Form Approved Through 8/31/2015 OMB No. 0925-0001

Department of Health and Human Services
Public Health Services

Grant Application

Do not exceed character length restrictions indicated.

LEAVE BLANK—FOR PHS USE ONLY.

Type	Activity	Number
Review Group		Formerly
Council/Board (Month, Year)		Date Received

1. TITLE OF PROJECT *(Do not exceed 81 characters, including spaces and punctuation.)*
Advance Care Planning Practices in Caring for Vulnerable Elders with MCC

2. RESPONSE TO SPECIFIC REQUEST FOR APPLICATIONS OR PROGRAM ANNOUNCEMENT OR SOLICITATION ☐ NO ☒ YES
(If "Yes," state number and title)
Number:
Title: HMORN-OAIC Aging Initiative Pilot Project

3. PROGRAM DIRECTOR/PRINCIPAL INVESTIGATOR

3a. NAME (Last, first, middle): Tai-Seale, Ming
3b. DEGREE(S): Ph.D. M.P.H.
3h. eRA Commons User Name: mtaiseale
3c. POSITION TITLE: Senior Investigator
3d. MAILING ADDRESS *(Street, city, state, zip code)*
Palo Alto Medical Foundation Research Institute
795 El Camino Real, Ames Building
Palo Alto, CA 94301-2302
3e. DEPARTMENT, SERVICE, LABORATORY, OR EQUIVALENT
3f. MAJOR SUBDIVISION
3g. TELEPHONE AND FAX *(Area code, number and extension)*
TEL: 650-853-4779 FAX: 650-934-3514
E-MAIL ADDRESS: Tai-sealeM@pamfri.org

4. HUMAN SUBJECTS RESEARCH ☐ No ☒ Yes
4a. Research Exempt ☒ No ☐ Yes
If "Yes," Exemption No.
4b. Federal-Wide Assurance No. 00000089
4c. Clinical Trial ☒ No ☐ Yes
4d. NIH-defined Phase III Clinical Trial ☒ No ☐ Yes

5. VERTEBRATE ANIMALS ☒ No ☐ Yes
5a. Animal Welfare Assurance No.

6. DATES OF PROPOSED PERIOD OF SUPPORT *(month, day, year—MM/DD/YY)*		7. COSTS REQUESTED FOR INITIAL BUDGET PERIOD		8. COSTS REQUESTED FOR PROPOSED PERIOD OF SUPPORT	
From	Through	7a. Direct Costs ($)	7b. Total Costs ($)	8a. Direct Costs ($)	8b. Total Costs ($)
04/01/2015	03/31/2016	$25,807	$40,000	$25,807	$40,000

9. APPLICANT ORGANIZATION
Name: Palo Alto Medical Foundation for Health Care, Research, and Education
Address: 795 El Camino Real, Ames Building
Palo Alto, CA 94301-2302

10. TYPE OF ORGANIZATION
Public: → ☐ Federal ☐ State ☐ Local
Private: → ☒ Private Nonprofit
For-profit: → ☐ General ☐ Small Business
☐ Woman-owned ☐ Socially and Economically Disadvantaged

11. ENTITY IDENTIFICATION NUMBER
94-1156581
DUNS NO. 622276137
Cong. District CA-18

12. ADMINISTRATIVE OFFICIAL TO BE NOTIFIED IF AWARD IS MADE
Name: Jane A. Risser
Title: Director of Administration and Finance
Address: Palo Alto Medical Foundation Research Institute
795 El Camino Real, Ames Building
Palo Alto, CA 94301
Tel: (650) 853-4827 FAX: (650) 329-9114
E-Mail: risserj@pamf.org

13. OFFICIAL SIGNING FOR APPLICANT ORGANIZATION
Name: Jane A. Risser
Title: Director of Administration and Finance
Address: Palo Alto Medical Foundation Research Inst.
795 El Camino Real, Ames Building
Palo Alto, CA 94301
Tel: (650) 853-4827 FAX: (650) 329-9114
E-Mail: risserj@pamf.org

14. APPLICANT ORGANIZATION CERTIFICATION AND ACCEPTANCE: I certify that the statements herein are true, complete and accurate to the best of my knowledge, and accept the obligation to comply with Public Health Services terms and conditions if a grant is awarded as a result of this application. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties.

SIGNATURE OF OFFICIAL NAMED IN 13.
(In ink. "Per" signature not acceptable.)
Jane A Risser

DATE
1/13/15

Abstract

Title: Advance Care Planning Practices in Caring for Vulnerable Elders with MCC

HMORN Co-Principal Investigators: Ming Tai-Seale, PhD, MPH, Ellis Dillon, PhD
OAIC Pepper Center Consultant/mentor: Christine Ritchie, MD

Patients with multiple chronic conditions (MCC) and serious illness often receive care from multiple health care teams in various locations. Because these patients face many preference sensitive care decisions it is critical that the medical record document patient preferences in an accessible and actionable manner. Poor documentation of patient preferences in the electronic record (EHR) may jeopardize the ability of health care teams to honor these preferences. This pilot project builds upon previous work by members of this research team which demonstrated that Advance Care Planning (ACP) is documented inconsistently in the EHR with wide variation in the location of the ACP documentation. There was also variance as to whether the documentation was signed and relevant forms scanned into the medical record.[1] Since this data was analyzed there has been a broad expansion of the Palliative Care Program (PC Program) at Palo Alto Medical Foundation (PAMF) including the standardization of a location in the EHR for ACP documentation. This project will be a collaboration between researchers at the PAMF Research Institute, at an Older American Independence Centers (OAIC) at UCSF, and clinicians at PAMF. This research has two aims. Aim 1: to characterize ACP documentation practices and determine if the expanding PC Program changed the ACP documentation practices for vulnerable elders with MCC at PAMF, using EHR data from 2005-2014. Aim 2: explore barriers and facilitators to ACP discussion and documentation through interviews with 20 members of health care teams. The target patient population includes active PAMF patients over the age of 65 years with a serious illness (e.g. cancer or COPD) documented in the Problem List section of EHR and at least one additional chronic condition. De-identified EHR data and linked provider data will be used to analyze the frequencies and locations of ACP documentations in the EHR. Interviews will target healthcare team members identified in the EHR analysis as outliers (in both directions) with respect to ACP documentation in oncology, cardiology, pulmonology, and primary care departments. Interviews will focus on barriers and facilitators of ACP conversations and ACP documentation. This study will identify characteristics and changes over time in the documentation of ACP documentation, the influence of MCC and the PC Program on ACP documentation practice patterns, and barriers and facilitators to ACP documentation. It lays the foundation for a future intervention study to improve ACP discussion and enhance retrievable ACP documentation at PAMF and beyond.

Specific Aims

Increasingly patients with multiple chronic conditions (MCC) and serious illnesses are cared for by multiple healthcare teams spanning different specialties and locations. Prior research shows Advance Care Planning (ACP) information such as Advance Health Care Directives (AHCD) and Physician Orders for Life Sustaining Treatment (POLST) are either not documented or are inconsistently documented in the EHR therefore decreasing the likelihood they can be retrieved and honored by healthcare providers. We seek to better understand ACP documentation in the EHR at the Palo Alto Medical Foundation (PAMF) for older seriously ill MCC patients. ACP, the act of discussing patient preferences and values and planning for future medical care, is a critical and underdeveloped aspect of patient-centered care.[2-4] ACP furthers patient engagement and also operationalizes patient values such as remaining independent or staying at home. Research shows ACP documentation in the EHR may be inaccessible (e.g. in progress notes), or not actionable (e.g. missing signatures).[1] Poor systems for recording patient preferences are a systemic barrier to communication in the care of patients with serious and life-threatening illnesses.[5]

The goal of this pilot project is to characterize ACP documentation practices and then identify barriers/facilitators to ACP documentation, through meaningful collaboration between PAMF Research Institute (PAMFRI), a member of the HMO Research Network (HMORN), and Older American Independence Centers (OAIC) investigators, by answering the HMORN-OAIC call for “novel methods to use information contained in electronic health records to construct new measures relevant to chronic conditions, their treatments, and outcomes.”

PAMF, a nonprofit multispecialty group practice in California, is an ideal setting for this study. PAMF clinicians serve almost one million patients and have been using EpicCare EHR since 1999. ACP is an important component of the Welcome to Medicare and Medicare Annual Wellness Visit EHR SmartSets at PAMF. Clinicians are sent an automatic Health Maintenance Reminder for ACP for all patients 65 or older. In 2011, a palliative care initiative was launched in PAMF that included the rollout of outpatient, interdisciplinary palliative care practices in multiple locations within its four divisions. The staggered rollout was completed in 2014, thus creating a natural experiment for examining its various impacts on ACP practices among PAMF healthcare teams. PC Programs are co-located with other departments. PC providers give in-service educational seminars and engage in outreach to increase awareness among their physician colleagues in oncology, pulmonology, cardiology, and primary care. PAMFRI researchers have been collaborating with the PC Program. A joint paper was published in the Journal of Palliative Medicine,[1] which has been described in detail in the recent IOM report “Dying in America.” [3] They already have IRB approval to use EHR data to examine the impact of the Palliative Care Program. Hence, they have a “shovel-ready” opportunity for this pilot. Dr. Christine Ritchie at the UCSF OAIC enthusiastically supports this pilot and will collaborate with Drs. Tai-Seale and Dillon who is an early career investigator.

The pilot will accomplish two **specific aims**:

1. To characterize current ACP documentation practices and evaluate the sequential impact of several components of the PC Program, MCC (number, type, severity), and other patient and care team characteristics on ACP documentation.

    Hypothesis 1a. The staged implementation of the PC Program increases the percentages of vulnerable elders with accessible and actionable ACP documentations over time.
    Hypothesis 1b. The number, type, and severity of MCC are associated with the likelihood that ACP is documented in the vulnerable elders’ EHR.

2. To identify barriers and facilitators of ACP conversations and ACP documentation, including the role of MCC, using in-depth interviews with healthcare team members in primary care, oncology, pulmonology, and cardiology who are outliers (in both directions) with respect to ACP documentation.

The collaborative relationship between PAMFRI and UCSF OAIC built in this pilot and the results will enable us to plan R01-level proposals for future collaborations aimed at building interventions to enhance ACP discussion and documentation for vulnerable elders in PAMF and beyond.

B. Research Plan

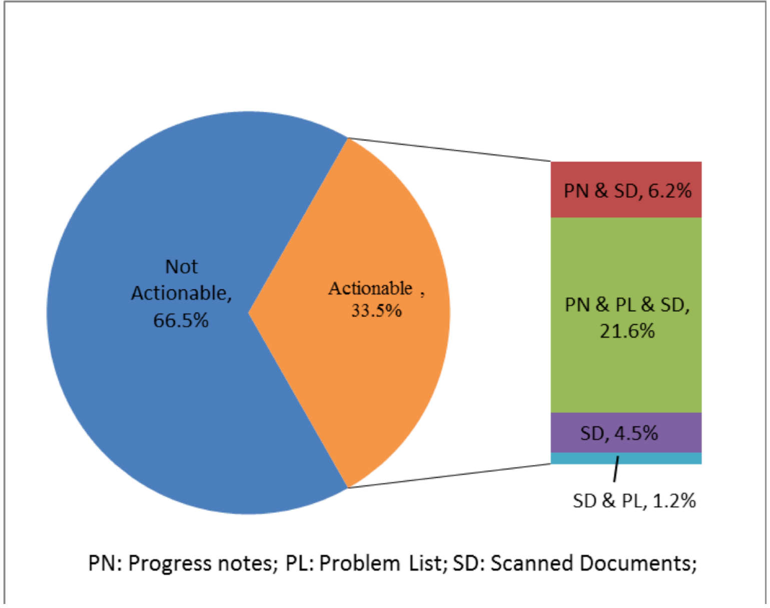
Section 1 - Significance

Advance care planning (ACP) has become a major public health issue in the United States. The well documented divergence between patients' expressed preferences and their actual experiences at the end-of-life places serious burdens on patients, their caregivers, healthcare delivery systems, and our society as a whole. ACP has the potential to anchor patient-centered care to ensure that healthcare teams identify and honor patient's preferences for future medical care. For patients with multiple chronic conditions and serious illness they often navigate care for their conditions across long periods of time (months or years), and across various health care teams in different geographic locations and settings. As these patients face many decisions in which their own values and judgments about risk and benefit trade-offs are critical it becomes essential to discuss and document patient preferences in the medical record in a way in which it is accessible and actionable when viewed by a range of health care providers.

