Ultimately, this approach helped foster a supportive environment and empowered elderly Chinese Americans with the ACP knowledge and tools to make informed decisions about their future healthcare.

Theory Application

The theory of planned behavior was used to guide the ACP discussions among Chinese Americans. Ajzen (2019) developed this theory to explain and predict individuals' behavior based on three main factors: attitudes, subjective norms, and perceived behavioral control (see Appendix B). Individuals' attitudes refer to personal beliefs about a certain behavior, while subjective norms represent perceived social pressure to engage or not engage in that behavior. Perceived behavioral control encompasses external and internal factors that may facilitate the behavior (Ajzen, 2019). According to the theory, individuals are more likely to engage in healthy behavior if they recognize its value, observe that they respect engaging in it, and feel that they have the necessary resources to take action (Ajzen, 2019). Understanding elderly Chinese Americans' attitudes toward ACP is the first crucial step in fostering meaningful conversations. Individuals' cultural beliefs, family dynamics, health status, immigration status, socioeconomic status, and access to ACP education materials significantly shape ACP discussions. This project integrated these considerations to facilitate effective communication and informed decision-making processes among elderly Chinese Americans and their families.

Implementation Framework

The Plan-Do-Study-Act (PDSA) cycle is an iterative approach to conducting a change that is commonly used in healthcare settings (Langley et al., 2009). It contains four stages: plan, do, study, and act, which were applied in this project to facilitate changes in the local Chinese senior center (see Appendix C).

The *planning* phase of this project was to conduct a literature review on ACP completion among Chinese Americans, identify cultural considerations, create culturally tailored ACP educational materials, prepare Arizona Living Will forms in Chinese, and collaborate with stakeholders in the local Chinese senior center. The *do* phase was a pilot ACP workshop to

introduce ACP concepts, discuss cultural beliefs related to end-of-life care, and assist with AD documentation. It also included printing ACP workshop flyers, announcing ACP workshop events, recruiting participants, and educating the social worker and other staff about ACP and ADs. Gathering feedback from participants and stakeholders was also an important step to achieving the desired outcomes in this project. The *study* phase was to collect data from the workshop, evaluate the attitude changes towards ACP and AD completion rates pre- and post-intervention, and identify areas for improvement. The *act* phase was to adjust the ACP education material, workshop content, and other interventions to meet elderly Chinese Americans' needs and preferences. This project followed the PDSA cycle to establish a standardized protocol to provide ACP education at the local Chinese senior center.

Implications for Practice Change

Elderly Chinese Americans have a very low ACP completion rate. Implementing a culturally tailored ACP educational workshop in a community setting helped address linguistic and knowledge barriers to end-of-life discussions among this population. This project empowered older adults to make informed decisions about their future healthcare preferences, ensured their values and wishes were respected, and reduced the emotional burden on family members who might face difficult decisions without guidance. By fostering an environment of open-minded conversations about end-of-life care, the workshop helped improve communication between elderly adults and healthcare providers, which is expected to reduce unnecessary or unwanted medical treatments and lower end-of-life healthcare costs in the future.

Methods

Setting and Stakeholders

This project was conducted at a local Chinese senior center, a non-profit government organization in Arizona. This center has been open for over 3 decades and has played a vital role in supporting the well-being of elderly Chinese Americans by providing various services and activities. The key stakeholders in this project include senior center leaders, staff, and members, as well as their family members, caregivers, primary care providers, specialty providers, and private and public insurance payers. Leaders and staff at the local senior center supported the educational event and facilitated communication with the seniors. The members, families, and caregivers served as potential participants in this project. Healthcare providers, including primary care and specialty providers, were able to initiate end-of-life discussions more easily as seniors gained the ACP knowledge from the workshop. In addition, private and public insurance payers benefited from lower end-of-life healthcare costs and optimized resource utilization within the healthcare system.

Participants and Recruitment

Participants' inclusion criteria for this quality improvement (QI) project were age 55 and above, current members of the senior center or family members or caregivers, had adequate cognitive function to participate in discussions, and the ability to understand the ACP educational workshop content in either English or Mandarin by reading or speaking. Participants with severe cognitive impairments or language barriers may have difficulty understanding the ACP educational materials, negatively affecting their informed decisions. Therefore, exclusion criteria included seniors with severe cognitive impairments or advanced dementia who could not engage meaningfully in the workshop and seniors with language barriers who could not understand English or Mandarin.

To promote the ACP educational workshop, informative recruitment flyers were distributed at the local senior center's front desk and bulletin board one month before the workshop. Multiple in-person recruitment events occurred at the local senior center. Interested seniors were given brief introductions of the ACP workshop's purpose and content to engage participation. The project director also joined the local senior center members' *WeChat* group and posted educational workshop events. In addition, the date and time of the workshop was announced in the senior center's newsletters.

Project Intervention

This QI project was designed with a pre-, post-, and 1-month follow-up survey to measure the impact of the culturally tailored ACP educational workshop among elderly Chinese Americans. All participants were expected to attend at least one ACP educational workshop and complete two or three surveys. A pre- and post- ACP Engagement Survey was collected during the workshop (see Appendix D). If participants were not able to complete AD forms on the day of the workshop for any reason, they were expected to attend the following workshop and complete the 1-month follow-up survey. All participants were invited to complete the demographic questionaries and workshop feedback questions during the workshop events (see Appendix E).

On the day of the ACP workshop event, a culturally specific scenario story was verbally delivered so that participants would begin to think about ACP. Then, the project director started the ACP educational presentation, with topics including the concepts of ACP and ADs, why they are important, Arizona AD legal forms, how to choose a healthcare power of attorney, and step-by-step instructions to complete AD forms. Bilingual ACP educational materials were distributed, and all participants were expected to engage in ACP discussion. Arizona Medical Living Will forms were available to all participants, along with instructions on completing them. Participants

were encouraged to take the AD forms and all educational materials home to review if they needed more time to make decisions or wanted to discuss with their family members. The following two workshops covered the same content as the first workshop to benefit more senior members, families, and caregivers who were not available at the first workshop. The project director was available to answer questions about AD forms, and staff from the Arizona Healthcare Directives registry assisted with witnessing and registry in each workshop. Participants who completed pre-, post-survey, and AD forms on the workshop day received a $15 fingertip pulse oximeter compensation in appreciation of their time and work. Participants who could not complete their AD forms on the workshop day were expected to come back in the following workshop to complete a one-month follow-up survey and receive a $15 fingertip pulse oximeter. Completing AD documents was not required as this project was to make elderly people aware of their end-of-life care choices. In addition, necessary adjustments were made following the PDSA cycle to meet participants' needs and deliver meaningful ACP educational content and materials during the intervention period.

Outcomes Measurement

The outcomes of this project were the comparison of the total number of completed AD forms and the ACP engagement score before and after intervention. The ACP Engagement Survey is free for the public to use (see Appendix F). Researchers developed this survey based on social cognitive and behavior change theories that focus on four behavior change constructs: knowledge, contemplation, self-efficacy, and readiness (Sudore et al., 2017). There are multiple formats available, ranging from the original 82-item version to the shorter versions of 55, 34, 15, 9, and 4 items, all of which have demonstrated high Cronbach's alphas ranging from 0.84 to 0.97 (Sudore et al., 2017). Recent research has shown that shorter versions of the ACP engagement

survey are more efficient and effective for use in research and clinical settings (Shi et al., 2019). Considering that the sample of elderly participants in this project may have elements of hearing and vision loss, pain from arthritis, and language barriers, a shorter version of 9 items of the ACP Engagement Survey was used as it was deemed the most appropriate while still effectively measured the intended outcomes. A logical model was created to explain the intervention and outcomes (see Appendix G).

Data Collection

The project was deemed exempt from the Institutional Review Board (IRB) at Arizona State University in August 2024 (see Appendix H). Recruitment of participants occurred between August to November. Three monthly workshops were held between September and December 2024. The data collection also occurred during the educational workshop events from September to December. Paper surveys were provided as many elderly participants have difficulties with digital technology. Completed paper surveys were dropped off in a locked collection box. Electronic copies were stored on Intellectus Statistics ™ software and protected by secure systems with access controls. Personal identifiers were removed from the data, and each participant was assigned a randomized ID for tracking purposes without revealing their identity. Only the project director had access to the raw data, and de-identified data would be shared to disseminate the project findings. Data would be stored for a minimum of 5 years following the completion of the study to comply with ASU's research data retention policies. After the retention period, physical copies of data will be shredded, and digital data will be securely deleted using methods that ensure it cannot be recovered.

