

THE UNIVERSITY OF CALIFORNIA, SAN FRANCISCO (UCSF)

Claude D. Pepper Older Americans Independence Center

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CENTER DESCRIPTION

Established in 2013, the UCSF Claude D. Pepper Older Americans Independence Center focuses on addressing predictors, outcomes, and amelioration of late-life disability in vulnerable populations. Late-life disability, defined as needing help with daily activities, is common, burdensome, and costly to patients, families, and society. Late-life disability is influenced by medical vulnerabilities (including comorbid illnesses, aspects of medical care, medicines, procedures, neuropsychiatric conditions, and behaviors), social vulnerabilities (social supports, financial resources, communication and literacy, and ethnicity), and their interaction. The overriding goal of the UCSF OAIC is to improve the health care and quality of life of vulnerable older adults with or at risk for disability through the following aims:

1. Catalyze research on disability in vulnerable older persons at UCSF by serving as a hub that brings together scholars and leverages resources
2. Provide tangible, high-value support to funded projects at UCSF that stimulates new research on disability, and leads to new research opportunities for senior and junior investigators
3. Support pilot studies that accelerate gerontologic science and lead to research funding in late life disability
4. Identify the future leaders of geriatrics research and support them with career development funding and exceptional mentoring
5. Develop a leadership and administrative structure that spurs interdisciplinary collaboration, making the OAIC greater than the sum of its parts

Our Center supports researchers who share our passion for improving the well-being of older persons. We view our resources as venture capital that will catalyze the careers and research paths of investigators who will do cutting edge research that advances the care, health, and wellbeing of older persons, both within the UCSF community and nationally.

CORES

Leadership and Administrative Core (LAC)

Leader 1: Ken Covinsky, MD, MPH covinsky@medicine.ucsf.edu

Leader 2: Michael Steinman, MD Mike.Steinman@ucsf.edu

The Leadership Administrative Core (LAC) plays the central role in coordinating the five UCSF OAIC cores, in maintaining communication across programs, and identifying new opportunities, both within and outside the OAIC. The LAC monitors the success of each core based on tangible metrics of productivity: Research leading to publications in the highest impact journals and new NIH grant funding. The LAC monitors, stimulates, evaluates, remediates, and reports progress toward the goals of the OAIC. The LAC also maintains the substantial collaborations with other UCSF research centers, including the UCSF CTSI and RCMAR, and seeks to establish new collaborations which will leverage OAIC resources and develop new and established investigators in aging research. The overall goal of the LAC is to provide the leadership and administration to support the activities of the entire UCSF OAIC.

Research Education Component (REC)

Leader 1: Louise Walter, MD Louise.Walter@ucsf.edu

Leader 2: Kristine Yaffe, MD kristine.yaffe@ucsf.edu

The Research Education Component (REC) identifies, supports, and nurtures talented junior investigators who will become national leaders in aging research through the REC Scholars Program and Advanced Scholars Program. The REC Scholars Program targets early career faculty and seeks to accelerate their path towards NIA K awards. The Advanced Scholars Program targets current K award recipients and accelerates the path towards their first R01. Both programs provide extensive mentoring and opportunities to participate in an innovative series of seminars designed to develop skills essential to success in aging research, facilitate interdisciplinary communication, build knowledge and relationships that will stimulate translation between basic and clinical research, and accelerate their productivity. The REC leadership also works with leaders of the Resource Cores to provide scholars access to additional support. These mentorship and curricular programs help junior investigators progress along the pathways that lead to high impact publications and grant funding that develops the scholar's national reputation as a leader in their area. Mentoring services, seminar series, resource core services, and programmatic support are also available to Associate Scholars whose goals are to develop careers in aging research. A particular focus of the Associate Scholars Program is junior faculty who have trained outside of geriatric medicine, but seek to incorporate Geriatric principles into their developing research program. The Research Education Component also sponsors a diversity supplement program to increase the number of faculty members from underrepresented and diverse backgrounds conducting aging research at UCSF.