This work builds on earlier studies conducted by members of the PAMFRI research team who found inconsistent documentation of ACP in the PAMF EHR.[1] This pilot project serves two purposes. First, it describes current ACP practices and identifies the extent to which an expanding palliative care program influences ACP documentation in the EHR of a large multispecialty group practice, PAMF. Second, it uses in-depth interviews to explore barriers and facilitators to ACP practices. This approach will allow us to identify ACP documentation variation across specialties, departments, and providers in EHR data on a sample of patients with multiple chronic conditions and palliative care eligibility. Coupling this EHR data analysis with interviews will identify methods to improve ACP discussion in clinical practice and the quantity and quality of ACP documentation in the EHR.

<u>Innovation 1: using EHR data to identify ACP documentation</u>. Healthcare team outliers in ACP documentation (in both directions) are identified quantitatively using EHR data and then interviewed as key informants with respect to ACP documentation. The proposed project builds on a discovery the PAMFRI research team has made in the last 2 years: <u>ACPs are hard to find in the EHR of the majority of patients</u>. The PAMFRI research team searched EpicCare EHR to identify where and how ACP is currently documented. Described in detail in the IOM report "Dying in America," our paper explored trends in this EHR between 2008-2011[1] and found only 33.5% of patients with an ACP documentation in the EHR had an *actionable* scanned document in the EHR (such as an Advance Directive or POLST). (Figure 1) *Accessibility* was also problematic since ACP documentation was variously located in different combinations of progress notes, scanned documents, and problem list.[1] This study covered the time period between 2008-2011, ending before the beginning of the staged rollout of the PC Program. The proposed pilot will cover a longer time period (2005 – 2014), and consider MCC among vulnerable elders who were not the focus of the last project. The proposed pilot is poised to offer more new insights on the impact of the PC Program and on MCC.

Figure 1. ACP documentation in the EHR (n=30,566 patients with any ACP)



<u>Innovation 2. Leveraging a natural experiment</u>. The staged implementation of the team-based palliative care program at PAMF since 2011 represents a natural experiment giving us the opportunity to determine if and what aspects of the Program has made an impact on ACP documentation at PAMF. In addition, the EHR data will be analyzed to identify providers with high and low rates of ACP documentation. The research team will then target these divergent groups for interview sampling. The in-depth interviews will explore practices surrounding ACP discussion and documentation. Interviews will also identify other possible contributors to ACP documentation in the EHR, such as non-physician health care team members who

may update or enter medical record information.

3. Shovel-Ready pilot with an outstanding research team in an ideal collaborative environment. PAMFRI scientists have been studying palliative care and palliative care practices such as ACP at PAMF with their PAMF colleagues in the past four years. The publication in the Journal of Palliative Medicine[1] is just one product of their on-going efforts. Dr. Tai-Seale was the PI of a MCC research project funded by AHRQ with a paper published in *Medical Care*'s Special Issue on MCC.[6] Dr. Dillon has interviewed 4 oncologists using an interview guide similar to the one proposed for this pilot, with IRB approval. The EHR data analysis delineated in this proposal has already received IRB approval. The necessary EHR data have already been extracted. Once approved for funding, we can amend our previous IRB protocols to incorporate the additional work proposed here. IRB review of amendments usually takes less time. We anticipate being able to begin this pilot immediately. The advantageous geographic proximity between PAMF and UCSF has facilitated the collaboration between the two PAMFRI Co-PIs and Dr. Ritchie at UCSF. They have met in person and communicated effectively via email and phone in jointly developing this pilot proposal. The complementary strengths of Drs. Tai-Seale, Dillon, Ritchie, the 3 PAMF clinical leaders, and their respective institutions offer great promise for a productive collaborative relationship that will endure beyond this pilot.

Section 2 - Overview: Advance Care Planning at PAMF and in the EHR

2.1 Setting. PAMF is a large, multispecialty group practice with approximately 1,300 physicians serving approximately 1 million patients in Northern California. The palliative care program at PAMF was launched in 2010. In 2013 it served 832 unique patients and it was projected to serve 1,200 patients by the end of 2014. The palliative care team has estimated that 96% of their patients have documented goals of care and 75% have completed POLST forms.

One of the primary objectives of palliative care is to assist patients in planning for the future, including use of Advance Care Planning (ACP). The Clinical Practice Guidelines for Quality Palliative Care specified by the National Consensus Project (NCP)[7] indicate that preferred practices in palliative care include (1) holding regular patient and family conferences with physicians and other interdisciplinary team members to discuss ACP and goals of care; (2) making ACP documentation available across care settings; and (3) developing healthcare and community collaborations to promote advance care planning.

The PC Program at PAMF complies with most of the NCP guidelines.[7] (http://www.pamf.org/palliativecare/) We anticipate that it contributes to advancing ACP in each of the above-mentioned ways and may impact practices beyond the palliative care department itself. The PC Program at PAMF has disseminated ideas about ACP through PAMF and community-wide education, and through the standardization in October 2010 of an ACP button in Epic. This button for "Advance Directive/Code Status" was added to the default screen; when physicians click on it they see all the ACP scanned documents.

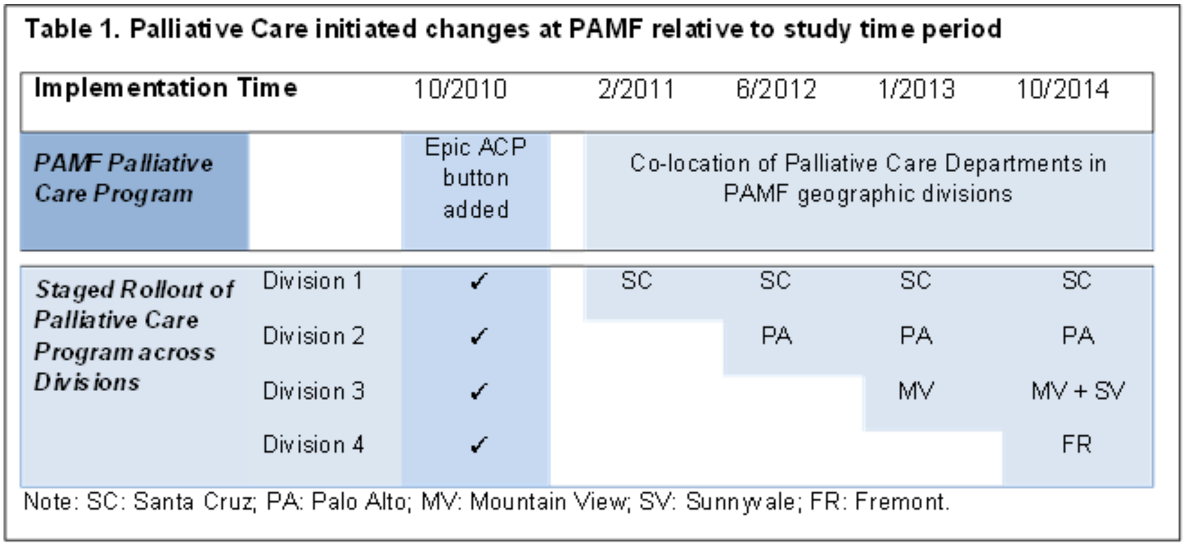


Table 1. Palliative Care initiated changes at PAMF relative to study time period

Implementation Time		10/2010	2/2011	6/2012	1/2013	10/2014
PAMF Palliative Care Program		Epic ACP button added	Co-location of Palliative Care Departments in PAMF geographic divisions			
Staged Rollout of Palliative Care Program across Divisions	Division 1	✓	SC	SC	SC	SC
	Division 2	✓		PA	PA	PA
	Division 3	✓			MV	MV + SV
	Division 4	✓				FR

Note: SC: Santa Cruz; PA: Palo Alto; MV: Mountain View; SV: Sunnyvale; FR: Fremont.

Furthermore, PAMF physically co-located interdisciplinary palliative care specialty teams in the main clinics of each of PAMF's four divisions, e.g., within Oncology in Sunnyvale and with Geriatrics or Internal Medicine in other locations. The co-location provides heterogeneity in proximity to non-PC providers across the various divisions. (Table 1) Therefore, the temporal differences in time between the installment of the ACP button and the staggered expansion of palliative care across PAMF locations create an ideal setup for a natural experiment, allowing us to isolate the effects of the PC Program from the ACP button, patients' MCC, and other covariates that could influence ACP documentation across time and geographic divisions. We hypothesize that the staged implementation and varied physical locations of the PC Program throughout PAMF's multiple divisions would influence ACP documentation in MCC patients with serious illnesses receiving services over time and across geographic locations.

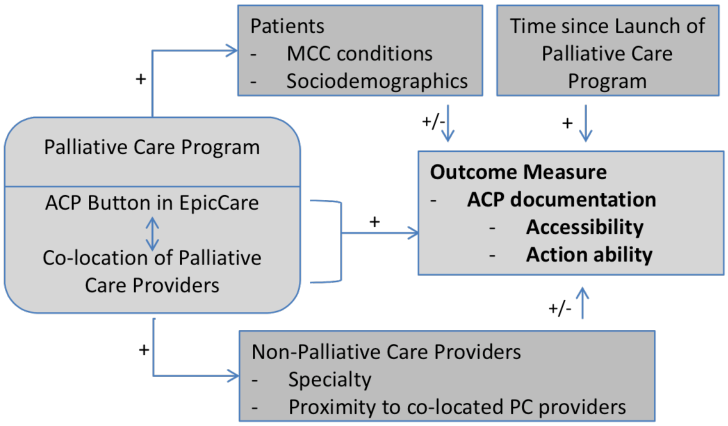
Current processes for ACP discussion and documentation at PAMF appear to be a mixture of system-wide approaches and heterogeneous individual practices. In addition to the standardized location for ACP scanned documents in the EHR under the ACP button, PAMF has a universal "health maintenance reminder" to have an "Advance Directive discussion" which is triggered for all patients at the age of 65. The reminder will keep on "firing" until it has been satisfied by a clinician. Furthermore, advance directive is a part of the Health Questionnaire in the Welcome to Medicare and Annual Medicare Wellness Visit SmartSet. The SmartText must be answered to sign the SmartSet. Beyond these efforts, it is up to individual clinicians regarding when and how to have ACP discussions with patients and where to document ACP decisions in the EHR. Our interviews with physicians suggest there is a wide range in practices for both ACP discussion and ACP documentation across providers, departments, and geographic divisions.