Data Analysis

Data analysis was performed in January and February 2025 by using Intellectus Statistics ™ software. Descriptive demographic data were calculated by using frequencies and percentages for age, gender, educational level, familiarity with ACP before attending the workshop, and feedback questions. Friedman test was used to compare the pre-, post-, and 1-month follow-up intervention differences in ACP engagement score. A chart audit was used to calculate the total number of completed ADs.

Ethical Considerations

Four ethical principles established the foundation of this project: autonomy, justice, beneficence, and non-maleficence (Varkey, 2021). First, autonomy is the participants' right to be informed (Varkey, 2021). The project provided detailed information to all participants to help them understand the purpose of the ACP educational workshop. All data and information collected from the workshop were stored securely to protect participants' privacy. Second, justice ensures equality among all groups (Varkey, 2021). The ACP workshop was accessible to all community members, including those with cultural needs and language barriers. Third, beneficence emphasizes the obligation to act for the benefit of all participants (Varkey, 2021). This project adhered to this principle by providing educational workshops and free resources on ACP. Lastly, non-maleficence assures no harm to all participants (Varkey, 2021). The project director adhered to this ethical principle by building a supportive environment and providing psychological support to help participants feel comfortable discussing their ACP preferences. The IRB at Arizona State University reviewed the project methodology to ensure that ethical principles were followed, and participants' human rights were protected.

Budget

This project had no funding, and the project director covered all the expenses, including the pens, folders, flyers, handouts, surveys, Arizona living will form prints, and participants' compensation. The total cost of this project was estimated at $1,965 (see Appendix I). The project director completed most of the hours to design and implement the project. The Arizona Healthcare Directives Registry staff supported the workshop witness and registry, and the local senior center provided classrooms, air conditioning, and technology support.

Results

A total of 82 elderly Chinese Americans participated in the educational workshop and completed the pre-survey and demographic questionnaire, while 80 completed the post-survey and workshop feedback survey immediately after the workshop. At the 1-month follow-up, 62 participants completed the ACP engagement survey and workshop feedback. Intellectus Statistics ™ software was used to store, manage, and analyze data.

Descriptive Findings

Descriptive statistics were calculated to determine the frequencies and percentages of the demographic data and workshop feedback survey responses (see Appendix J). The average age of the participants was 78.23 (SD = 6.92), ranging from 60 to 93 years (see Appendix J, Table J1). Most of the participants were female (n=45, 73%), while 27% (n=17) were male participants (see Appendix J, Table J2). Participants' most commonly spoken language at home was Chinese (n=45, 73%), followed by Cantonese (n=17, 27%). Most of the participants had less than a high school education (n=24, 39%), followed by those with a high school diploma (n=17, 27%), a bachelor's degree (n=14, 23%), and some college education (n=7, 11%). All participants had a history of chronic diseases. Before attending the workshop, most participants (n=53, 85%) were unfamiliar with ACP, while only 15% (n=9) of the participants heard or were somewhat familiar

with ACP. Most participants (*n*=46, 74%) reported that family members would be involved in their ACP process, while 24% (*n*=15) were uncertain, and 2% (*n*=1) of participants stated that family members would not be involved. In addition, 97% (*n*=60) of the participants did not complete ADs before the workshop.

In the post-workshop feedback survey, all participants 100% (*n*=62) reported gaining a basic understanding of ACP (see Appendix J, Table J3). Participants also expressed more confidence in creating their ADs, discussing healthcare wishes with family and healthcare providers, and understanding Arizona's legal and medical considerations. 97% (*n*=60) reported they were more likely to discuss ACP with their families or healthcare providers. The majority of the participants (*n*=60, 97%) were satisfied with the ACP workshop, and 100% (*n*=62) stated they would recommend it to others. 92% (*n*=57) planned to complete their ADs in the future. In addition, there were two open-ended questions at the end of the post-workshop feedback survey. Only two participants responded: one requested "a completed AD form template," and another expressed needing a "detailed explanation of AD forms." The project director created a completed AD form template and explained the AD form in detail from section to section in the following workshop to meet the elderly's demands.

In the 1-month follow-up workshop feedback survey, a total of 15 participants completed their ADs during the intervention period. Most of those who had not completed their ADs stated they needed more time or wanted to discuss the decision with their family members first**.** Despite this, 92% of participants still indicated plans to complete their ADs in the future**.**

AD Completion Rates

A chart audit was used to calculate the number of completed ADs. Five participants had already completed their ADs in the pre-survey. Immediately after the workshop, seven

participants completed their ADs, including three who updated their existing ADs. By the 1-month follow-up, the number of completed ADs increased to 16, with one participant updating ADs. Overall, 16 participants completed their ADs during the intervention period, and all registered their ADs at the Arizona Healthcare Directives Registry. While there was no immediate big change in AD completion rates following the workshop, a 220% increase in completed ADs was observed at the 1-month follow-up**,** highlighting the significant impact of the intervention.

ACP Engagement Score

The average ACP engagement score before the intervention was 11.77 (*SD* = 7.34, *Mdn* = 8.00), ranging from 8 to 37 (see Appendix K, Table K1). After the educational workshop, the average ACP engagement score increased to 19.73 (*SD* = 6.07, *Mdn* = 17.00), ranging from 14 to 40. At the 1-month follow-up, the average ACP engagement score improved to 24.44 (*SD* = 6.16, *Mdn* = 23), ranging from 17 to 40. A Friedman rank sum test was conducted to examine whether the medians of pre-, post-, and 1-month follow-up ACP engagement scores were equal. The results were statistically significant at an alpha value of .05, $\chi^2(2) = 102.48$, $p < .001$, indicating a meaningful increase in ACP engagement during the intervention implementation (see Appendix K, Table K2). A boxplot figure was created to visually compare the distribution of the ACP engagement scores across the three-time points (see Appendix L).

Clinical Significance

The findings of this project demonstrated a significant increase in AD completion rates and ACP engagement following the intervention. Based on the post-workshop feedback survey, all participants reported gaining a basic understanding of ACP. Additionally, 97% expressed a willingness to discuss ACP with their family members, and 92% planned to complete their ADs

in the future. These intentions remained consistent in the 1-month follow-up survey, where 92% still planned to complete their ADs. Compared to pre-intervention data, where 90% of participants were unfamiliar with ADs**,** these results highlight a clinically significant improvement in ACP awareness, engagement, and future completion.

Implication

Elderly Chinese Americans have gained knowledge of ACP and ADs after this QI project intervention. They reported being more likely to discuss end-of-life topics with their providers and make informed healthcare decisions. These improvements ensure that elderly Chinese Americans' future medical choices align with their preferences, likely reducing unwanted end-of-life treatments. Providers will likely have less stress when initiating end-of-life discussions and reduce ethical dilemmas in critical situations. The results also highlighted the need for culturally inclusive healthcare policies that provide language-specific and culturally tailored ACP resources to support elderly Chinese Americans better.

Sustainability

This QI ACP educational workshop provided valuable resources to support the elderly Chinese American community. All bilingual materials and handouts developed during the workshop remain accessible for volunteers and staff, ensuring the continuity of ACP education at the local senior center. The bilingual Arizona Medical Living Will forms are also available for elderly members who are in need. The leadership of the senior center recognized that continuing ACP education and engagement aligns with their mission to promote the well-being of elderly Chinese American communities. One-on-one ACP consultations will also be available by appointment with the caseworker, ensuring all senior members have the guidance and resources to complete their ADs. In addition, the caseworker can coordinate with the Arizona Healthcare

Directives Registry senior program manager to arrange on-site witnessing and registration for groups of five or more individuals who have completed their ADs.

Discussion

Summary

This project aimed to evaluate the impact of educational workshops on AD completion rates among elderly Chinese Americans. The results were statistically and clinically significant, demonstrating that culturally tailored workshops successfully improved this population's ACP engagement and AD completion rates. By providing bilingual resources, the workshops helped elderly Chinese Americans overcome cultural barriers, open their mind to ACP discussion, and engage in meaningful conversations with family, friends, and healthcare providers. The developed bilingual educational materials are sustainable and could be easily adapted in other community settings. Although many participants still did not have AD in place after the intervention, it is reasonable as ACP is a gradual process that takes time to think thoroughly before making informed decisions.