Pilot and Exploratory Studies Core (PESC)

Leader 1: Alex Smith, MD, MS, MPH Alexander.Smith@ucsf.edu

Leader 2: Sei Lee, MD Sei.Lee@ucsf.edu

The Pilot and Exploratory Studies Core (PESC) facilitates the development and progress of innovative research relating to the Pepper Center focus on the predictors, outcomes and outcomes of late-life disability, especially in vulnerable older populations. We are especially interested in the interaction of serious clinical conditions, disability, and social disadvantage. The goals of the PESC include: 1) Solicit and select innovative proposals from highly qualified applicants; 2) Provide investigators of PESC studies with the support and infrastructure of the OAIC Cores; 3) Integrate PESC studies and investigators with resources from the UCSF Clinical and Translational Science Institute (CTSI) and other relevant resources at UCSF; 4) Monitor the progress of PESC studies; and 5) Provide mentorship and resources to transform PESC funded studies into successful independently-funded projects. The PESC focuses on identifying projects from outstanding investigators who are conducting aging research that is likely to lead to external funding and is aligned with the OAIC theme.

Vulnerable Aging Recruitment and Retention Core (VARC)

Leader 1: Rebecca Sudore, MD rebecca.sudore@ucsf.edu

Leader 2: Krista Harrison krista.harrison@ucsf.edu

The Vulnerable Aging Recruitment and Retention Core (VARC) was established in the UCSF Pepper Center grant renewal application. It was developed in response to increased demand both within and outside UCSF to support research focused on improving the knowledge base regarding the needs of medically vulnerable (e.g., complex chronic disease, serious illness, profound cognitive or functional impairment) and/or socially vulnerable (e.g., isolated, impoverished, homeless, incarcerated, with limited literacy or limited English proficiency) older adults. Because these older adults are often particularly difficult to recruit and retain in clinical research, their representation in research is often limited. This impairs our knowledge about how to optimize their care. Therefore, the VARC core focuses on supporting OAIC-affiliated investigators to (1) recruit, enroll, and retain vulnerable older adults in research; (2) use appropriate measures to study their healthcare needs; and (3) engage communities in research about medically and/or socially vulnerable older adults.

Data and Analysis Core (DAC)

Leader 1: Mike Steinman, MD Mike.Steinman@ucsf.edu

Leader 2: John Boscardin, PhD John.Boscardin@ucsf.edu

The Data and Analysis Core (DAC) provides OAIC investigators access to statistical services at all stages of the research lifecycle. Through the establishment of a central hub of statistical expertise, the DAC ensures smooth delivery of statistical knowledge and rigor across the spectrum of scientific research at the OAIC. This improves the quality of OAIC research studies, helps nurture trainees, facilitates interdisciplinary research groups, and ultimately enhances research on prediction, outcomes, and amelioration of late-life disability, especially in vulnerable populations. The DAC promotes wider use of state of the art statistical practice, lowers barriers of access to basic statistical services to all research groups including trainees, provides access to specialized statistical resources (such as state of the art prognostic model development, complex longitudinal and latent class analysis, and causal inference methods), and develops statistical procedures targeted to solving problems in aging research, and more specifically to challenges that commonly arise in research on disability and function.

CAREER DEVELOPMENT**REC Scholar, Research & Grants Funded During Pepper Supported Time****Years /
Publications**

None specified.

Past Scholars

Lindsey Hampson, MD, UCSF (2019-2020)

Elizabeth (Liz) Whitlock, MD, MS, UCSF (2019-2020)

Lauren Hunt, PhD, RN, FNP, UCSF (2019-2020)

Ashwin Kotwal, MD, UCSF (2019-2021)

Sachin Shah, MD, MPH, UCSF (2019-2020)

Scott Bauer, MD, MS, UCSF (2019-2020)

Willa Brenowitz, PhD, MPH, UCSF (2019-2020)

Sarah Nouri, MD, MPH, General Internal Medicine, UCSF (2020-2021)

Li-Wen Huang, MD, Division of Hematology/Oncology, UCSF (2020-2021)

James Iannuzzi, MD, MPH, Surgery, UCSF (2020-2021)

Tasce Bongiovanni, MD MPP, UCSF OAIC (2021-2022)

Kenneth Lam, MD, UCSF OAIC (2021-2023)

Matt Miller, PT, PhD, UCSF OAIC (2021-2022)

Jennifer James, PhD, MSW, MSSP, UCSF (2022-2023)