2.2 Multidisciplinary research team. The team is led by two Co-Principal Investigators: two scientists at PAMFRI, Dr. Ming Tai-Seale, a Senior Health Economist, and Dr. Ellis Dillon, an Assistant Medical Sociologist. Dr. Christine Ritchie, a national leader in palliative care and geriatrics at the UCSF Pepper Center is a consultant and mentor. Consultants include two leaders of PAMF's Palliative Care Program, Dr. Sharon Tapper (Medical Director of the overall PC Program) and Dr. Steve Lai (Palo Alto PC Program leader, PI of the Honoring Your Wish project) and Dr. Peter Yu, President of the American Society for Clinical Oncologists (ASCO) who practices in PAMF's Sunnyvale clinic. All three consultants have a history of collaborating with Drs. Tai-Seale and Dillon and have already provided institutional insights in developing the proposal. The Personal Statements in the consultants' biosketches serve as evidence of their support.

Section 3 - Research Design and Methods

3.1 Conceptual model: Figure 2 illustrates a conceptual model for the proposed pilot. In addition to having a direct impact on ACP documentation, the PC Program is hypothesized to affect the behaviors of patients and non-PC providers which in turn also influence clinical decision making and documentation of ACP. Our conceptualization recognizes that the process will be mediated by patients, providers, and time. The "+'s" are potential facilitators and "-'s" potential barriers.

Figure 2. Conceptual model



3.2 Aim 1: To characterize current ACP documentation practices and evaluate the sequential impact of several components of the PC Program, MCC (number, type, severity), and other patient and care team characteristics on ACP documentation

3.2.1. Study Design: The impact of the PC Program will be evaluated using an observational quasi-experimental design. We will examine EHR data on approximately 83,000 PAMF patients 65 years or older from the years 2005 to 2014 (inclusive of 6 years prior to the beginning of the PC Program and 4 years following its launch). The data will include patients both living and deceased as of the end of 2014. The hypotheses are:

H1. The staged implementation of the PC Program increases the percentages of vulnerable elders with ACP documentation over time.

H2. The number, type, and severity of MCC are associated with the likelihood that ACP is documented in the vulnerable elders' EHR.

Inclusion criteria: Patients with incurable cancer, organ system failure, or severe progressive neurological conditions (identified with ICD-9 code). Our preliminary analysis of the problem list diagnoses suggests all of these patients are MCC patients. (See Appendix A for the IDC-9-CM codes in the NCQA palliative and end of life care measurement set.[8]) Any clinician and their healthcare team members (e.g., nurse, social worker) serving these vulnerable elders will be included.

Dependent variables: The empirical model will have three binary dependent variables: accessibility ($Y1_{ijt}$), actionability ($Y2_{ijt}$), and both ($Y3_{ijt}$) for patient i, healthcare team j, at time t. Both $Y1_{ijt}$ and $Y2_{ijt}$ will be measured by the location of the ACP. If it appears in the problem list or scanned document, it is accessible. If it appears in progress notes, it is inaccessible. If it is in scanned document, it is actionable; otherwise, it is not actionable. $Y3_{ijt}$ is 1 if it is both accessible and actionable (cell I in Table 2). We will map the distributions of ACP documentation among healthcare teams onto the 4 groups illustrated in Table 2.

Table 2. Accessibility and Actionability of ACP Documentation by Healthcare Teams

	Actionable	Not Actionable
Accessible	I	II
Not Accessible	III	IV

Explanatory variables: They will include three vectors of right hand side variables: (1) the patient (X_{ijt}), e.g., MCC profile, i.e., number, type, and severity of chronic conditions, with covariates for age, sex, race/ethnicity, health insurance, income (based on census data); (2) healthcare team (Z_{ijt}) variables, e.g., specialty, proximity to the co-located PC providers, with covariates for sex, race/ethnicity, length of practice at PAMF, age distribution of patient panels, and; and (3) time (T_{ijt}), a binary variable for the time when the ACP button was installed, two binary variables for when the Welcome to Medicare and Medicare Annual Wellness Visit SmartSets, and a linear variable for time since the launch of each component of the PC Program in the division where the patient received care. C_{ijt} denotes all of the covariates collectively. Clustering of patients within healthcare teams will be accounted for in the modeling approach.

Empirical analyses: A generalized multinomial logit model will be used:

$$Y_t = T_t\,\pi + X_t\beta + Z_t\gamma + T_t\bullet X_t\lambda + T_t\bullet Z_t\Phi + C_t\delta + \varepsilon_t$$

Coefficients (λ and Φ) from the model will be transformed onto an interpretable scale (e.g., odds ratio) to reveal the impact of components of the PC Program mediated by MCC profile and by healthcare team factors. The effects of the PC Program can be useful for estimating the effect size to guide power calculation for a future intervention study to further improve ACP documentation. An additional important contribution of descriptive analysis for Aim 1 is enabling us to use the results to guide the sampling of outlier healthcare teams (in both directions) for in-depth key informant interview in Aim 2.

3.2.2 Anticipated findings: The empirical findings may suggest significant heterogeneity in ACP documentation practices, and the positive impact of the ACP button and the Medicare SmartSets. We anticipate that the impact of each component of the PC Program will vary across divisions, MCC conditions, and other covariates.

3.3. Aim 2: To identify barriers and facilitators of ACP conversations and ACP documentation, including the role of MCC.

3.3.1 Study Design: The goal of the healthcare team interviews will be to explore both barriers and facilitators to ACP documentation among a sample including outliers (in both directions) with respect to ACP documentation. The interviews will reveal challenges to ACP discussion and documentation in clinical practice and what enables some health care teams to achieve high rates of accessible and actionable ACP documentation. While there have been many efforts to capture in-depth qualitative data on how health care teams perceive ACP,[9-12] there has been limited research exploring how health care teams document ACP[1] and none that use our proposed innovative approach to sampling outliers (in both directions).

Recruitment: Healthcare team members in will be sampled for interviews based on two criteria related to the relevance of ACP documentation to their practice: (1) clinical work in one of the following departments:

oncology, cardiology, pulmonology, or primary care; and (2) identification as being in the top or bottom 10% of providers within departments (i.e., in quadrants I and IV of Table 2) with respect to documentation of ACP in the EHR. We will sample 20 health care team members for these interviews, 5 from each department. Interviews will be evenly distributed between physicians in quadrant I and quadrant IV (see Table 2).

The first wave of recruitment and interviews will be targeted at physicians. The interviewer will be blinded to the physicians' ACP documentation characteristics and the physicians will not be informed of their ACP documentation status relative to other physicians. During the interview the interviewer will ask physicians if any other health care team members in their departments update or enter patient ACP documentation into the EHR, and if so these other health care team members will be recruited for follow-up interviews (e.g. nurses, social workers, medical assistants, etc.). Interview recruitment will involve Dr. Dillon attending department meetings to explain the goal of the research project and then following up with physicians identified during the EHR analysis by email and/or phone to ask them to participate in a brief interview. Interviews will be scheduled at a time and location convenient to the physician or health care team member.

Interviews will be conducted by Dr. Dillon, a medical sociologist trained in qualitative research, and a trained research assistant at PAMFRI. With participants' consent, the interviews will be audio-recorded then transcribed verbatim. Interviews will last between 30-60 minutes and participants will receive a $50 honorarium for their participation.

Interview Topics: An interview guide has already been prepared and piloted on several oncologists as part of our ongoing research on palliative care at PAMF. The interview will be focused on 4 areas: (1) Beliefs about ACP, (2) Clinical experience with ACP discussions, (3) Practices for documenting ACP in the EHR, and (4) Barriers/Facilitators for ACP. Sample questions are listed in Appendix B.

Analysis: We will employ standard qualitative analytic strategies.[13] The interviews will be transcribed verbatim; all text will be imported into the Atlas.ti qualitative research software. The qualitative research team (Dr. Dillon and a research assistant) will analyze the data using two frameworks: open coding and targeted coding. Open coding, guided by the tenets of grounded theory,[13] is an iterative process by which the analysis team will review the transcripts for emergent themes or patterns identified by patients. A codebook will be developed and analysis will begin while interviews are still underway to allow the qualitative team to adapt our sampling and interview questions in response to emerging themes. An analysis team will meet weekly while interview data is being analyzed to refine the codebook and the coding process. A final confirmed coding structure will then be applied to the entire dataset, which will enable the identification of salient relationships among coding categories. In this framework, the codes will be based on the physicians' experiences and defined in their language. Targeted coding is a deductive process by which the team applies codes determined by the specific research aim, and which will speak directly to measures collected in aim 1. Targeted coding will provide in-depth qualitative information to expand and potentially explain the quantitative data collected in Aim 1. We will apply established processes to move from codes in categories into basic themes, and then if appropriate, into organizing themes, to eventually form global themes.[14]

Sample size: As stressed in qualitative research literature, sample size is governed by the notion of "theoretical saturation."[15] Although there is no set number of interviews or other method of data collection to establish theoretical saturation, one important factor to consider for reaching theoretical saturation is the scope of the research question. The sample size is not determined by the number of informants, but rather by the number of processes reported or observed.[16] We have estimated that 20 participants should be sufficient to allow us to approach saturation. Given that this is a pilot study we will not be able to sample all departments or clinic locations, but sampling positive and negative outlier should illustrate the spectrum of ACP documentation practices.

3.3.2 Anticipated findings: The interview data has the potential to fill in details missing from the EHR data. It may reveal why practices vary by department and some practices that are idiosyncratic to individual physicians or health care teams. Interviews may also demonstrate that critical information that is missing from the EHR data. For example, some physicians may have lengthy discussions about ACP with patients but not document them in the EHR or they may document in an inaccessible location. Most importantly the interview data will reveal the problems physicians face with respect to ACP and possible solutions or resources to mitigate these problems. This needs assessment element of the interviews is an important step in improving the ACP capabilities of the healthcare organization.

3.4. Strengths and Limitations

Strengths: In response to the HMORN AGING Research Network's call for pilot proposals, we propose a shovel-ready pilot to not only address important research questions on advance care planning, but also to build a meaningful scientific collaboration relationship between PAMFRI and UCSF OAIC scientific investigators. This effort holds promise for future R01-level intervention to remove the barriers and strengthen the facilitators to advance care planning identified in this study. The limitations include, first, the potential omission of information in the EHR that ACP was discussed but patient did not wish or was not able to name a surrogate decision maker or provide documentation. Second, while being able to identify the healthcare team member who documented the ACP in the EHR is a valuable contribution, we cannot rule out the possibility that the discussion was done by a different provider. In the future, we will use Natural Language Processing techniques to identify the healthcare team member(s) who initiated and carried out the ACP discussion prior to its documentation. By expanding the responsibility to the healthcare team, however, rather than individual clinicians, we recognize the importance of teamwork in providing patient-centered care for vulnerable elders with MCC. Lastly, it is necessary to limit the scope of the study. Future efforts built upon this pilot will examine the total use of services and costs.