Limitations

Several limitations were identified during the conduction of this QI project. First, the short timeline may have impacted AD completion rates. Most elderly people need more time and prefer conversations with their family before making such important decisions. This project may have had higher AD completion rates if there had been more and longer follow-up sessions, such as a 3-month or 6-month follow-up. Second, there was missing data in the 1-month follow-up survey, with 13 participants not responding. Many seniors could not attend in-person follow-up sessions due to transportation difficulties or chronic health conditions, contributing to the incomplete data. Third, limited family involvement may have affected AD completion rates.

Elderly Chinese Americans often prefer to include their family members in healthcare decisions, but many adult children cannot attend due to busy work schedules. Family members' participation during workshops could potentially improve engagement and decision-making. Fourth, there were limited questions on the 9-item ACP Engagement Survey. Due to time constraints and multiple chronic health conditions, many elderly participants could not complete an 82-item survey, limiting the depth of data collection. Lastly, the questions in the demographic and the workshop feedback questionaries were developed by the project director and had not undergone validity or reliability testing, which may limit the credibility and generalizability of the findings.

Relate To Other Literature

The findings of this project align with existing literature, highlighting the effectiveness of culturally tailored ACP educational workshops in improving ACP engagement and AD completion rates among older adults in community settings. Prior studies have shown that educational interventions significantly enhance ACP engagement and AD completion rates among Chinese Americans (Hinderer & Lee, 2019). Similar to findings from this project, previous research suggests that family involvement plays a crucial role in ACP decision-making, particularly among Asian American populations, where collectivist cultural values often influence healthcare decisions (Wang et al., 2019). In addition, studies indicate that language-specific educational materials and bilingual facilitators can effectively overcome language barriers, leading to improved ACP participation (Sudore et al., 2018). These findings reinforce the importance of sustaining a culturally sensitive ACP engagement approach in community settings to promote high-quality end-of-life care.

Recommendations

This project highlights the critical role of culturally sensitive interventions in promoting proactive ACP among minority populations. Further research should evaluate the long-term effects of the educational workshop on healthcare costs, end-of-life quality, and the emotional and financial burden on family members. In addition, further studies can adapt and implement culturally tailored educational ACP workshops to other diverse communities while systematically evaluating their sustained impact on patient outcomes, quality of life, and healthcare systems.

Conclusion

Engaging elderly Chinese Americans in ACP discussions and AD completion presents significant challenges due to numerous barriers involving patients, providers, and the healthcare system. However, this culturally tailored educational workshop improved the community's ACP engagement and AD completion rates. The workshop empowered participants to make informed healthcare decisions by addressing cultural and language barriers and fostering a comfortable environment in end-of-life planning discussions. These efforts ensure that elderly Chinese Americans receive high-quality, patient-centered end-of-life care that aligns with their values and preferences.

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Appendix A

Evaluation and Synthesis Tables

Table A1

Evaluation Table for Quantitative Studies

Citation	Theoretical/ Conceptual Framework	Design/ Method/ Purpose	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Results/ Findings	Level of Evidence; Application to practice; Generalization
Jia et al., (2020), Toward culturally tailored advance care planning for the Chinese diaspora: An integrative systematic review **Country:** U.S. **Funding:** None **Bias:** None listed	Inferred not stated: Grounded theory	**Design:** System review **Purpose:** To review and synthesize current literature to develop a culturally tailored ACP framework for the Chinese diaspora.	N= 30 Self-identified Chinese at least 18 years old regardless of their country of birth All English, peer-reviewed quantitative, qualitative, and mixed-method literature studies of ACP in Chinese adults **Exclusion:** Not examine race or ethnicity as a variable	**IV1:** ACP discussion **DV1:** ACP barriers **DV2:** ACP process preference **DV3:** ACP outcomes	Mixed Methods Appraisal Tool	Data reduction in Microsoft Excel Qualitative data analysis Comparison and integration	**DV1:** Factors affect ACP include beliefs, attitudes, demographics, acculturation, social norms and pressure, spiritual, religions, and health status **DV2:** Chinese diaspora prefer indirect approach with language services **DV3:** ACP outcomes including legal documentation,	**LOE:** I **Strengths**: First system review from six countries across four continents to provide ACP studies among Chinese diaspora **Weakness:** Overestimate the number of themes evaluated across methodologies; findings may be limited by the English language and geographic restrictions of the included studies; lack study among

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Citation	Theoretical/ Conceptual Framework	Design/ Method/ Purpose	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Results/ Findings	Level of Evidence; Application to practice; Generalization
			Setting: Inpatient, outpatient, and community **Attrition:** None				surrogate decision making, and goal concordance care	patients with serious illness **Application:** A novel framework to guide culturally tailored ACP for Chinese diaspora
Oh et al., (2022), The association of Chinese ethnicity and language preference with advance directive completion among older patients in an integrated health system **Country:** U.S.	"Respecting Choices" model for ACP	**Design:** Retrospective cohort analysis with direct standardization **Purpose:** To understand the association of ethnicity and language preference with AD completion among Chinese Americans	N= 31,498 Chinese N= 502,991 non-Hispanic White members **Sample:** 55 years or older Chinese Americans and non-Hispanic White **Exclusion:** Less than five consecutive years in Kaiser Permanente Northern California; having an AD but not updated for a full decade; patients	**IV1:** Age and utilization of Kaiser Permanente Northern California (including outpatient visit, emergency department visit, same-day surgery, and hospitalization) **DV1:** Ethnicity (Chinese or non-Hispanic White) **DV2:** Language preference: Preferring English;	AD completion in EHR	Frequency, Percentage, Welch-Satterthwaite *t* test *p* value	**DV1:** 20.6% of AD completion among non-Hispanic Whites and 10% for Chinese patients **DV2:** 5.1% if preferring a language other than English and requiring an interpreter, 6.1% if preferring a language other than English but not requiring an	**LOE:** III **Strengths**: Large sample size **Weakness:** Possible errors in ethnicity or linguistic preferences due to patient self-reported data; Some factors (marital status, religious, self-reported health, acculturation level, being employed, intergenerational support, having U.S. citizenship) associated with AD completion

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Citation	Theoretical/ Conceptual Framework	Design/ Method/ Purpose	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Results/ Findings	Level of Evidence; Application to practice; Generalization
Funding: Kaiser Permanente Northern California Graduate Medical Education, Kaiser Foundation Hospitals, Community Health **Bias:** None listed			with sex identity other than male or female; preferred sign language; having more than one reported ethnicity; non-Hispanic Whites not prefer English **Setting:** Kaiser Permanente Northern California	preferring another language (Mandarin, Cantonese, or other) but not needing an interpreter; preferring another language and needing an interpreter			interpreter, and 13.3% if preferring English.	could not be controlled **Feasibility:** Cultural tailed interventions and language services may help improve AD completion rates in Chinese Americans
Ye et al., (2021), Advance care planning among Chinese Americans through a web-based culturally tailored	Transcultural assessment model	**Design:** Pretest and posttest repeated-measures design **Purpose:** To explore and promote ACP engagement among Chinese Americans through a web-	N= 96 **Sample Demographics:** Self-identified as Chinese Americans, at least 18 years old, able to read and understand Chinese and/or English, live in the metro area	**IV1:** Web-based culturally tailored ACP education program **DV1:** Knowledge toward ACP **DV2:** Attitudes toward ACP	Bilingual (Chinese and English) demographic instrument Bilingual Advance Directive Knowledge Survey (2015)	Descriptive statistics (means, standard deviation) Paired samples *t* test, independent *t* test Cronbach *α*	**DV1:** Knowledge toward ACP improved significantly after attending a web-based culturally tailored ACP educational program	**LOE:** IV **Strengths**: Pretest-posttest enhances internal validity, innovative intervention **Weakness:** Majority of participants were younger than 65 years, had