Anoop Sheshadri, MD, MS, UCSF (2022-2023)

PILOT/EXPLORATORY PROJECTS (10 Pilot Projects Listed)**1. Project Title: Exploring the preferences and values of older adults with limited English proficiency during the hospital to Skilled Nursing Facility (SNF) care transition****Leader: James Harrison, MPH, PhD**

Transition care planning remains persistently medicalized, failing to be guided by patients' own preferences for their recovery, and does not incorporate elements that support preferences related to independence, returning home and function, or factors that allow participation in family or community activities that provide a foundation for personal purpose, creativity or fun. Most studies to improve care transitions have focused on discharges to home, and few in comparison have studied the quality of SNF transitions and have not engaged diverse older adults with limited English proficiency (LEP) during this process. For some LEP patients, in addition to language barriers, communication around preferences and values are further complicated by a lack of trust in healthcare providers, perceived racism and differing views on autonomy and decision-making. Mismatched expectations and poorly communicated care plans can not only contribute to adverse clinical outcomes but also compromise trust between patients and clinicians, impair satisfaction, and lead to delivery of care that is discordant with the preferences of patients and caregivers. Although it is often expected that individual clinicians be responsible for optimal care transitions, it is arguably more effective for high quality transitions to be the shared responsibility of all stakeholders -patients, caregivers, hospitals, and SNFs. The aim of Dr. Harrison's PESC study is to explore how patients with limited English Proficiency (LEP) and their caregivers anticipate and are prepared for a SNF discharge including how their preferences are incorporated into transition plans. Specifically, this study will extend a grounded theory qualitative study that he is conducting as part of his National Institute of Aging (NIA) K01 by supporting the inclusion of older adults with LEP who speak Spanish, Cantonese and Russian. Data generated will then directly inform other elements of my work including the development and pilot implementation of a SNF Preparation Tool. Progress to date includes creating a stakeholder informed study protocol and interview guide, a recruitment approach and implementation plan. Interviews are about to commence at the San Francisco Campus for Jewish Living. Interviews were delayed due to the ongoing COVID-19 pandemic including new variants.

2. Project Title: Opioid Prescribing Trends in Medicare Beneficiaries with Dementia before and after the 2016 CDC Guidelines for Chronic Pain**Leader: Ulrike Muench, RN, PhD, FAAN**

Since the peak of the opioid epidemic in 2012, prescription opioids have substantially decreased. One event that contributed to the reduction in opioid use was the release of the CDC guidelines on the management of chronic pain in 2016. The guidelines recommended the daily dose of morphine milligram equivalents (MME) to stay below 50 MME/day, to weigh the benefits and risks when increasing the daily dose to above 50 MME/day, and to increase to greater than 90MME/day only when it can be carefully justified. Research has found that since the release of the guideline clinicians have significantly reduced opioid prescriptions, as intended by the policy. However, evidence suggests that in some cases the recommendations were applied to patients with cancer pain, surgery, or acute sickle cell crises. In other cases, opioids were abruptly stopped or tapered, though mandated tapering is not supported by the

guidelines. It has been suggested that the inappropriate reductions in opioid prescriptions are in part due to fear of scrutiny by law enforcement agencies such as the DEA, which registers prescribers of controlled substances and can obtain information about prescribing practices of most providers. Monitoring by state medical boards and state laws that mandate dose caps or reinforce the 90 MME threshold further contributed to prescribers reducing their MME. One study that interviewed providers reported that clinicians felt that the only way to protect themselves from liability was to stay rigidly at or below the CDC guideline's 90 MME threshold and to disregard the emphasis on individualized patient care and respect for patient consent that are recognized within the guideline. The proposed study examines whether opioid use decreased systematically differently in persons with dementia (PWD) compared to persons without dementia (PWOD) following the 2016 CDC guidelines. Dr. Muench hypothesized that following the 2016 guidelines, providers disproportionately decreased opioids in PWD, a population at a disadvantage to advocate for the pain medications that they need. Through support from the Pepper Center, Dr. Muench was able to build on her analyses proposed to develop an R01 that examines opioid prescribing trends jointly with pain prevalence trends to test if individuals with ADRD no longer able to communicate are experiencing undertreatment of pain. Her hypothesis was that with increased scrutiny of prescription opioids in recent years providers may be more likely to decrease opioids in a population unable to articulate their pain needs. To this end, her long-term goal is to highlight and address potential disparities in pain treatment and provide important information for opioid prescribing guidelines concerning the management of chronic pain in people with ADRD.