3.5 Conclusion

The proposed pilot is responsive to the Call for Proposal because, (1) it is highly relevant to older adults with MCCs as understanding and documenting patient wishes are prerequisites to honoring them in their care. While it is a basic component of palliative care specialists' work, its diffusion into non-palliative care specialists is essential as there are not and will not be enough PC specialists to meet the growing demand as the number of vulnerable elders with MCCs continues to rise. (2) The proposed pilot combines the expertise of researchers and clinicians in two outstanding research institutions to build a meaningful collaborative relationship and to answer important research questions. (3) The EHR data have already been extracted (a non-trivial accomplishment), under IRB approval. We have also developed the key informant interview questions. It is highly likely that the proposed study will be completed within one year. (4) The investigators have a track record in publishing research in high-impact scientific journals. A previous paper on this subject produced by PAMFRI researchers has been referenced heavily in the recent IOM Report *Dying in America.* (5) This work will prepare us well for a large-scale R01 study in the near future. (6) Dr. Ellis Dillon is an early career investigator. She was Dr. Tai-Seale's postdoctoral fellow before being promoted to her current position as an Assistant Medical Sociologist. Dr. Christine Ritchie will also mentor Dr. Dillon, who will lead the work on Aim 2 and manage the project.

Section 4 – Timeline of Main Tasks

The EHR analysis for the parent project is already underway, with IRB approval. As soon as funding is secured, we will request IRB approval to amend the protocol to include additional key informant interviews.

	Q1	Q2	Q3	Q4
Amend IRB protocol	■			
Analyze EHR data	■	■	■	■
Identify healthcare team outliers (in both directions) in ACP documentation	■			
Interview key informant	■	■		
Analyze interview data		■	■	
Write papers/presenting work			■	■
Prepare R01 proposal			■	■

References

1. Wilson CJ, Newman J, Tapper S, Lai S, Cheng PH, Wu FM, Tai-Seale M: Multiple locations of advance care planning documentation in an electronic health record: are they easy to find? *J Palliat Med.* 2013;16(9):1089-1094.

2. Barclay S, Momen N, Case-Upton S, Kuhn I, Smith E: End-of-life care conversations with heart failure patients: a systematic literature review and narrative synthesis. *Br J Gen Pract.* 2011;61(582):e49-62.

3. Committee on Approaching Death: Addressing Key End-of-Life Issues: Dying in America: improving quality and honoring individual preferences near the end of life. Washington, DC: IOM (Institute of Medicine); 2014.

4. Obel J, Brockstein B, Marschke M, Robicsek A, Konchak C, Sefa M, Ziomek N, Benfield T, Peterson C, Gustafson C, Eriksson J, Harper A, Tabachow C, Raymond M, Hensing T: Outpatient advance care planning for patients with metastatic cancer: a pilot quality improvement initiative. *J Palliat Med.* 2014;17(11):1231-1237.

5. Bernacki RE, Block SD, American College of Physicians High Value Care Task Force: Communication about serious illness care goals: a review and synthesis of best practices. *JAMA Internal Medicine.* 2014;174(12):1994-2003.

6. Tai-Seale M, Wilson CJ, Stone A, Durbin M, Luft HS: Patients' Body Mass Index and Blood Pressure Over Time: Diagnoses, Treatments, and the Effects of Comorbidities. *Med Care.* 2014;52:S110-S117.

7. National Consensus Project for Quality Palliative Care: Clinical Practice Guidelines for Quality Palliative Care. In: Dahlin C, (ed.). Pittsburgh, PA: National Consensus Project for Quality Palliative Care; 2013.

8. National Committee for Quality Assurance/The Physician Consortium for Performance Improvement: Palliative and End of Life Care: Physician Performance Measurement Set 2008.

9. Seymour J, Almack K, Kennedy S: Implementing advance care planning: a qualitative study of community nurses' views and experiences. *BMC Palliat Care.* 2010;9(1):4.

10. Gott M, Gardiner C, Small N, Payne S, Seamark D, Barnes S, Halpin D, Ruse C: Barriers to advance care planning in chronic obstructive pulmonary disease. *Palliat Med.* 2009;23(7):642-648.

11. Black K: Advance directive communication: Nurses' and social workers' perceptions of roles. *American Journal of Hospice and Palliative Medicine.* 2006;23(3):175-184.

12. Tulsky JA, Fischer GS, Rose MR, Arnold RM: Opening the Black Box: How Do Physicians Communicate about Advance Directives? *Ann Intern Med.* 1998;129(6):441-449.

13. Charmaz K: *Constructing grounded theory*. London; Thousand Oaks, Calif.: Sage Publications; 2006.

14. Attride-Stirling J: Thematic networks: an analytic tool for qualitative research. *Qualitative research.* 2001;1(3):385-405.

15. Glaser BG, Strauss AL: *The discovery of grounded theory; strategies for qualitative research*. Chicago: Aldine Pub. Co.; 1967.

16. Guest G, Bunce A, Johnson L: How many interviews are enough? An experiment with data saturation and variability. *Field methods.* 2006;18(1):59-82.

Appendix A: ICD-9-CM from the NCQA palliative and end of life care measurement set [8]

Description	ICD-9-CM Diagnosis
Pancreatic Cancer	157.0, 157.1, 157.2 , 157.3, 157.8, 157.9
Esophageal Cancer	150.3, 150.5, 150.8 150.0, 150.1, 150.2, 150.4, 150.9
Stomach Cancer	151.0 151.9, 151.1, 151.2, 151.3, 151.4, 151.5, 151.6, 151.8
Brain Cancer	191.0, 191.1, 191.2, 191.3, 191.4, 191.5, 191.6, 191.7, 191.8, 191.9
Lung Cancer	162.8, 162.3, 162.2, 162.4, 162.5, 162.9, 162.0
Peritoneal Cancer	158.8, 158.9, 158.0
Secondary malignant neoplasm of respiratory and digestive systems	197.0, 197.1, 197.2, 197.3, 197.4, 197.5,197.6, 197.7, 197.8
Secondary malignant neoplasm of other specified sites	198.0, 198.1, 198.2, 198.3, 198.4, 198.5, 198.6, 198.7, 198.8, 198.81, 198.82,198.89
COPD and ventilator support or oxygen dependence	492.0, 496 491.2 493.2 -------------------------AND------------------------- V46.1,V46.2
Heart Failure	398.91, 402.01, 402.11, 402.91, 404.01, 404.03, 404.11, 404.13, 404.91, 404.93, 428.0, 428.1, 428.2,428.3, 428.4, 428.9
ESRD	585.5, 585.6, V42.0, V45.1, V56
Dementia	290.0, 290.1, 290.2, 290.3, 290.4, 290.8, 290.9, 331.0, 331.1, 331.11, 331.82, 331.2
Stroke	290.4
Parkinson’s	332.0
ALS	335.20
Cystic Fibrosis and ventilator support or oxygen dependence	277.02 ------------------------AND------------------------ V46.1,V46.2
General Palliative Care	V66.7

Appendix B. Potential Interview questions for Aim 2

Topic Area	Questions
Beliefs about ACP	1. When I use the term "advance care planning" what do you think of? 2. What do you think of the idea of discussing treatment preferences and advance care planning with your patients?
Clinical experience with ACP	1. How do you decide when to introduce the topic of "goals of care" or "advance care planning" with patients or their family members? 2. How do you begin that conversation? 3. How do patients respond when you have these conversations? 4. What topics do you cover in these conversations?
EHR Documentation of ACP	1. Do you talk about documenting preferences as part these conversations? 2. Do you have a formal or informal workflow for ACP discussion or documentation in Epic? 3. Does anyone in your department other than physicians enter or update patients' ACP preferences?
ACP Barriers and Facilitators	3. What challenges do you face discussing advance care planning? 4. Do you have specific resources you point patients or family members to during these conversations? 5. What would be most helpful to you to improve advance care planning with your patients?

Planned Enrollment Report

Study Title:	Advance Care Planning Practices in Caring for Vulnerable Elders with MCC
Domestic/Foreign:	Domestic
Comments:	The proposed project is an observational retrospective study. No patients will be actively enrolled. The below table shows the distribution of the current PAMF population.

Racial Categories	**Ethnic categories**				
	Not Hispanic		**Hispanic**		**Total**
	Female	Male	Female	Male	
American Indian/Alaska Native	63	51	23	20	157
Asian	7637	5533	109	67	13346
Native Hawaiian or Other Pacific Islander	150	116	16	10	292
Black or African American	738	513	8	5	1264
White	36867	27566	1567	987	66987
More than one Race	468	329	37	20	854
Total	45923	34108	1760	1109	82900

Safety Monitoring Plan

The proposed project is an observational study and as such a safety monitoring plan is not needed.

BIOGRAPHICALSKETCH

NAME Ming Tai-Seale	POSITION TITLE Senior Investigator, Palo Alto Medical Foundation Research Institute Consulting Professor, Stanford School of Medicine
eRA Commons User Name mtaiseale	

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
Shanghai Jiaotong University School of Medicine		1981-1986	Medicine
Emory University	M.P.H.	1986-1988	Health Administration
University of California at Los Angeles	Ph.D.	1992-1995	Health Services

A. Personal Statement

Dr. Tai-Seale has extensive knowledge in health services research with strong organizational support from senior leaders, clinicians, and staff at the Palo Alto Medical Foundation. She led a study that reported the lack of standard documentation of advance care planning in the EHR that was published in the Journal of Palliative Care. The paper was referenced extensively in the recent IOM Report “Dying in America.” Dr. Tai-Seale has won the Article-of-the-Year Award from AcademyHealth. She is an editorial board member of *Health Services Research* and past chair of the Health Economics Interest Group of AcademyHealth. She has been serving as a grant proposal reviewer for various federal agencies including NIH, AHRQ, and PCORI. In addition to contributing original research articles to peer-reviewed journals, her research has been discussed in hearings in the U.S. Senate and in the popular press such as the *New York Times, Washington Post, O Magazine, Good Housekeeping, and Ladies' Home Journal.*

B. Positions and Honors

Employment and Affiliations

1995 - 1996	Visiting Assistant Professor, School of Public and Environmental Affairs, Indiana University at Indianapolis
1996 - 2001	Assistant Professor, School of Public and Environmental Affairs, Indiana University at Bloomington
2001 - 2003	Assistant Professor, Department of Health Policy and Management, School of Rural Public Health, Health Science Center, Texas A&M University
2003 - 2009	Associate Professor, Department of Health Policy and Management, School of Rural Public Health, Texas A&M Health Science Center
2009 - 2011	Professor, Department of Health Policy and Management, School of Rural Public Health, Texas A&M Health Science Center
2009 - present	Senior Investigator, Department of Health Policy Research, Palo Alto Medical Foundation Research Institute
2010 - present	Member, Asia Health Policy Forum, Stanford University Affiliate, Stanford Health Policy Program
2014 - present	Consulting Professor, Stanford University School of Medicine, Department of Health Research and Policy

Federal Government, National, and Professional Services

2001	Working group member, Socio-Cultural Issues and Access to Mental Health Services in Rural America, National Institute for Mental Health, Department of Health and Human Services
2002- 2013	Member, Various Special Emphasis Panels (M-RISP, F32, etc.) Agency for Healthcare Research and Quality, Department of Health and Human Services
2003	Expert participant, Stakeholder Meeting on Rural Behavioral Health, Substance Abuse and Mental Health Services Administration (SAMHSA), Department of Health and Human Services
2003 – 2014	Member, Health Care Research and Training (HCRT) Study Section Agency for Healthcare Research and Quality, Department of Health and Human Services