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Citation	Theoretical/ Conceptual Framework	Design/ Method/ Purpose	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Results/ Findings	Level of Evidence; Application to practice; Generalization
education program **Country:** U.S. **Funding:** Sigma Theta Tau: Epsilon Theta Chapter Research Grant **Bias:** None listed		based culturally tailored ACP education program	of Central Texas. **Setting:** Website wix.com **Exclusion:** No access to internet or electronic devices or had hearing, vision, or cognitive impairment **Attrition:** None	**ACP education program:** 30 minutes culturally tailored ACP education video	Bilingual Advance Directive Attitude Scale (1997)	Correlations	**DV2:** Attitudes toward ACP improved significantly after attending a web-based culturally tailored ACP educational program	college or graduate school level education, web-based video does not allow in-person interactions, requires internet access difficulty for elderly people **Feasibility:** Recommend promoting ACP completion
Zhou et al., (2023), Lessons learned from a social worker's approach to advance care planning discussions with	Inferred not stated: Health belief model	**Design:** Retrospective study **Purpose:** To examine Chinese-immigrant cancer patients' openness to ACP in an outpatient oncology setting	N= 150 Chinese-immigrant patients at Mount Sinai Chelsea Medical Center All patients are Mandarin or Cantonese speaking	**IV1:** Social worker assessment and intervention **DV1:** Chinese immigrant patients' awareness of HCP **DV2:** Chinese immigrant patients'	Biopsychosocial-spiritual assessment in both Mandarin and Cantonese Culturally tailored psychoeducation on HCP and ACP in both Mandarin and Cantonese	Percentage, Logistic regression Student *t*-test Fisher's exact test *p* value	**DV1:** 16% had HCP prior to receiving oncology care; of all the patients have not had an HCP, 89% reported they are not familiar with the concept and 11% attributed	**LOE:** III **Strengths**: Social work intervention on oncology Chinese American patients **Weakness:** Small sample; all ACP conversations were conducted

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Citation	Theoretical/ Conceptual Framework	Design/ Method/ Purpose	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Results/ Findings	Level of Evidence; Application to practice; Generalization
Chinese-immigrant oncology outpatients **Country:** U.S. **Funding:** None **Bias:** None listed			Mean age: 60 79% female, 63% married, 34% cancer stage1 or less; 33% breast cancer **Setting:** Mount Sinai Chelsea Medical Center **Attrition:** None	openness of HCP and ACP			to other reasons like bad sign feeling and lack of trusted people to appoint **DV2:** 24% who had never had HCP opted to complete ACP after education, 75% reported they remained open to ongoing ACP discussion	by one bilingual social worker; Other factors not examined including: attitude toward death, religion, trust toward the healthcare system **Application:** Cultural tailed interventions can help improve ACP completion rates in Chinese Americans

Table A2

Evaluation Table for Qualitative Studies

Citation	Theory/ Conceptual Framework	Design/ Method/ Sampling	Sample/ Setting	Major Themes Studied/ Definitions	Measurement/ Instrumentation	Data Analysis	Findings/ Themes	Level/ Quality of Evidence; Decision for/ Application to practice; Generalization
Dhingra et al., (2020). Attitudes and beliefs toward advance care planning among underserved Chinese American immigrants **Country:** U.S. **Funding:** New York Community Trust **Bias:** None	Inferred, not stated: Health belief Model	**Design:** Prospective study **Purpose:** To describe attitudes and beliefs concerning ACP in older, non-English-speaking Chinese Americans in a medically underserved urban region	N=179 Self-identified as Chinese Americans older than 55 years, born outside of the U.S. Mean age: 68.2 Female 55.9% 81% non-English speaking, 85% annual income less than $20,000; 37.5% endorsed Chinese God Worship or Buddhism **Exclusion:** severe psychopathology or cognitive impairment that prevent informed	1. ACP Attitudes in older, non-English-speaking Chinese Americans 2. ACP beliefs in older, non-English-speaking Chinese Americans	Chinese version of the Medical Outcomes Short Form-8 Health Survey The Suinn-Lew Asian Self Identity Acculturation Scale The Traditional Chinese Death Beliefs measure ACP survey tool (English and Chinese) Bilingual AD attitude scale	Descriptive statistics (means, percentage, SD) *p* value Chi-square or Fisher's exact test *t* test	1. 15.1% of participants had an AD and 56.8% were unfamiliar with any type; 74.4% were willing to complete one in the future. 2. 32% believed that talking about death in the presence of a dying person could accelerate death. No other culturally determined belief was endorsed by more than 20% of the participants.	**LOE**: IV **Strengths:** Focus on medical underserved region **Weakness:** Small number of participants; Limit finding with chronically ill population; not examine the factors like: years of U.S. residency and family-centered decision-making **Application:** Better understand the ACP process

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Citation	Theory/ Conceptual Framework	Design/ Method/ Sampling	Sample/ Setting	Major Themes Studied/ Definitions	Measurement/ Instrumentation	Data Analysis	Findings/ Themes	Level/ Quality of Evidence; Decision for/ Application to practice; Generalization
			consent or survey **Setting:** Community-based primary care practice in New York City **Attrition:** None					among Chinese Americans
Hinderer et al., (2019). Chinese Americans' attitudes toward advance directives: An assessment of outcomes based on a nursing-led interventio n **Country:** U.S. **Funding:**	Inferred, not stated: Transtheoretic al model	**Design:** Non-experimental design **Method:** Pre-posttest, repeated measures **Purpose:** To estimate the impact of a culturally tailored intervention on the relationship between attitudes toward ADs and AD completion and ACP discussions.	N=72 Chinese Americans in Washington, DC. metro **Mean age**: 61.1 Female 63.9%, participants completed college or graduate school 62.5% 34.7% reported having a history of a chronic illness. **Setting:**	1.AD attitudes before, immediately after, and one-month follow-up after attending a nurse-led educational workshop on ACP 2.To understand relationship between AD attitudes and ACP discussions and completion **Definitions:** Culture	Bilingual (Chinese and English) background survey/demograp hic instrument Bilingual AD questionnaire Bilingual AD attitude scale	Descriptiv e statistics (means, frequencie s) Repeated Measures Analysis of Variance Correlatio ns	1.AD attitudes improved after participating in the educational workshop and remained consistent at one-month follow-up. 2.A significant positive relationship between AD attitudes and ACP discussions and completion	**LOE**: IV **Strengths:** Nursing-driven culturally tailored in-person education workshop **Weakness:** Sample from a single site, high proportion of college graduates **Application:** Culturally tailored interventions

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Citation	Theory/ Conceptual Framework	Design/ Method/ Sampling	Sample/ Setting	Major Themes Studied/ Definitions	Measurement/ Instrumentation	Data Analysis	Findings/ Themes	Level/ Quality of Evidence; Decision for/ Application to practice; Generalization
Sigma Theta Tau, Pi Chapter Research Grant **Bias:** Social desirability			Chinese Community Center **Attrition:** None	Attitudes				improve engagement in the ACP process
Jia et al., (2021), Heart to Heart Cards: A novel, culturally tailored, community-based advance care planning tool for Chinese Americans **Country:** U.S.	Cultural appropriateness theory	**Design:** Community-based participatory research **Purpose:** Develop a culturally tailored ACP tool to understand the EOL preferences of Chinese Americans	N=2,267 Self-identify as Chinese Americans over 18 years old Female (61.6%) 18-50 years old (56.7%) Born in Asia (74.3%) Living in US more than 10 years (69.0%), resided in California	Design, implement, and evaluate the community-based Heart to Heart Café program	Cultural appropriateness theory based ACP tool: Heart to Heart Cards Heart to Heart Café facilitator training process and implementation manual Participant evaluation form	Descriptive statistics: Percent	99.5% of participants think the Heart to Heart Café experience was pleasant; 99.7% were able to express themselves and talk about death, and 97.6% would recommend to family and friends;86.5% would complete AD and 96.8% would	**LOE**: IV **Strengths:** A novel, theory-driven, culturally tailored ACP tool; Promote in-person EOL discussion **Weakness:** Unable to conduct qualitative analysis of the primary data; Missing data on participant evaluation survey limit