3. Project Title: Post-Intensive Care Unit Outcomes and the Impact of Resilience in Older Adults with Pre-existing Geriatric Conditions

Leader: Julien Cobert, MD

For older patients admitted to the ICU, the presence of frailty, cognitive decline and disability are associated with higher mortality, worse long-term quality of life and accelerated post-discharge cognitive decline. These issues have received attention given the recognition of persistent physical, functional, psychological sequelae following critical illness –called post-intensive care syndrome (PICS) - which is particularly common in older adult survivors. When older patients face critical illness, the complex relationship between these geriatric conditions, the acute stress of critical illness, and the ICU environment places these vulnerable older adults at a higher risk for morbidity and mortality. ICU admission may result in prolonged immobility, malnutrition, swallowing dysfunction, polypharmacy and potentially burdensome invasive interventions. Critical illness itself is associated with a hyperinflammatory state which can decrease muscle mass and physical function. Lines and tubes tethering patients to beds, alarms and other noises, and lack of sunlight place many older adults at high risk of delirium and functional decline. These harms must be weighed against the potential benefits of ICU care in view of patient goals and expectations. A central goal in studying functional outcomes after critical illness is to identify pre-, intra-and post-ICU targets to mitigate functional decline or to help rehabilitate ICU patients and survivors. Most studies of functional impairment in ICU survivors emphasize factors associated with worse outcomes. Important studies in sepsis and acute respiratory distress syndrome showed that pre-illness cognitive impairment, frailty, and disability are associated with cognitive decline and self-rated health in survivors. However, protective pre-ICU characteristics such as the capacity to navigate adversity or resilience have received little attention. The implications are important because psychological well-being, satisfaction and behavioral interventions are not directly incorporated into ICU treatment

bundles despite evidence that higher levels of resilience buffer the impact of chronic illness on disability later in life. Resilience is also correlated with decreased neuropsychological impairment and better self-care in ICU survivors. Hence, there is a critical need to understand and identify modifiable traits that protect older adults who face critical illness from functional and cognitive decline. These could be targetable and potentially added to existing preventative and rehabilitative strategies in the ICU. In this study, Dr. Cobert seeks to first understand how pre-existing geriatric conditions impact clinical and functional outcomes and end-of-life care process measures for older adults who require an ICU admission. He will then quantify resilience using a validated measure to determine its impact on clinical and functional outcomes. His central hypothesis is that patients with pre-existing disability, frailty, multimorbidity or dementia have increased risk of short-and long-term morbidity and mortality, but certain outcomes may be mitigated by resilience. Through support from the Pepper Center, Dr. Cobert was able to build upon his prior work on trends of pre-ICU geriatric conditions, using a unique ICU cohort from the Health and Retirement Study to evaluate functional, behavioral, and cognitive impairments in older adults who have suffered a critical illness. This project enabled Dr. Cobert to complete analysis and publish his results on trends of pre-existing geriatric conditions in ICU patients using Medicare-linked Health & Retirement Study (HRS) data. This resulted in a publication in *Chest* (impact factor ~9.5). Dr. Cobert subsequently extended this work with ongoing data analyses to study whether resilience could mitigate post-ICU morbidity and mortality in older adults. In addition, Dr. Cobert plans to apply for R21 or R03 (and the equivalent I21 through the VA) during the 12-month award (November-December) and begin preparation for an R01 . Dr. Cobert intends for his future R01 to create novel electronic health records (EHR) measures of disability and geriatric conditions using natural language processing techniques. The R01 would be focused on the development of improved EHR tools which would allow for better data capture, better tools for patient recruitment for prospective studies, and more robust outcome measures. This future work would require a mixed methods approach to assess how to best design and validate the improved EHR tool.