2005 – 2006	Member, Special Emphasis Panels (3 separate panels) Advanced Disparity Center Review National Institute for Mental Health, Department of Health and Human Services
2006 - present	Member, Editorial Board, *Health Services Research*
2008	Member, Special Emphasis Panel AHRQ National Research Service Award Institutional Research Training Grant (T32) Agency for Healthcare Research and Quality, Department of Health and Human Services
2009 - 2010	Ad Hoc Member, Health Care Research and Training Study Section Agency for Healthcare Research and Quality, Department of Health and Human Services
2010	Member, Special Emphasis Panel, AHRQ National Research Service Award Institutional Research Training Grant (K12/T32) Agency for Healthcare Research and Quality, Department of Health and Human Services
2010	Member, Special Emphasis Panel Expansion of Research Capacity to Study Comparative Effectiveness in Complex Patients (R24), Agency for Healthcare Research and Quality, Department of Health and Human Services
2011	Invited participant, NIH-Society of Behavioral Medicine Workshop on Identifying Core Behavioral and Psychosocial Data Elements for the Electronic Health Record
2012	Scientific reviewer, Patient-Centered Outcomes Research Institute (PCORI) (February, Pilot Project Study Section panel; September, Phase I Review; November, Phase II Review)
2013	Chair, Article-of-the-Year Award Selection Committee, Academy Health
2013	Expert advisor, AHRQ Ambulatory Safety & Quality (ASQ) Program
2014	Ad Hoc member, Dissemination and Implementation Science Study Section, National Institute of Health.
2014	Standing member, Improving Health Systems Review Panel, Patient-Centered Outcomes Research Institute (PCORI)

Honors

1993 - 1994	Agency for Health Care Policy and Research, U.S. Department of Health and Human Services Dissertation Grant, RO3-HS08046: "Physician Responses to Medicare Payment Reductions with Multiple Payers."
2000	Accelerated Fellow, Mentoring and Education for Health Services Research Program, Yale University, NIMH R25
2008	Award for Excellence in Research, Texas A&M Health Science Center School of Rural Public Health
2008	Article-of-the-Year Award, AcademyHealth

Professional Societies

1992 - present	American Public Health Association, Medical Care Section, Mental Health Section
1992 - present	AcademyHealth (formerly the Association for Health Services Research)
2004 – present	Member, Health Economics Interest Group Advisory Committee, AcademyHealth
1995 - present	International Health Economics Association
2006 - present	American Society of Health Economists

C. Select Publications

1. **Tai-Seale M**, P.K. Foo, C.D. Stults. "Patients With Mental Health Needs Are Engaged In Asking Questions, But Physicians' Responses Vary." *Health Aff,* 32(2):259-267, 2013.
2. **Tai-Seale M,** "Physician Management of Demand at the Point of Care." *Encyclopedia of Health Economics*, 61-67, 2014.
3. Wilson CJ, Newman J, Tapper S, Lai S, Cheng PH, Wu FM, **Tai-Seale M**. Multiple locations of advance care planning documentation in an electronic health record: are they easy to find? *J Palliat Med.* 2013;16(9):1089-1094.
4. Dohan, D, M. McCuistion, D. Frosch, D. Hung, **M. Tai-Seale**., "Recognition as a Patient Centered Medical Home: Fundamental or Incidental? *Annals of Family Medicine*, 11 suppl 1:S14-8, 2013.
5. **Tai-Seale, M**, T. McGuire, "Time is Up: Increasing Shadow Price of Time in Primary-Care Office Visits," *Health Econ*, 21(4):457-76, 2012.

6. Stone AL, **M. Tai-Seale**, C.D. Stults, J.M. Luiz, R.M. Frankel. “Three Types of Ambiguity in Coding Empathic Interactions in Primary Care Visits: Implications for Research and Practice.” *Patient Educ Couns,* 89(1):63-68, 2012.
7. **Tai-Seale M.,** J. Bolin, X. Bao, R. Street. “Management of Chronic Pain Among Older Patients: Inside Primary Care in the US.” *Eur J Pain,* 15(10):1087.e1-8, 2011.
8. **Tai-Seale M.**, C. Stults, W. Zhang, M. Shumway, “Expressing Uncertainty in Clinical Interactions Between Physicians and Older Patients: What Matters?" *Patient Educ Couns*, 86(3):322-8, 2011.
9. Vannoy, S. **M. Tai-Seale**, P. Duberstein, L. Eaton, and M. Cook, “Now What Should I Do? Primary Care Physicians’ Responses to Older Adults Expressing Thoughts of Suicide,” *J Gen Intern Med,* 26(9):1005-11, 2011.
10. Shih, Y, **M. Tai-Seale**. “Physicians’ Perception of Demand-Induced Supply in the Information Age: A Latent Class Model Analysis,” *Health Econ*, 21(3):252-69, 2011.
11. **Tai-Seale, M**., M.E. Kunik, A. Shepherd, J. Kirchner, A. Gottumukkala. “A Case Study of Early Experience with Implementation of Collaborative Care in the Veterans Health Administration,” *Popul Health Manage*, 13(6):1-7, 2010.
12. **Tai-Seale, M**, Letter to Editor regarding “What’s Keeping Us So Busy in Primary Care”? *New Engl J Med*, 363(5):495, 2010.
13. **Tai-Seale, M**, McGuire, T, Colenda, C, Rosen, D, Cook, M. “Two-Minute Mental Health Care for Elderly Patients: Inside Primary Care Visits,” *J Am Geriatr Soc*, 55:1903–1911, 2007.
14. **Tai-Seale, M**. T. McGuire, and W Zhang. “Time Allocation in Primary Care Office Visits,” *Health Serv Res*, 42(5):1871-1894, 2007.
15. **Tai-Seale, M**, R Bramson, X Bao. “Decision or No Decision: How Do Patient-Physician Interactions End and What Matters?” *J Gen Intern Med*, 22(3):297-302, 2007.

D. Research Support

Current

Tai-Seale, Ming PCORI “Creating a Patient-Centered Tool to Help Medicare Beneficiaries Choose Prescription Drug Plans” Role: Co-PI	4/1/2014 - 3/30/2017
Tai-Seale, Ming CMMI/PBGH “Intensive Outpatient Care Program at the Palo Alto Medical Foundation” Role: Site PI, Subcontract	7/1/2014 - 6/30/2015
Tai-Seale, Ming PCORI “Creating a Zone of Openness to Increase Patient-centered Care” Role: PI	12/1/2012 - 6/30/2015
Tai-Seale, Ming AHRQ “Estimating the Costs of Supporting Primary Care Practice Transformation” Role: PI	9/30/2013 - 9/29/2015
Elwyn, Glyn Gordon and Betty Moore Foundation “Evaluating the use of CollaboRATE, a fast and frugal measure of patient engagement in real-world clinical settings” Role: Site PI	12/1/2013 - 11/30/2015

Milstein, Arnold and Harold Luft, Co-Directors Dick Levy Family Foundation “Improving American Health Care Affordability and Quality,” Stanford and PAMFRI research and training collaboration Role: PAMFRI Training Program Coordinator	12/1/2012 - 11/30/2015
Smith, Susan Gordon and Betty Moore Foundation “Strengthening Primary Care: Evaluation” Role: PI, Subcontract	5/1/2013 - 2/29/2015
Becker, Daniel Private gift with matching funds from Sutter Health “Pilot Program to Expand Behavioral Health Care for Adolescents within Palo Alto Medical Foundation and Mills-Peninsula Health Services” Role: Co-Investigator	4/1/2013 - 3/31/2018
Simon, Gregory NIMH “HMORN Mental Health Research Network II (MHRN2)” Role: Site-PI	8/1/2014 - 7/31/2019
Gurwitz, Jerry NIA “Advancing Geriatrics Infrastructure and Network Growth” Role: Steering Committee Member and Co-investigator	9/1/2014 – 8/31/2018

Completed

Atlas, Steven AHRQ 1R18 HS018648-01 “The Medication Metronome Project” Role: Site PI	10/1/2012 - 6/30/2014
Luft, Harold S. AHRQ 1 R21 DK094387-01 “Time, Referrals, and Doctoring: Efficient Options for the Future (TRADEOFF)” Role: Co-Investigator	9/30/2011 - 8/31/2013
Tai-Seale, Ming DHHS/ASPE AE000023-01 “Accelerating Adoption of Comparative Effectiveness Research Results with Patient Decision Support Interventions” Role: PI	9/1/2010 - 8/31/2013
Tai-Seale, Ming AHRQ R18 HS019167-01 “Primary Care Transformation in a NCQA Certified Patient-Centered Medical Home” Role: PI	9/1/2010 - 7/31/2013
Tai-Seale, Ming NIMH R01 MH081098 “Mental Health Communication in Elderly Primary Care Visits and Economic Outcomes” Role: PI	5/12/2009 - 4/30/2012
Tai-Seale, Ming AHRQ 1 R21HS019550-01 “A Study of Trends in Obesity Progression Among Complex Patients” Role: PI	10/1/2010 - 9/30/2012
Newman, Jeffrey Metta Fund - Sutter Health Institute for Research & Education “Lost in the Shuffle? Documentation of End-of-Life Care Decisions” Role: PI, subcontract	3/1/2011 - 2/28/2012

BIOGRAPHICAL SKETCH

NAME Dillon, Ellis C.	POSITION TITLE Assistant Research Sociologist
eRA COMMONS USER NAME (credential, e.g., agency login) dillone	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	MM/YY	FIELD OF STUDY
Cornell University Ithaca, NY	B.A.	06/01	Sociology
University of California, San Diego San Diego, CA	Ph.D.	06/13	Sociology
Palo Alto Medical Foundation Research Institute Mountain View, CA	Postdoctoral fellow	08/13	Health Services Research

A. Personal Statement

I am a trained qualitative health researcher embedded within the health care organization, Palo Alto Medical Foundation (PAMF), site of this proposed research project. My role on this project as co-Investigator would be to lead the qualitative component of the research, including interviews with 20 health care team members identified through electronic health record (EHR) analysis as having low or high rates of advance care planning (ACP) documentation in the EHR, and analysis of this qualitative data. I have graduate-level training in ethnographic methods and qualitative data analysis as well as extensive experience in recruiting physicians and other health care team members for interviews at PAMF. My research is committed to improving end-of-life care for patients with a particular emphasis on understanding patient and family experience of care. My Ph.D. dissertation work was an ethnography of a home hospice program, which included observation of hospice work in patient homes and interviews with patients, family members, and health care team members including nurses, social workers, spiritual counselors, and home health aides. This work focused on patients' and families' experience of illness progression, transitions to hospice care, and decision-making. In my post-doctoral work at PAMF's Research Institute I have managed the qualitative component of two large studies. Both studies involved recruiting health care team participants for activities including interviewing, shadowing clinical work, and observing/audio-recording patient appointments. Ming Tai-Seale, Ph.D., MPH, and I have collaborated with some of our proposed consultants—Dr. Sharon Tapper (Palliative Care), Dr. Steve Lai (Palliative Care), and Dr. Peter Yu (Oncology) on other research projects. I am very excited to work with this team on the proposed research project.

B. Positions and Honors

Positions and Employment

2013-2014	Postdoctoral Fellow, Palo Alto Medical Foundation Research Institute & Stanford University Clinical Excellence Research Center (joint postdoctoral program), Palo Alto, CA
2014-	Assistant Research Sociologist, Palo Alto Medical Foundation Research Institute, Mountain View, CA

Other Experience and Professional Membership

2007-2009	Home care volunteer, San Diego Hospice, San Diego, CA.
2013-2014	Member, HMO Research Network

2013-2014	Member, Academy Health
2007-2010	Member, American Sociological Association

C. Contributions to Science

My most significant contribution has been my dissertation research, “Choosing Hospice or Choosing Dying: Patient Autonomy and Home Hospice Care.” This dissertation delved into the world of home hospice care examining the varying and sometimes contradictory perspectives of hospice patients, families, and hospice workers. It emphasized the obstacles to decision-making in the context of hospice care and how hospice workers and the institutional structure of hospice care facilitate decision-making and patient and family engagement. Two podium presentations at the 2014 HMO Research Network conference are listed below as well as one paper currently under review at a scientific journal.