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Citation	Theory/ Conceptual Framework	Design/ Method/ Sampling	Sample/ Setting	Major Themes Studied/ Definitions	Measurement/ Instrumentation	Data Analysis	Findings/ Themes	Level/ Quality of Evidence; Decision for/ Application to practice; Generalization
Funding: None **Bias:** None listed			(80.2%) and rated their health as "fair" or "good" (74.4%) **Setting:** Chinese Community Center **Attrition:** 10.9%				encourage family members to complete AD	final findings; Lack of program evaluation **Application:** Heart to Heart Cards and Café have potential to improve ACP engagement among Chinese Americans
Jia et al., (2022). Barriers and facilitators to advance care planning among Chinese patients with advanced cancer and their caregivers	Inferred, not stated: Socioecological theory	**Design:** Exploratory qualitative study **Purpose:** To explore barriers and facilitators to ACP among Chinese patients with advanced cancer and their caregivers	N=28 (20 patients and 8 caregivers) Patients were middle aged, 65% female, 85% partnered/married, 85% college educated. 90% immigrants, median U.S. residency of 17.5 years, most common cancer was	1. Patient trust clinicians to guide ACP conversations 2. Preconceived clinician and family roles 3. Preference for in-the-moment care planning 4. Acculturating to local norms	The Suinn-Lew Asian Self Identity Acculturation Scale	Descriptive statistics (means, percentage, *SD*) Six-step thematic analysis	1. Most participants trust their clinicians and preferred ACP conservations leading by their clinicians 2. Patient and caregivers value clinicians' fairness, and prefer ACP discussions with families	**LOE**: IV **Strengths:** First rigorous qualitative study to seriously ill Chinese American patients' and caregivers' preferences toward ACP **Weakness:** Small sample and young age;

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Country: U.S. **Funding:** Fairbank Center for Chinese studies **Bias:** None listed			‘‘gastrointestinal,’’ ‘‘lung,’’ and ‘‘breast.’’ Caregivers were middle aged, 50% female, 87.5% partnered/married, 100% college educated, 87.5% immigrants, U.S. residency of 13.5 years **Exclusion:** Adults unable to consent; Infants, children, teenagers, Pregnant women Prisoners **Setting:** Dana-Farber Cancer Institute **Attrition:** None				3. Participants believe unpredictable future but have limited exposure and misconceptions about palliative care 4. Participants lack community support	restrict dialect spoke in participants; interview may limit views within families **Application:** Provide ACP views among seriously ill Chinese Americans
Nouri et al., (2023), “At the end I	Behavior Change	**Design:** Community-	N=195(test ACP tools)	1.Assess ACP facilitators/barriers in the San	Semi-structured interview	Thematic analysis	1.Chinese community-	**LOE**: IV

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Citation	Theory/ Conceptual Framework	Design/ Method/ Sampling	Sample/ Setting	Major Themes Studied/ Definitions	Measurement/ Instrumentation	Data Analysis	Findings/ Themes	Level/ Quality of Evidence; Decision for/ Application to practice; Generalization
have a say": Engaging the Chinese community in advance care planning **Country:** U.S. **Funding:** National Institute on Aging, UCSF Genentech Mid-Career Development Award, Stupski Foundation **Bias:** Selection bias due to using traditional Chinese	Wheel Framework Capability, Opportunity, Motivation, and Behavior (COM-B) theory	based participatory research **Purpose:** Assess ACP facilitators/barriers in the San Francisco Chinese community and codesign, implement, and test community-based ACP-promoting pilot events	Mean age: 62 95% Chinese/ Chinese American 90% spoke Chinese language 80% female **Setting:** Chinese Community in San Francisco **Attrition:** 20%	Francisco Chinese community 2.Implement and test community-based ACP promoting intergenerational group events	Pre and Post event ACP Engagement Survey Event facilitators post-event survey	Content analysis on open-ended questions Wilcoxon signed rank tests Descriptive statistics: Mean, *SD* *p* value	specific ACP barriers (e.g., younger generations lack tools to discuss ACP with elders and vice versa), and facilitators (e.g., intergenerational events, culturally, linguistically appropriate materials) 2.ACP readiness increased significantly; 94% of participants were comfortable attending and 96% would recommend events.	**Strengths:** A novel, culturally, linguistically, and literacy appropriate ACP tool **Weakness:** Using of traditional Chinese may limit the implementation of ACP tool; didn't assess participants' health status due to survey burden on elderly people **Application:** Intergenerational approach events are successfully increasing ACP engagement among Chinese Americans

Key**: AD** Advanced Directives, **ACP** Advance Care Planning, **DV** Dependent Variable, **EHR** Electronic Health Records, **IV** Independent Variable, **LOE** Level of Evidence, **HCP** Health Care Proxy

Citation	Theory/ Conceptual Framework	Design/ Method/ Sampling	Sample/ Setting	Major Themes Studied/ Definitions	Measurement/ Instrumentation	Data Analysis	Findings/ Themes	Level/ Quality of Evidence; Decision for/ Application to practice; Generalization
Wang et al., (2021). Advance directive completion and its associated factors among older Chinese Americans **Country:** U.S. **Funding:** None listed **Bias:** Missing data	Andersen's behavioral model of health service use	**Design:** Cross-sectional study **Purpose:** To examine the factors of AD completion among older Chinese Americans.	N=435 Chinese Americans aged 55 years and older living in the metro area of Arizona and Maryland Mean age: 75.3， 63% Female， 84.1% not employed, 75.3% living with someone, 55.1% participants have high school or higher education, 56.8% has U.S. citizenship **Setting:** Chinese Community Center **Attrition:** 2%	Examine the factors of AD completion among older Chinese Americans.	Simplified Chinese version or traditional Chinese version or English-language questionnaire packet Gupta and Yick's 10-item 5-point acculturation scale Duke University Religion Index Popular Support for Filial and Parental Obligations Scale Olson's Family Cohesion Scale Brief Resilient Coping Scale	Descriptive statistics (means, percentage, *SD*) Logistic regression Little MCAR test *p* value	Age was significantly associated with a 7% increase of AD completion. with 1 additional unit of acculturation, the AD completion at least doubled. intergenerational support was significantly associated with 52% increase in AD completion; AD completion among those with US citizenship were about 3 times as their noncitizen counterparts	**LOE**: IV **Strengths:** Bilingual questionnaire use **Weakness:** Convenience sampling method limit findings; self-reported data may have bias; other potential factors like knowledge of AD, health literacy not examined **Application:** Using culturally tailored interventions engage ACP in Chinese Americans

Key**: AD** Advanced Directives, **ACP** Advance Care Planning, **DV** Dependent Variable, **EHR** Electronic Health Records, **IV** Independent Variable, **LOE** Level of Evidence, **HCP** Health Care Proxy

Table A3

Synthesis Table

Study (Author, year)	Dhingra et al., 2020	Hinderer et al., 2019	Jia et al., 2020	Jia et al., 2021	Jia et al., 2022	Nouri et al., 2023	Oh et al., 2022	Wang et al., 2021	Ye et al., 2021	Zhou et al., 2023
Design	Qualitative	Qualitative	SR	Qualitative	Qualitative	Qualitative	Quantitative	Qualitative	Quantitative	Quantitative
LOE	IV	IV	I	IV	IV	IV	III	IV	IV	III
Theory/Framework	Health belief model	Transtheoretical model	Grounded theory	Cultural appropriateness theory	Socioecological theory	COMB theory	Respecting choices model	Behavioral model of health service use	Transcultural assessment model	Health belief model
Attrition	None	None	None	10.9%	None	20%	None	2%	None	None
Setting	Community	Community	All	Community	Cancer Institute	Community	Outpatient	Community	Community	Outpatient
Sample Demographics										
Mean Age	68.2	61.1	⩾18 years	⩾18 years	55.6	62	69.1	75.3	52.34	60
Sample size	179	72	30 studies	2,267	28	34	534,489	435	96	150
Health Status	NR	34.7%	NR	NR	100%	NR	NR	NR	NR	100%
Independent Variable										
Web-based ACP Ed									X	
ACP workshop		X								
Social worker Ed										X
Culturally ACP tool		X	X	X		X				
HH café program				X						
IG support			X			X		X		
Acculturation	X		X		X			X		
English language							X			
Dependent Variable										
ACP knowledge	X			X	X				X	X
ACP attitude	X	X		X		X			X	X