4. Project Title: Biological signatures of neurodegeneration and aging associated with delirium in older adults following hip fracture surgery

Leader: Sara LaHue, MD

Identifying the shared mechanisms connecting delirium, cognitive impairment, and aging are of critical importance. Delirium is a life-threatening acute disturbance in mental status affecting more than 2.6 million hospitalized adults in the United States annually, with an estimated attributable cost of \$16,303-\$64,421 per case. Delirium is associated with functional dependence, new or accelerated cognitive decline, and death. Older adults and those with mild cognitive impairment (MCI), Alzheimer's Disease, or Alzheimer's Disease Related Dementias (AD/ADRD) are at highest risk for delirium. Once viewed as an inevitability for older adults, delirium is preventable in as many as 40% of cases using intensive clinical pathways. While delirium prevention efforts are critical, they fail to prevent 60% of cases. Insufficient knowledge of delirium pathophysiology dramatically hinders advances in personalized delirium risk assessment, prevention, and impedes the development of delirium treatments, which do not currently exist. The complex association between delirium, cognitive impairment, and advanced age is largely based on epidemiology rather than the identification of markers that may indicate biological mechanisms. Recently, there is growing evidence for plasma AD biomarkers, such as plasma phosphorylated tau at residue 181 (pTau181), demonstrated by Dr. Boxer's lab to

differentiate those with AD from healthy controls and those with other ADRD, such as frontotemporal lobar degeneration; as well as pTau217-19 and neurofilament light chain (NfL). While advanced age is a major risk factor for delirium and AD/ADRD, this is based on chronological age – the number of years alive. However, aging is increasingly understood to be driven by biological mechanisms that are more or less advanced in different individuals. The difference between this biological age and chronological age is “age acceleration,” which is associated with increased risk of disease, including AD. Dr. LaHue’s long-term goal is to become an independent clinician-investigator focused on identifying mechanisms of delirium and delirium-associated cognitive decline, and to apply this knowledge to develop targeted treatments for delirium. In order to address gaps in our understanding of the biological mechanisms of delirium, she proposes to apply novel markers of neurodegeneration and aging to delirium. These results will provide evidence of a pathophysiological basis for the observed association between delirium, cognitive impairment, and advanced age. This is the first application of plasma pTau181, pTau217 and age acceleration in delirious patients. The goal of this project is to identify whether elevated preoperative measures of pTau181, pTau217, NfL, and age acceleration (by way of DNA methylation) in blood, are associated with postoperative delirium in 100 older adults undergoing hip fracture surgery, in order to advance understanding of the pathologic drivers of delirium. Through achieving this goal, she aims to shed light on the pathological basis for the observed association between delirium, neurodegeneration and aging. Through her Pilot and Exploratory Studies Award, Dr. LaHue received support that was integral to her development as an Early-Stage Investigator at the intersection of neurology and geriatrics. The Pepper Center was able to provide not only mentorship but also research staffing support assist Dr. LaHue in executing her research. The work from this pilot study will provide the basis for a future career development award application to investigate how these markers of neurodegeneration and aging influence the trajectory of postoperative cognitive decline in older adults who develop delirium.

5. Project Title: Palliative Care for Non-English Speaking Gynecology Oncology Patients

Leader: María de Fátima Reyes, MD

In this retrospective cohort study, Dr. Reyes seeks to explore the current utilization of palliative care, especially as it relates to a patient’s primary language, and will elucidate barriers to palliative care referrals and effective palliation of symptoms. Given immigration and acculturation trends, she anticipates that language barriers will be most prominent in older women over 55 as women who immigrate later in life are more likely to be monolingual, and that her findings will highlight current areas for improvement in end-of-life care for the gynecology oncology patient population. By conducting retrospective chart review to define a cohort of aging gynecology oncology patients with advanced disease (i.e., stage 3 and 4) who obtained their care at University of California San Francisco (a large urban academic center) in the Department of Gynecology Oncology over the past 10 years (2010 to 2020), Dr. Reyes aims to accomplish the following. First, she will determine the utilization and timing of palliative care for aging gynecology oncology patients with advanced disease at our institution. Secondly, she will compare the utilization of palliative care between English-speaking versus non-English speaking aging gynecology oncology patients with advanced disease. Through the Pepper Center, Dr. Reyes was able to receive analytic support from the DAC and mentorship from VARC core leader, Dr. Rebecca Sudore, in analyzing her cohort in relation to her aims. Analysis is currently in progress. In addition, through the DAC, Dr. Reyes is able to access

additional data support from UCSF Clinical Translational Science Institute, a partner of the UCSF Pepper Center.