Dillon, Ellis. How home hospice work facilitates patient engagement: trusted guides providing education and fostering decision-making. Under review.

Dillon, Ellis. Re-conceptualizing Medical Decisions: How Home Hospice Care Fosters Patient and Family Engagement and Decision-making.
HMO Research Network Conference, April 2, 2014 (oral presentation)

Dillon, Ellis. Choosing Hospice or Choosing Dying: The Cultural and Medical Meanings of Hospice and the Role of Provider Referrals in Transition to Hospice Care.
HMO Research Network Conference, April 3, 2014 (oral presentation)

D. Research Support

Current

Palo Alto Medical Foundation
Tai-Seale (PI) 12/01/2013-12/11/2015
“Lost in the Shuffle? Documentation of End-of-Life Care Decisions
This project examines how advance care planning (ACP) is documented within the EpicCare electronic health record at PAMF, in particular looking at variation related to the expansion of the palliative care program over the last 6 years.
Role: Study Coordinator

Hartford Foundation
Lai (PI) 3/01/2014-4/09/2015
Honoring Your Wishes
This project uses a social worker–led education and discussion visit, accompanied by videos and other interactive tools, to enhance patient understanding of end-of-life decisions and to improve documentation using POLST forms. The project also includes patient and provider interviews and focus groups to learn more about beliefs and experiences with ACP.
Role: Study Coordinator

Betty and Gordon Moore Foundation
Tai-Seale (PI) 5/1/2013-2/29/2015
Strenghtening Primary Care: Evaluation
The Champion intervention is a redesign of care delivery for patients with hypertension or diabetes, including the introduction of health coaches and a new model of team care. The study uses qualitative and quantitative methods to assess implementation and effectiveness of the intervention as well as how patients and provider perceive the care redesign. The qualitative data was collected over 3 waves and

included observation/audio recording of patient appointments with physicians and health coaches, and interviews with patients, physicians, health coaches, and other health care team members.
Role: Co-Investigator/Co-Coordinator

Patient Centered Outcomes Research Institute
Tai-Seale (PI) 12/1/2012-6/30/2015
Creating a Zone of Openness to Increase Patient-centered Care
This study takes a patient-centered approach to developing an intervention to improve communication between patients and physicians in a primary care setting. We use a randomized controlled trial design to test the effectiveness of this intervention against three comparison groups.
Role: Co-Investigator/Co-Coordinator

BIOGRAPHICAL SKETCH

NAME Ritchie, Christine Seel, MD, MSPH	POSITION TITLE Professor of Medicine Harris Fishbon Distinguished Professor for Clinical Translational Research in Aging
eRA COMMONS USER NAME critchie	

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	MM/YY	FIELD OF STUDY
Davidson College, Davidson, NC	BA	1984	Ctr for Special Studies
University of North Carolina, Chapel Hill, NC	MD	1988	Medicine
University of Alabama at Birmingham, B'ham, AL	Res/Fellow	89-94	Internal Med/Geriatrics
University of Alabama at Birmingham, B'ham, AL	MSPH	1992-96	Epidemiology

A. Personal Statement

I am a geriatrician and palliative care physician with a program of research focused on patients with advanced illness and multimorbidity. I have provided geriatrics and palliative care to functionally impaired, seriously ill patients with multiple co-occurring conditions for the past two decades. My research addresses both clinical and health services implications of multimorbidity in populations with specific disease combinations and interventions to manage the special challenges faced by patients with multiple co-occurring conditions, with a particular focus on pain and other symptoms. As a clinician investigator, I have experience in informatics, qualitative and quantitative research. I am delighted to collaborate with Drs. Dillon and Tai-Seale at the PAMF Research Institute to understand the impact of a formal palliative care program on advance care planning as documented in the EHR.

B. Positions and Honors

Positions and Employment

1991-1992	Chief Medical Resident, Department of Medicine, Internal Medicine, University of Alabama at Birmingham
1994-1998	Assistant Professor of Medicine, University of Alabama at Birmingham
1998-2004	Assistant Professor of Medicine, Division of General Internal Medicine, Univ. of Louisville
1999-2003	Medical Director, VA Hospice and Palliative Care Program, Louisville VAMC, KY
2002-2004	Associate Chief of Staff, Geriatrics and Extended Care Service, Louisville VAMC, KY
2004-2010	Associate Professor of Medicine, University of Alabama at Birmingham
2004-2012	Investigator, Birmingham-Atlanta VA Geriatric Research Education and Clinical Center and the Birmingham VA REAP
2004-2012	Director, Center for Palliative and Supportive Care, University of Alabama at Birmingham
2004-2012	Director, Palliative and Supportive Care Section, Division of Gerontology, Geriatrics and Palliative Care
2008-2012	Director, UAB Geriatric Education Center
2008-2012	Director, UAB Advanced Illness and Multimorbidity Research Program
2010-2012	Professor of Medicine, University of Alabama at Birmingham
2012-present	Professor in Residence, University of California San Francisco
2013-present	Director, Pilot and Exploratory Studies Core, Claude D Pepper Older Americans Independence Center
2012-present	Harris Fishbon Distinguished Professor for Clinical Translational Research in Aging, Division of Geriatrics, University of California San Francisco and the Jewish Home of San Francisco

Other Experiences and Professional Memberships

2008-present	Appointed Member, Scientific Merit Review Board (VA Study Section), VA HSR&D
2008-present	Ad hoc Reviewer, VA HSR&D CDA Study Section
2008-2010	Chair, Academic Medicine Task Force, American Academy of Hospice and Palliative Medicine
2009-2011	Member, National Priorities Partnership/ National Quality Forum End-of-Life Workgroup
2010	Reviewer, CDC Special Emphasis Panel (reviewing applications for SIP 10-029 Cancer Survivorship Care Plan Pilot)
2010-present	Member, Board of the American Academy of Hospice and Palliative Medicine
2013-2014	Secretary, Board of the American Academy of Hospice and Palliative Medicine
2010—2014	Clinical Practice & Models of Care Committee of the American Geriatrics Society
2011-2012	American Geriatrics Society Panel on the Clinical Management of People with Multiple Morbidities
2011-present	Member, Public Policy/ Research Committees, Amer. Acad. of Homecare Physicians
2014-2015	President-elect, American Academy of Hospice and Palliative Medicine (AAHPM)

Honors

1991	Aesculapian Award for Excellence in the Practice of Clinical Medicine
2001	Alpha Omega Alpha Honor Society
2003	Provost Exemplary Advising Award
2004	VA National Mark Wolcott Award for Excellence in Clinical Care Delivery
2008	UAB Healthcare Leadership Academy
2008	Birmingham Business Journal Healthcare Advocacy Hero
2012	AAHPM PDIA National Leadership Award

C. Selected Peer-Reviewed Publications (from over 130 publications)

1. Farless L, **Ritchie CS.** Challenges of pain management in long-term care. Annals of Long Term Care. 2012;20:32-38.
2. Salanitro AH, Hovater M, Hearld KR, Rot DL, Sawyer P, Locher JL, Bodner E, Brown CJ, MD, Allman RM, **Ritchie CS**. Symptom burden predicts hospitalization independent of comorbidity in community-dwelling older adults. J Am Geriatr Soc. 2012;60(9):1632-7.
3. Multimorbidity Panel. Guiding principles for the care of older adults with multimorbidity: an approach for clinicians: American Geriatrics Society expert panel on the care of older adults with multimorbidity. J Am Geriatr Soc. 2012t;60(10):E1-E25.
4. Kamal AH, Currow DC, **Ritchie CS**, Bull J, Abernethy AP. Community-based palliative care: the natural evolution for palliative care delivery in the United States J Pain Symptom Manage. 2012. PMID: 23159685
5. **Ritchie CS**, Richman J, Sobko H, Bodner E, Phillips B, Houston. The e-coach transition support computer telephony implementation study: protocol of a randomized trial. Contemp Clin Trials. 2012;33(6):1172-1179. PMID: 22922245
6. Sheppard KD, Brown CJ, Hearld KR, Roth DL, Sawyer P, Locher JL, Allman RM, **Ritchie CS**. Symptom burden predicts nursing home admissions among older adults. J Pain Symptom Manage. 2012. PMID:23218806
7. Sheppard KD, Sawyer P, **Ritchie CS**, Allman RM, Brown CJ. Life-space mobility predicts nursing home placement over six years. J Aging Health. J Aging Health. 2013 Sep;25(6):907-20. doi: 10.1177/0898264313497507. Epub 2013 Aug 21. PMID: 23965310
8. **Ritchie CS**, Zulman DM. Research priorities in geriatric palliative care: multimorbidity. J Palliat Med. 2013;16(8):843-7.

9. **Ritchie CS,** Hearld KR, Gross A, Allman RM, Sawyer PB, Sheppard KD, Salanitro A, Locher JL, Brown CJ, Roth DL. Measuring symptoms in community-dwelling older adults: the psychometric properties of a brief symptom screen. Med Care. 2013;51:949–955.
10. **Ritchie C**, Dunn LB, Paul SM, Cooper BA, Skerman H, Merriman JD, Aouizerat B, Alexander K, Yates P, Cataldo J, Miaskowski C. Differences in the symptom experience of older oncology outpatients. J Pain Symptom Manage. 2014 Apr;47(4):697-709. doi: 10.1016/ j.jpainsymman.2013.05.017. Epub 2013. PMID: 23916681.
11. **Ritchie CS**. Ushering in an era of community-based palliative care. J Palliat Med. 2013 Aug;16(8):818-9. doi: 10.1089/jpm.2013.9493. PMID: 23876040
12. Kelley AS, Langa KL, Covinsky K, Smith AK, Cagle J, Ornstein K, Silveira M, Nicholas L, **Ritchie CS**. Leveraging the Health and Retirement Study to advance palliative care research. J Palliat Med. 2014 Apr 2. PMID: 24694096
13. **Ritchie CS**. Ushering in an era of community-based palliative care. J Palliat Med. 2013 Aug;16(8):818-9. doi: 10.1089/jpm.2013.9493. PMID: 23876040
14. Steinman MA, Komaiko KD, Fung KZ, **Ritchie CS**. Use of opioids and other analgesics by older adults in the United States, 1999-2010. Pain Med. 2014. doi: 10.1111/pme.12613. [Epub ahead of print] PMID: 2535217
15. Leff BL, Carlson C, Saliba D, **Ritchie CS**. The invisible homebound: setting quality-of- care standards for home-based primary and palliative care. Health Affairs. 2015;34(1):21-9. doi: 10.1377/hlthaff.2014.1008. PMID:25561640

D. Research Support

Ongoing

5K07AG31779-05 Ritchie (PI) 12/30/08 – 3/30/14
NIH/NIA
Advanced Illness and Multimorbidity Geriatric Academic Leadership Award
The overall goal of this award is to develop a research program at UAB and UCSF addressing advanced illness and multimorbidity, the natural nexus of geriatrics and palliative care.