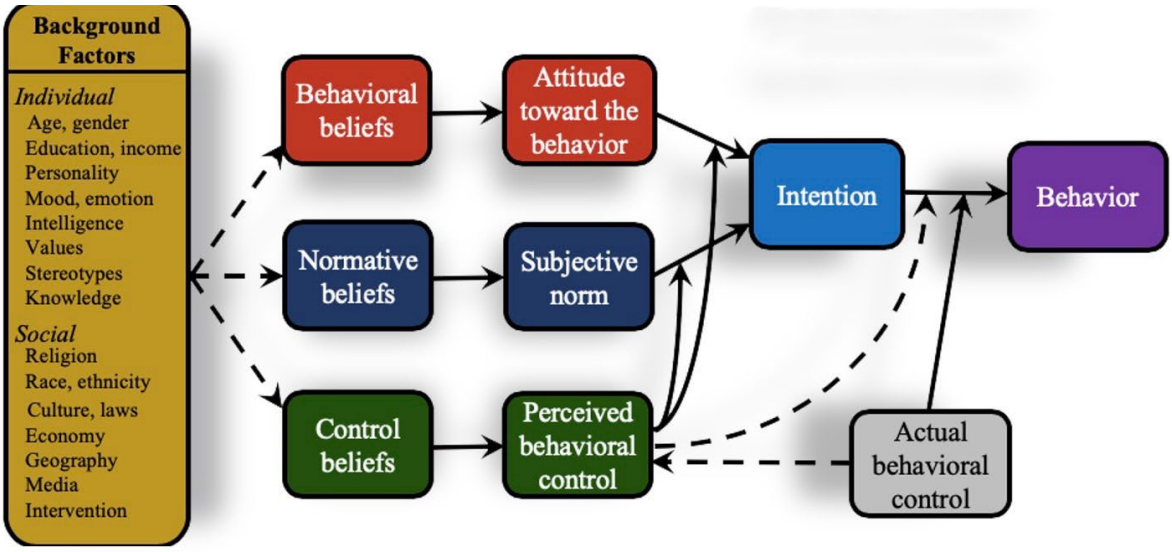
Key**: ACP** Advance Care Planning, **AD** Advanced Directives, **COMB** Capability, opportunity, motivation, and behavior theory**, Docu** documentation, **Ed** Education**, LOE** Level of Evidence, **NR** Not Required, **IG** Intergenerational, **HH** heart to Heart, **SR** System review

Study (Author, year)	Dhingra et al., 2020	Hinderer et al., 2019	Jia et al., 2020	Jia et al., 2021	Jia et al., 2022	Nouri et al., 2023	Oh et al., 2022	Wang et al., 2021	Ye et al., 2021	Zhou et al., 2023
ACP barriers			X		X	X		X		
ACP preference			X		X		X			
Outcomes/ Themes										
ACP discussion	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆	⬆
ACP/AD docu		⬆	⬆	⬆	⬆		⬆	⬆		⬆

Key**: ACP** Advance Care Planning, **AD** Advanced Directives, **COMB** Capability, opportunity, motivation, and behavior theory**, Docu** documentation, **Ed** Education**, LOE** Level of Evidence, **NR** Not Required, **IG** Intergenerational, **HH** heart to Heart, **SR** System review

Appendix B

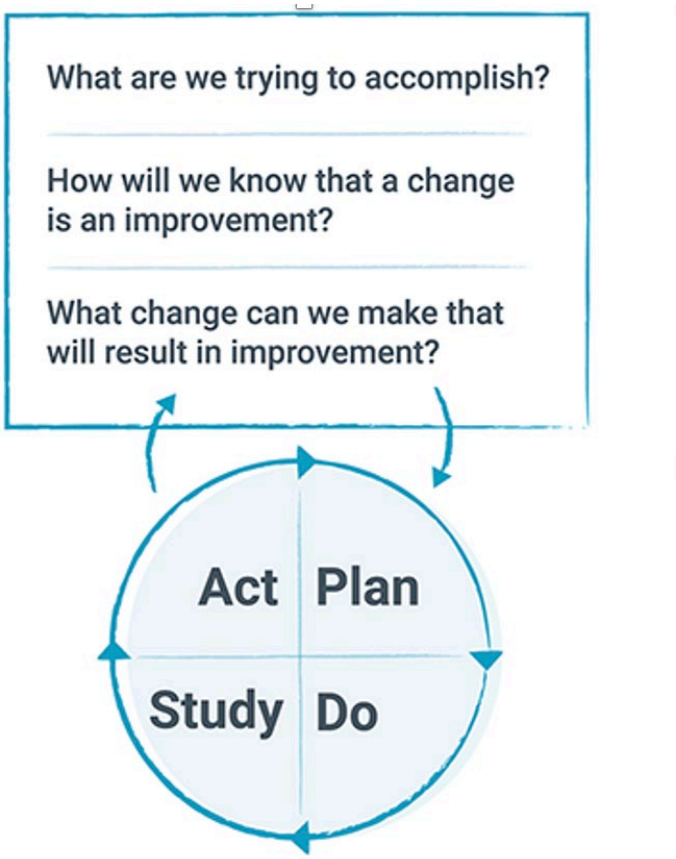
Theory of Planned Behavior with Background Factors



Note. This figure illustrates how attitudes, subjective norms, and perceived behavioral control influence an individual's intention to engage in advance care planning, ultimately impacting their behavior to complete advance directives. From "Theory of Planned Behavior with background factors," by I. Ajzen, 2019, (https://people.umass.edu/aizen/tpb.background.html). Copyright 2019 by Icek Ajzen. In the public domain.

Appendix C

PDSA Model for Improvement



Note. This figure illustrates how plan, do, study, act cycle improves the advance care planning educational workshops. From "Model for Improvement," by G.L. Langley, R. Moen, K.M. Nolan, T.W. Nolan, C.L. Norman, L.P. Provost, 2009, *The Improvement Guide: A Practical Approach to Enhancing Organizational Performance (2nd edition). San Francisco: Jossey-Bass Publishers*. Copyright 2009 by Jossey-Bass (Wiley). Reprinted with permission.

Appendix D

Advance Care Planning Engagement Survey

1. How confident are you that today you could ask someone to be your medical decision maker?

Not at all	A little	Somewhat	Fairly	Extremely
1	2	3	4	5

2. How ready are you to formally ask someone to be your medical decision maker?
    - I have never thought about it
    - I have thought about it, but I am not ready to do it
    - I am thinking about doing it in the next 6 months
    - I am definitely planning to do it in the next 30 days
    - I have already done it
    - If you already done it, when did you do this? Write your answer ___
3. How ready are you to talk with your MEDICAL PROVIDERS about who you want your medical decision maker to be?
    - I have never thought about it
    - I have thought about it, but I am not ready to do it
    - I am thinking about doing it in the next few visits
    - I am definitely planning to do it at the next visit
    - I have already done it
    - If you already done it, when did you do this? Write your answer ___
4. How ready are you to SIGN OFFICAL PAPERS naming a person or group of people to make medical decisions for you?
    - I have never thought about it
    - I have thought about it, but I am not ready to do it
    - I am thinking about doing it in the next 6 months
    - I am definitely planning to do it in the next 30 days
    - I have already done it
    - If you already done it, when did you do this? Write your answer ___
5. Talk with your medical decision maker about the care you would want if you were very sick or near the end of life?

Not at all	A little	Somewhat	Fairly	Extremely
1	2	3	4	5

6. Talk with your medical providers about the care you would want if you were very sick or near the end of life?

Not at all	A little	Somewhat	Fairly	Extremely
1	2	3	4	5

7. How ready are you to talk to your MEDICAL DECISION MAKER about the kind of medical care you would want if you were very sick or near the end of life?

- I have never thought about it
- I have thought about it, but I am not ready to do it
- I am thinking about doing it in the next few visits
- I am definitely planning to do it at the next visit
- I have already done it
- If you already done it, when did you do this? Write your answer ___

8. How ready are you to talk to your MEDICAL PROVIDERS about the kind of medical care you would want if you were very sick or near the end of life?
    - I have never thought about it
    - I have thought about it, but I am not ready to do it
    - I am thinking about doing it in the next few visits
    - I am definitely planning to do it at the next visit
    - I have already done it
    - If you already done it, when did you do this? Write your answer ___
9. How ready are you to SIGN OFFICAL PAPERS putting your wishes about the kind of medical care you would want if you were very sick or near the end of life?
    - I have never thought about it
    - I have thought about it, but I am not ready to do it
    - I am thinking about doing it in the next few visits
    - I am definitely planning to do it at the next visit
    - I have already done it
    - If you already done it, when did you do this? Write your answer ___

Appendix E

Participant Questionnaires

Your participation in this survey is voluntary and your response will be anonymous.