1U24NR014637 Abernethy & Kutner (Co-PIs) 9/28/13 – 6/30/18
NIH/NINR
Refinement and Expansion of the Palliative Care Research Cooperative Group (PCRC)
Majors goals are (1) develop a national research capacity for collaborative, multisite, PCEOL research in a way that maximizes the quality and efficiency of research and the effectiveness of cooperative groups; and (2) provide integrated support for PCEOL research, specifically, for the conduct, analysis, and dissemination of clinically meaningful, high-quality, efficient, patient-centered, multisite studies.
Role: Site PI and Director, Junior Investigator Training Center

1R01NR013347-01 Covinsky(PI) 9/27/11 – 7/31/15
NIH/NINR
Needs and Outcomes of Elders with Hip Fracture: Supportive, Functional, Palliative
The aims of this project are: (1) Describe the need for personal assistance in basic and instrumental activities of daily living in the two years before and the two years after hip fracture; (2) Determine which elders are at highest risk for death and disability following hip fracture; (3) Among those who die in the year after hip fracture, describe patterns of resource use (hospital, ICU, and hospice), location of death, advance care planning, and quality of symptom control.
Role: Co-Investigator

R18 HS022763 Abernethy (PI) 9/30/13 – 9/29/18
AHRQ
Implementing Best Practice in Palliative Care

The purpose of this project is: (1) To develop and nationally implement a Palliative Care Research Cooperative (PCRC) specific version of QDACT-PC (a registry for palliative care practices). (2) To demonstrate the use of QDACT-PCRC for CQI by conducting a network-wide CQI project in constipation management. QDACT-PCRC will be used to benchmark current conformance across all sites. PCRC clinical providers will develop a performance improvement program to address the symptom and its management. We will use QDACT-PCRC to monitor impact of the initiative, implementing iterative enhancements to the performance improvement program in order to achieve a goal of >90% conformance. (3) To test the use QDACT-PCRC as a mechanism for delivering clinical decision support that reinforces agreed best clinical practice.
Role: Site PI

No award # Ritchie (PI) 11/1/10 – 12/30/2016
S. D. Bechtel, Jr. Foundation
Program for the Aging Century
The purpose of the Program for the Aging Century to transform the care of older people by developing and evaluating replicable models of care delivery for vulnerable older adults, supporting geriatric research and fostering training that address the unique needs of the elderly and promote the highest quality of life.

P30 Claude D. Pepper OAIC Covinsky (PI) 7/1/13 – 6/30/18
NIH/NIA
UCSF Older Americans Independence Center
The goal of this project is to improve the health care and quality of life of vulnerable older adults with or at risk for disability.
Role: Core Leader, Pilot and Exploratory Studies Core; and Core Co-Leader, Data Management and Accrual Core (DMAC)

No award # Ritchie (PI) 4/1/14 – 10/1/15
Commonwealth Fund
Optimizing Quality in Home-centered Primary Care and Palliative Care
The purpose of this proposal will be the development and testing of quality of care measures for housecalls practices. Our project goal are: 1) to test quality measures developed or adapted by the Home-centered Primary Care Network, and 2) to develop candidate measures to fill critical gaps in quality measurement for home-centered primary care patients identified in previous stages of this work.

No award # Ritchie (PI) 4/1/14 – 10/1/15
Retirement Research Foundation/California Healthcare Foundation
Optimizing Quality in Home-centered Primary Care and Palliative Care: Development of a Registry
Our project goal is to optimize care quality provided by home-centered primary care and palliative care practices by creating a quality of care registry and performing formative and field testing of the registry. We will develop the technical aspects of the registry, develop documentation and educational training materials and training programs for registry use by practices, develop registry evaluation strategies and pilot test this registry with three practices. This registry will raise the standard for home-centered practices in California and nationally.

Completed

No grant number Ritchie (PI) 1/01/13 – 12/31/13
Retirement Research Foundation/Commonwealth Fund
Developing a Quality Framework for Medical Care Provided at Home (#20130008)
The purpose of this proposal will be the establishment of the development of the quality domains and elements for housecalls practices. We will perform a national survey of house calls practices, create a Medical House Calls Network, perform a comprehensive review of key quality of care domains for adults cared for at home, and utilize this comprehensive review to identify and prioritize key quality of care domains.

BIOGRAPHICAL SKETCH

NAME Lai, Steve R.	POSITION TITLE Geriatric and Palliative Medicine Physician; Physician Lead, Palliative Care & Support Services; Advanced Illness Management Medical Director, Palo Alto Medical Foundation
eRA COMMONS USER NAME (credential, e.g., agency login)	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	MM/YY	FIELD OF STUDY
University of Missouri-Kansas City, MO	B.A.	06/99	Biology
University of Missouri-Kansas City, MO	M.D.	06/99	Medicine
Washington Hospital, St. Louis, MO	Resident	07/99-06/02	Internal Medicine
Stanford University/Veterans Affairs Palo Alto, CA	Fellow	07/02-06/03	Clinical Geriatrics
University of California San Francisco, CA	Fellow	07/03-06/04	Geriatric Clinical Educator
University of Southern California, Los Angeles, CA	Fellow	09/07-06/08	Learning and Teaching Fellowship for Primary Care, Faculty Development Course

A. Personal Statement

As a practicing geriatric and palliative medicine physician, I will contribute my expertise in PAMF clinical practice, palliative care practice, and best practices for advance care planning (ACP). I have worked with the research team of this proposed project on two prior research studies, which examined how to improve end of life care and documentation of ACP. The first study (first publication cited below) was an examination of ACP documentation in the EHR prior to the advent of palliative care at PAMF. I have been an advocate and leader in efforts to improve POLST (Physicians Orders for Life Sustaining Treatment) usage in California. In 2007, after receiving the California Healthcare Foundation grant for POLST implementation, I was the physician director/champion for Santa Clara County, leading efforts to implement the POLST paradigm in a variety of care settings while building an interdisciplinary coalition of local hospices, hospitals, and nursing homes. In 2012, I became the physician lead for the new Palliative Care and Support Services program at PAMF, working closely with our medical director, Dr. Sharon Tapper, to develop key process and outcome metrics and to form collaborative relationships with other key departments in primary care, geriatrics, oncology, and cardiology. I am working on developing mechanisms within the clinic for furthering ACP discussion and documentation of ACP in the EHR, including piloting physician communication training in ACP and social worker−led patient appointments designed to further education and conversation about ACP. I have presented on advance care planning at the American Geriatrics Society and California Long-Term Care Association. I am committed to working with this research team to evaluate practices of ACP documentation, and I strongly support this research project.

B. Positions and Honors

Positions

2002-2004	Attending Physician: Internal Medicine Hospitalist, Kaiser-Permanente Hospitalist Group, Redwood City

2003-2004	Attending Physician, Nursing Home/Hospice/Acute Medicine, Laguna Honda Hospital, San Francisco
2003	Attending Physician, Geriatrics Consult Team, San Francisco Veterans Hospital
2003-2004	Attending Physician, Nursing Home, San Francisco Veterans Hospital Nursing Home
2004-2011	Staff Geriatric Physician, Santa Clara Valley Medical Center
2005-2009	Attending Physician, Internal Medicine Ward (teaching service 4 weeks yearly), Santa Clara Valley Medical Center
2007-2011	Attending Physician, Inpatient Palliative Care Consult Service, Santa Clara Valley Medical Center
2009-2011	Chief of Geriatrics, Santa Clara Valley Medical Center
2011-present	Physician Lead, Palliative Medicine Physician, Palo Alto Medical Foundation, caring for patients in the home, skilled nursing facility, and clinic
2011-present	SNF Specialist, Geriatric Physician, Palo Alto Medical Foundation, caring for patients in the skilled nursing facility setting

Professional Leadership Activities

2003-2004	Physician member, Restraint Reduction Task Force, San Francisco Veterans Hospital. Improvement of nursing/physician awareness of alternatives to using restraints in hospital setting.
2003-2005	Geriatric Fellow Representative to American Geriatric Society-Ethnogeriatrics Committee
2006-2007	Board of Directors member, Chinese American Coalition for Compassionate Care.
2006-2010	Internal Medicine Residency Selection Committee, Santa Clara Valley Medical Center
2008-2010	Geriatrics representative, Chronic Care Director Committee, Santa Clara Valley Medical Center. Improvement of quality of care for chronic disease.
2005-2011	Geriatrics Education Coordinator, Santa Clara Valley Medical Center. Curriculum development, teaching for internal medicine residency-geriatrics clinic preceptor, noon conferences, outpatient report.
2007-present	Physician Director, Santa Clara County POLST Coalition. Educational outreach and consultation on implementation of POLST Paradigm in local nursing homes and hospital systems.
2011-2013	Board of Directors member, California Association of Long-Term Care Medicine, Education Committee
2013-present	Member, Philanthropy Committee, Palo Alto Medical Foundation
2013-present	Member, Congestive Heart Failure Committee, Palo Alto Medical Foundation

Awards and honors

2008	Star Caregiver Award, Wellness Community-Silicon Valley

C. Selected Peer-reviewed Publications

1. Wilson CJ, Newman J, Tapper S, **Lai S**, Cheng PH, Wu FM, Tai-Seale M. Multiple locations of advance care planning documentation in an electronic health record: are they easy to find? J Palliat Med. 2013;16(9):1089-94. doi: 10.1089/jpm.2012.0472. Epub 2013 Jun 6.

2. **Lai S,** Kaykha A, Froelicher VF. Treadmill scores in elderly men. J Am Coll Cardiol. 2004;43(4):606-613.

3. **Lai S.** Pressure ulcers. In: Washington Manual Geriatrics Subspecialty Consult. Lippincott; 2004.

4. **Lai S.** Comprehensive geriatric assessment. In: Washington Manual Geriatrics Subspecialty Consult. Lippincott; 2004.

D. Research Support

Current

Lai 03/01/2014-02/28/2015
Hartford Foundation
“Honoring Your Wishes”
This pilot project in an ambulatory setting uses a social worker–led education and discussion visit, accompanied by videos and other interactive tools, to enhance patient understanding of end-of-life decisions and to improve documentation using POLST forms. The project also includes patient and provider interviews and focus groups to learn more about beliefs and experiences with advance care planning.
Role: PI

Lai/Lam 02/01/2013-01/31/2015
California Healthcare Foundation
“SNF 2.0: Modernizing SNF Care for the 21st Century”
Study at two skilled nursing facilities has the objective to reduce rehospitalizations of patients in skilled nursing facilities. Nurse practitioner mentors train RNs, LPNs, and CNAs in the use of forms that aid in early identification and communication to primary care clinicians of functional status changes in residents. Video-assisted POLST workshops are held with residents and family members, led by a nurse/POLST mentor.
Role: Co-Principal Investigator

Completed

Lai
California Healthcare Foundation 2007-2013 (3 grant cycles)
“Successful Implementation of POLST in Santa Clara County”
As the physician director/champion for Santa Clara County, I led efforts to implement the POLST paradigm in a variety of care settings while building an interdisciplinary coalition of local hospices, hospitals, and nursing homes.
Role:PI

BIOGRAPHICAL SKETCH

NAME Tapper, Sharon	POSITION TITLE Director, Palliative Care and Support Services, Palo Alto Medical Foundation
eRA COMMONS USER NAME (credential, e.g., agency login)	

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	MM/YY	FIELD OF STUDY
University of California Los Angeles	B.S. (Summa Cum Laude)	06/78	Public Health
University of Maryland	M.D. (with honors)	06/84	Medicine
University of California Davis	Intern	07/85-06/86	Internal Medicine
University of California Davis	Resident	07/86-06/88	Internal Medicine

A. Personal Statement

I am well suited to collaborate with research projects involving palliative medicine as I have conceived, piloted, and implemented a comprehensive palliative medicine program across a one-million patient base in Northern California. We have served thousands of patients and now serve over 500 patients a day across our geographies. We attend to patient and family needs including advance care planning, symptom management, goals of care, etc. This project will expand our knowledge around documentation of patient wishes. I wish to add my strong support to this research project.