Directions: Please circle your answer to the following questions:

1. What is your Age:

<65	65-69	70-79	80-89	>89

2. Gender:

Male	Female	Other	Prefer not to say

3. Primary language spoken at home:

Cantonese	Mandarin	English	Other

4. Education level:

Less than high school	High school	College	Bachelor	Graduate or above

5. History of chronic disease:

Yes	No	Not Sure

6. How familiar are you with advance care planning (ACP) before attending this workshop?

Very familiar	Somewhat familiar	Not familiar

7. Do you currently have an advance directive or living will in place?

Yes	No	Not Sure

9. Family Involvement in Care Decisions:

Yes	No	Not Sure

Workshop Feedback Questions

Directions: Please ***circle/fill*** in the blank your answer to the following questions:

1. How would you rate your understanding of advance care planning after attending the workshop?
    - Excellent
    - Very good
    - Good
    - Fair
    - Poor
2. What aspects of advance care planning are you more confident about? (Select all that apply)
    - Understanding medical decision-maker
    - Creating my advance directive
    - Discussing my wishes with family and healthcare providers
    - Understanding legal and medical considerations
    - Knowing where to find more information and resources
3. After attending this workshop, do you plan to complete or update your advance directive ?
    - Yes, within the next month
    - Yes, within the next two months
    - Yes, but not sure when
    - No
    - Already have an advance directive
4. How likely are you to discuss your advance care planning wishes with your family or healthcare provider after this workshop?
    - Very likely
    - Likely
    - Neutral
    - Unlikely
    - Very unlikely
5. Overall, how satisfied are you with the Advance Care Planning Educational Workshop?
    - Very satisfied
    - Satisfied
    - Neutral
    - Dissatisfied
    - Very dissatisfied
6. Would you recommend this workshop to others?
    - Definitely
    - Probably

- Not sure
- Probably not
- Definitely not

7. How could the workshop be improved for future participants?

_____

8. Any additional comments or suggestions?

_____

Workshop 1 Month Follow-up Questions

Directions: Please ***circle/fill*** in the blank your answer to the following questions:

1. Have you completed your advance directives form since the last workshop?

Yes	No

2. If **Yes**, who assisted you?

Family member	Friend	Healthcare Professional	Other:_____(please specify)

3. If **No,** what are the reasons for not completing the advance directive forms?

Forgot	Need more time	Need to talk with family members	Other: :____(please specify)

4. Do you plan to complete the advance directives form in the future?

Yes	No	Not Sure

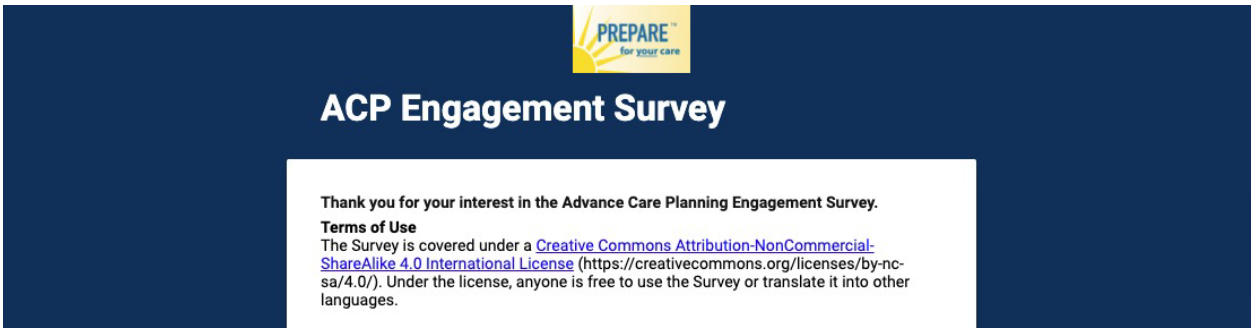
5. Do you need additional help with completing the advance directives form?

   Please specify:_____

Thank you for your participation and time!

Appendix F

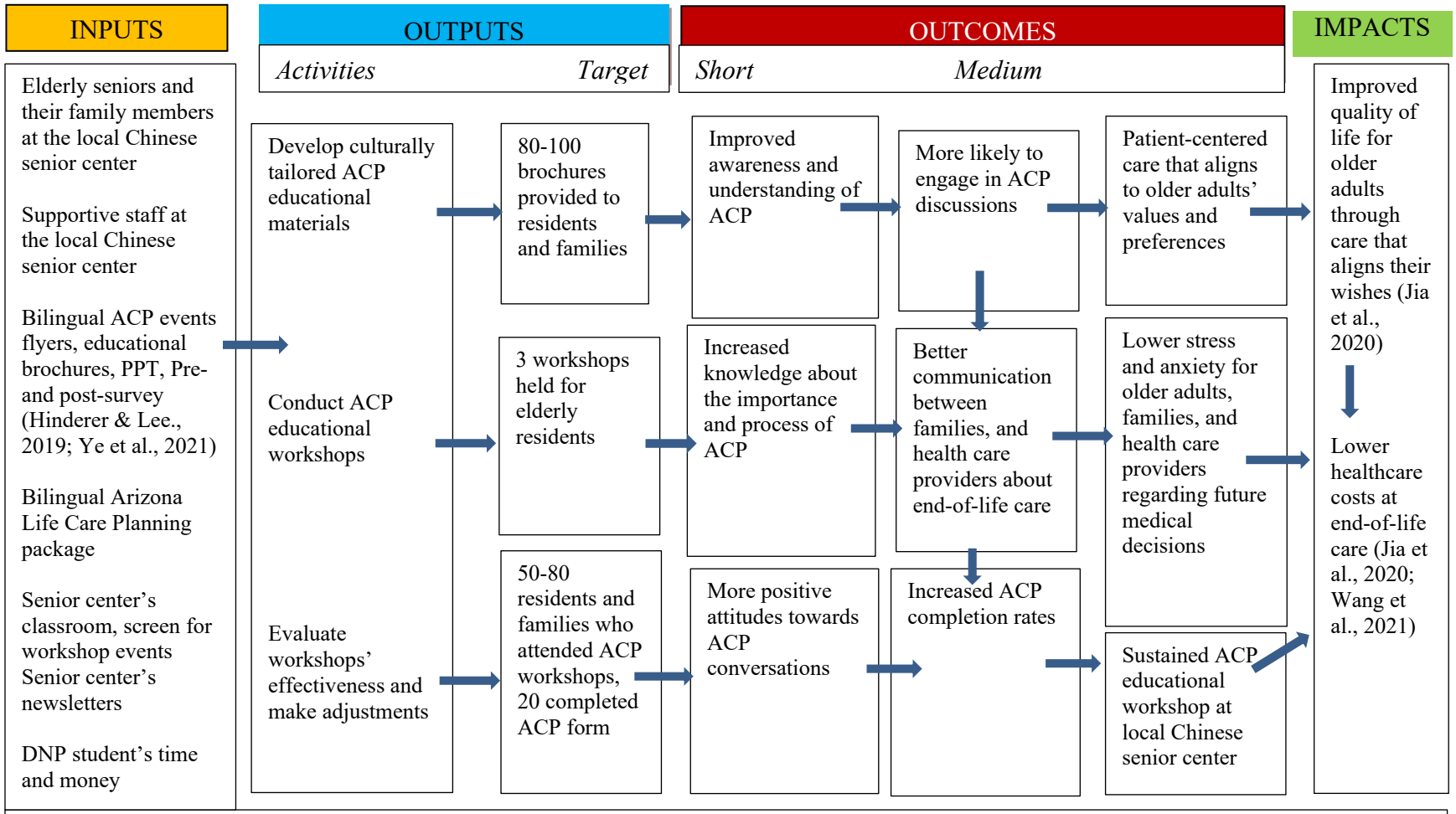
Permission to Use ACP Engagement Survey



Appendix G

Logic Model

Goals: The goal of this project is to improve advance care planning (ACP) engagement and completion rates at a local Chinese American senior center.