B. Positions and Honors

Positions of leadership

2004-present	Medical Director and Founder, Dominican Hospital Palliative Care Program
2010-present	Program Director and Founder, PAMF Outpatient Palliative Care and Support Services
2014-present	Chair, Quality Committee, Dominican Dignity Hospital
2013-present	Board Member, Palo Alto Foundation Medical Group
2012-present	Innovation Advisor, Center for Medicare and Medicaid Services
2011-present	Regional Director, Inpatient Palliative Care, Peninsula Coastal Region, Sutter Health
2012-2014	Chief of Staff, Dominican Hospital, Santa Cruz
2009-2011	Vice Chief of Staff, Dominican Hospital Santa Cruz 2009-2011
2009-2011	State Physician Champion, Santa Cruz County for implementation of POLST
2009-2011	Lead Physician, PAMF Palliative Care Program development
2003-2010	Medical Director, Hospice of Santa Cruz County

Honors

1984	AOA Medical Honor Society
2012	Hero, American Red Cross Santa Cruz County
2013	Fellow, American College of Physicians
2014	Fellow, American Association of Hospice and Palliative Medicine

C. Contributions to Science

I have given dozens of presentations on hospice and palliative care to my peers and the community. I have organized several symposia on relevant palliative medicine topics. I have presented at national palliative care conferences.

I conceived, piloted, and implemented a comprehensive palliative care program that currently serves over 500 patients a day across Northern California, targeting patients with a life expectancy of 1 to 2 years or less.

Wilson CJ, Newman J, **Tapper S**, Lai S, Cheng PH, Wu FM, Tai-Seale M. Multiple locations of advance care planning documentation in an electronic health record: are they easy to find? J Palliat Med. 2013;16(9):1089-94. doi: 10.1089/jpm.2012.0472. Epub 2013 Jun 6.

D. Research Support

2012	Center for Medicare and Medicaid Innovation: Selected as an Innovation Advisor based on my work in outpatient palliative care.
2013	California Healthcare Foundation: Participated in exploring the expansion of palliative care across the healthcare continuum.
2013-2014	American Society of Clinical Oncology: Participated in a virtual learning collaborative studying hospice usage among cancer patients that was sponsored by the American Society of Clinical Oncology.

BIOGRAPHICAL SKETCH

NAME Yu, Peter Paul	POSITION TITLE Director of Cancer Research Physician in Practice
eRA COMMONS USER NAME (credential, e.g., agency login)	

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	MM/YY	FIELD OF STUDY
Brown University, Providence, RI	Sc. B	1977	Biology
Brown University, Providence, RI	M.D.	1980	Medicine
St. Luke's Roosevelt Hospital Center, New York, NY	Residency	1983	Internal Medicine
Mount Sinai Medical Center, New York, NY	Fellowship	1985	Medical Oncology
Memorial Sloan-Kettering Cancer Center, New York, NY	Postdoctoral	1989	Signal Transduction

A. Personal Statement

As a practicing medical oncologist at Palo Alto Medical Foundation (PAMF) and President of the American Society for Clinical Oncologists (ASCO), my expertise and knowledge of PAMF and oncology-specific practices related to advance care planning will be used to inform research methods and interpretation of research findings. I am committed to advancing the practice of advance care planning (ACP) and documentation in the electronic health record (EHR). I have worked with members of the research team in the past on various projects and have done extensive research on the meaningful use of the EHR. I am currently working with an ASCO Virtual Learning Collaborative designed to improve the delivery of palliative care in oncology practice as well as serve on the Primary/Specialty Care Alignment Advisory Group of the Hartford Foundation PCORI-funded Care-Align project. My experience will allow me to work with the research team to explore and explain some of the specific practices and findings related to oncology care at PAMF. I enthusiastically support this research project.

B. Positions and Honors

Positions

1980-1981	Internship, Internal Medicine, St. Luke's-Roosevelt Hospital Center, New York, NY
1981-1983	Resident, Internal Medicine, St. Luke's-Roosevelt Hospital Center, New York, NY
1983-1985	Fellow, Neoplastic Diseases, Mount Sinai Hospital, New York, NY
1985-1986	Chief Medical Resident, St. Luke's-Roosevelt Hospital Center, New York, NY
1986-1987	Research Fellow, Memorial Sloan-Kettering Cancer Center, New York, NY
1987-1989	Research Associate, Memorial Sloan-Kettering Cancer Center, New York, NY
1989-present	Physician in Practice, Palo Alto Medical Foundation, Mountain View, CA
1990-1992	Instructor, Stanford University Medical School, Division of Hematology, Palo Alto, CA
1991-1996	Associate Medical Director, Pathways Home Care and Hospice, Mountain View, CA
1993-2007	Board Member, Association of Northern California Oncologists

1996-2008	Board Member, Pathways Home Care and Hospice, Mountain View, CA
2001-2002	Chairman, Department of Medicine, El Camino Hospital, Mountain View, CA
2004-2005	President, Association of Northern California Oncologists
2008-present	Director, Cancer Research, Palo Alto Medical Foundation
2009-2012	Board Member, American Society of Clinical Oncology
2008-present	Director, Cancer Research, Palo Alto Medical Foundation
2014	Visiting Professor, Warren Alpert Medical School of Brown University
2014-2015	President, American Society of Clinical Oncology

Other Experience and Professional Memberships

ASCO

2004	ASCO Best of ASCO Program Committee Member Denver, CO
2005	ASCO Best of ASCO Program Chair San Francisco, CA
2005	ASCO Clinical Trials for the Community Oncology Team Program Committee Dallas, TX
2004-2007	ASCO Cancer Research Committee Liaison
2004-2008	ASCO Clinical Practice Committee Member
2006-2007	ASCO Clinical Practice Committee Chair
2007	ASCO Best of ASCO Program Committee Member San Francisco
2007	ASCO EHR Symposium Faculty Dallas, TX
2007, 09-10	ASCO Annual Meeting Session Chair
2008-	ASCO/NCI Clinical Oncology Requirements for the EHR Committee Co-Chair
2008-2009	ASCO/NBME National Medical Oncology In Training Examination: Test Materials Development Committee
2009	ASCO EHR Symposium Chair San Francisco, CA
2009-	ASCO Health Information Technology Workgroup Chair
2009-2012	ASCO Board of Directors

Information Technology

2009	Institute of Medicine User Perspectives in EHR Adoption
2009-	Commission for Certification of Health Information Technology: Research Work Group Member
2010	Institute of Medicine Electronic Health Records Innovation Collaborative
2010	Institute of Medicine Electronic Infrastructure for the Learning Healthcare System
2010	RAND-American Medical Association-PCPI Office of the National Coordinator for Health IT Expert Panel on Clinical Decision Support-Oncology Chair
2010-	Commission for Certification of Health Information Technology: Oncology Work Group Co-Chair
2010-2014	American Heart Association-American Diabetes Association-American Cancer Society Guidelines Advantage Steering Committee: Co-Chair, Measures Subcommittee 2010-2011. Chair, Quality Improvement Organization Subcommittee 2012-2014
2011	Institute of Medicine Envisioning a Transformed Clinical Trials Enterprise in the United States: Establishing an Agenda for 2020, Moderator.
2012-2013	eHealth Initiative National Council Technology and Cancer, Co-Chair
2014-	Epic Oncology Steering Board

Other

1990-	Institutional Review Board El Camino Hospital

2004	ANCO 2004 Annual Meeting: Program Chair Monterey, CA
2005	ANCO 2005 Annual Meeting Program Chair, Yosemite, CA
2008	CALGB Audit Committee Member
2011	American Cancer Society California Chinese Unit Leadership Council

Honors and Awards

1985	National Cancer Cytology Center Award for New Investigators: Grant for Pilot Project
1987	National Institute of Health Endocrinology Training Grant
2014	Fellow, American Society of Clinical Oncology
2014	Fellow, American College of Physicians

C. Selected Peer-reviewed Publications

1. Shulman L, Miller R, Ambinder E, **Yu P**, Cox J. Principles of safe practice using an oncology EHR system for chemotherapy ordering, preparation, and administration, part 1 of 2. J Oncol Pract. 2008;4:203-206.
2. Shulman L, Miller R, Ambinder E, **Yu P**, Cox J. Principles of safe practice using an oncology EHR system for chemotherapy ordering, preparation, and administration, part 2 of 2. J Oncol Pract. 2008;4:254-257.
3. **Yu PP**. The role of electronic health records in the treatment of complex diseases at multidisciplinary health care systems. ASCO 2009 Annual Meeting Educational Book.
4. **Yu PP**. Why meaningful use matters. J Oncol Pract. 2011;7:206-209
5. **Yu PP**. The evolution of oncology electronic health records. Cancer J. 2011;17:197-202.
6. Sledge GW, Hudis CA, Swain SM, **Yu PP**, Mann JT, Hauser RS, Lichter AS. ASCO's approach to a learning health care system in oncology. J Oncol Pract. 2013;9:145-148
7. Cagle PT, Sholl LM, Lindeman NI, Alsabeh R, Divaris DXG, Foulis P, Lee G, Neal JW, Nowak JA, **Yu PP**. Template for reporting results of biomarker testing of specimens from patients with non-small cell carcinoma of the lung. Arch Pathol Lab Med. 2014;138(2):171-4.
8. LeBlanc TW, Shulman LN, **Yu PP**. The ethics of health information technology in oncology: emerging issues from both local and global perspectives. Am Soc Clin Oncol Educ Book. 2013;33:136-42.
9. **Yu PP**, Artz D, Warner J. Electronic health records (EHRs): supporting ASCO's vision of cancer care. Am Soc of Clin Oncol Educational Book. 2014;34:225-231.
10. Kurian A, Mitani A, Desai M, **Yu PP**, Seto T, Weber SC, Olson C, Kenkare P, Gomez SL, de Bruin MA, Horst K, Belkora J, May SG, Frosch DL, Blayney DW, Luft HS, Das AK. Breast cancer treatment across healthcare system: linking electronic medical records and state registry data to enable outcomes research. Cancer. 2014;120:103-111.
11. **Yu PP**. Documenting the cancer journey. Arch Pathol Lab Med. DOI:10.5858/arpa.2013-0562-ED.
12. Schilsky R, Mcihels DL, Kearbey AH, **Yu PP**, Hudis CA. Building a rapid learning health care system for oncology: the regulatory framework of Cancer LinQ. J Clin Oncol. 2014;32:2373-2379.
13. **Yu PP**. Oncology in the digital age. J Oncol Pract. 2014;10:227-230.
14. **Yu PP**, Hoffman MA, Hayes DF. Biomarkers and oncology: the path forward to a learning health system. Arch Pathol Lab Med. 2014. DOI:10.5858/arpa.2014-0080-ED.
15. **Yu PP.** Knowledge bases, clinical decision support systems and rapid learning in oncology. J Oncol Pract. In press.