Assumptions: The elderly residents and their families will learn ACP knowledge and change their attitudes after ACP workshops. By using bilingual ACP brochures, the elderly residents and their families will be able to complete the Arizona life care planning package. The ACP educational materials will be sustainable at the local Chinese senior center, more elderly residents and families will complete their ADs in the future.

Appendix H

ASU IRB Approve Letter

EXEMPTION GRANTED

Tammy Tyree
EDSON: DNP
-
Tammy.Tyree@asu.edu

Dear Tammy Tyree:

On 8/8/2024 the ASU IRB reviewed the following protocol:

Type of Review:	Modification / Update
Title:	Advance Care Planning Engagement Among Elderly Chinese Americans: Implementation of Educational Workshop
Investigator:	Tammy Tyree
IRB ID:	STUDY00020510
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	• ACP Engagement 1 Month Follow-up Survey Chinese Version, Category: Resource list; • ACP Engagement Post-survey Chinese Version, Category: Resource list; • ACP Engagement Pre-survey Chinese Version, Category: Resource list; • ACP Flyer English and Chinese Version, Category: Recruitment Materials; • ACP Workshop Agenda, Category: Participant materials (specific directions for them); • Advance Care Planning IRB, Category: IRB Protocol; • Arizona Living Will and POA Chinese Version, Category: Resource list; • Inform Consent English and Chinese Version, Category: Consent Form;

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (2)(ii) Tests, surveys, interviews, or observation (low risk) on 8/8/2024.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

If any changes are made to the study, the IRB must be notified at research.integrity@asu.edu to determine if additional reviews/approvals are required. Changes may include but not limited to revisions to data collection, survey and/or interview questions, and vulnerable populations, etc.

It is the research team's responsibility to notify the IRB of 'reportable new information.' (an RNI) During a research study, any adverse events, unanticipated problems involving risk, and non-compliance **must** be reported to the IRB as an RNI. Please see the following link for details: https://researchintegrity.asu.edu/human-subjects/reportable-events. This does not include risks previously identified and listed in the IRB protocol and consent. Any serious events **must** be reported within **24 hours**. Non-serious adverse events **must** be reported within 5 business days.

Sincerely,

IRB Administrator

cc: Mengyao Zhao

Appendix I

Budget

	Item / Service	Cost	In-kind support	Total
Direct Costs	Flyers print ($1x100 color copies)	$100		
	Bilingual educational handouts ($1x100 color copies)	$100		
	Registration form print ($0.5x10 copies)	$5		
	Pre, post, 1-month follow up survey print ($1x100 copies)	$100		
	File folders to organize all documents ($15x2)	$30		
	Arizona Living Will forms print ($1x100)	$100		
	Pens for pre and post survey ($10x3)	$30		
	Prize for participants ($100x15)	$1500		$1965
Indirect Costs	Rent classrooms for 3 educational workshops (include air conditioning, electricity, $100 x3)		$300	
	Arizona Healthcare Directives Staff (help with witness and register, $40/hour x1 hour x 3 times)		$120	
	Project Director (DNP student, $40/hour, 5 hours per week for 10 months)		$8000	$1,965.00
Revenue	This project will not generate revenues instead of improving quality of seniors' end-of-life care.			

Appendix J

Table J1

Summary Statistics Table for Age

Variable	*M*	*SD*	*n*	Min	Max
Age	78.23	6.92	62	60.00	93.00

Note. '-' indicates the statistic is undefined due to constant data or an insufficient sample size.

Table J2

Frequency Table for Demographic Questionnaires

Variable	*n*	*%*
Gender		
Male	17	27.42
Female	45	72.58
Language		
Chinese	45	72.58
Cantonese	17	27.42
Education Level		
Less than high school	24	38.71
High school	17	27.42
Some college	7	11.29
Bachelor	14	22.58
Graduate	0	0.00
Chronic Disease		
Yes	62	100.00
Familiar with Advance Care Planning before workshop		
No	53	85.48
Somewhat	7	11.29
Yes	2	3.23
Having Advance Directives before workshop		
No	60	96.77
Yes	2	3.23
Family involves in care planning		
No	1	1.61
Yes	46	74.19
Not sure	15	24.19

Note. Due to rounding errors, percentages may not equal 100%.

Table J3

Frequency Table for Post-workshop Feedback Questions

Variable	*n*	*%*
Understanding ACP after workshop		
excellent	3	4.84
very good	3	4.84
good	14	22.58
fair	42	67.74
Discuss ACP with providers/families after workshop		
very likely	16	25.81
likely	44	70.97
neutral	2	3.23
Satisfied with workshop		
very satisfied	14	22.58
satisfied	46	74.19
neutral	2	3.23
Recommend workshop to others		
definitely	36	58.06
probably	26	41.94
Plan to complete Advance Directives after workshop		
yes, within next month	5	8.06
yes, within next 2 months	1	1.61
yes, not sure when	51	82.26
no	1	1.61
already have AD	4	6.45

Note. Due to rounding errors, percentages may not equal 100%.

Appendix K

Table K1

Summary Statistics Table for ACP Engagement Score

Variable	*M*	*SD*	*n*	*Mdn*	Min	Max
Pre-survey ACP Engagement	11.77	7.34	62	8.00	8.00	37.00
Post-survey ACP Engagement	19.73	6.07	62	17.00	14.00	40.00
1 Month follow-up ACP Engagement	24.44	6.16	62	23.00	17.00	40.00

Note. '-' indicates the statistic is undefined due to constant data or an insufficient sample size.

Table K2

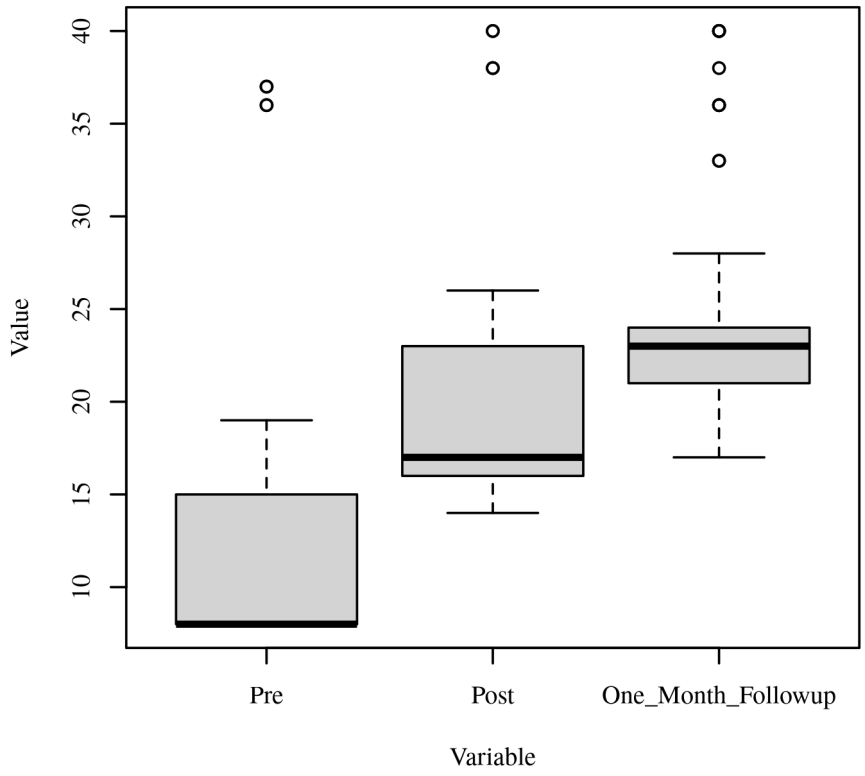
Friedman Rank Sum Test

Variable	Mean Rank	χ^2	*df*	*p*
Pre-survey ACP engagement	1.03	102.48	2	< .001
Post-survey ACP engagement	2.16			
1 Month follow-up ACP Engagement	2.81			

Appendix L

Figure

ACP Engagement Score Boxplots



Note. This figure illustrates the ACP Engagement Score Boxplots in pre-survey, post-survey, and 1-month follow-up survey.