6. Project Title: Meaningful activities in seriously ill, vulnerable older adults
Leader: Anna Oh, BSN, MSN, MPH

Engagement in meaningful activities – enjoyable physical, leisure, social, spiritual activities related to personal interests and values – gives life identity and purpose, and is therefore beneficial to the emotional and physical well-being of older adults. As older adults age and become more susceptible to disease, disability, and cognitive impairment, the ability to participate and engage in meaningful activities place the older adult at higher risk of loss of identity and well-being. Dr. Oh’s cross-sectional examination published in JAMA IM of meaningful activity engagement in the National Health and Aging Trends Study (NHATS) found functional disability was the leading factor of nonengagement. Yet, diverse racial and ethnic groups of older adults may have varying experiences with meaningful activity engagement over time due to cultural and language barriers as well as limited access to services and resources. Little is known about meaningful activity engagement in diverse groups of older adults from historically disadvantaged backgrounds, its relationship to disability, and barriers and facilitators for engagement, such as social support, neighborhood factors, and socioeconomic and demographic factors. Previous studies have documented concerning racial and ethnic differences in the experience of aging, older Americans and their caregivers in caregiving experiences, access to and use of in-home rehabilitation services, and advance care planning. In addition to reducing racial and ethnic differences and health disparities, culturally-sensitive, community-based interventions have the potential to increase access to high-quality healthcare for diverse older adults. Culturally-sensitive, community-based interventions that include assessments of meaningful activity engagement can guide goals of care conversations, medical treatment recommendations, and target existing services and supports (e.g. home health, hospice, long-term services and supports) for older adults to stay engaged in meaningful activities. The objective of this study is to identify activity engagement in older, community-dwelling African-American/Black, Latinx/Hispanic, Asian, and bi/multiracial NHATS participants before and after the onset of the COVID-19 pandemic. The data and findings from this research will be a springboard for a K23 award where Dr. Oh will examine longitudinally the barriers and facilitators to staying engaged in meaningful activities. Through support from this award, the Pepper Center is helping to catalyze Dr. Oh’s long-term goal is to become a clinician leader who improves the quality-of-life of diverse, community-dwelling, seriously ill older adults with home-based models of care.

7. Project Title: Social relationships and distressing symptoms among older adults
Leader: Ashwin Kotwal, MD, MS

Social isolation and pain are highly prevalent conditions critical to the quality of life of older adults. Social isolation (an objective deficit in the number of relationships with family, friends, or the community), occurs in 15-20% of older adults and is associated with lower health related quality of life, higher functional impairment, higher health care costs, and death. The lifetime prevalence of chronic pain ranges from 24-45% and is a substantial contributor to reduced quality of life, health care costs, and the U.S. opioid epidemic. Pain also has known links to other symptoms such as fatigue, dyspnea, and insomnia. Although it is generally understood that pain and depression or anxiety can be linked and be more costly and disabling together

than either condition alone, the relationship between pain and social isolation has received little attention. Yet, social isolation may be both a contributor to the onset of pain and amplify existing pain. If a causal relationship between social isolation and pain exists, this could inform efforts to address challenges in pain and symptom distress among older adults, including inadequate symptom control, impacts of pain on function and independence, and contraindications to opioid and non-opioid analgesics due to their adverse effects. The objective of this pilot project is therefore to gain preliminary understanding of the relationship of social isolation to pain and other downstream symptoms among older adults. We will leverage nationally-representative cohorts of older adults, the National Health and Aging Trends Study (NHATS) and the Health and Retirement Study (HRS), which have longitudinal data on social isolation, pain, and opioid use. Questions will determine the cross-sectional association between social isolation and pain and opioid use.

8. Project Title: Understanding and Improving the Psychosocial Function of Older Adults undergoing Major Surgery

Leader: Victoria Tang, MD, MAS

"In population studies, older adults who are deficient in their psychosocial function have higher mortality rates, rehospitalization rates, and functional decline following a life stressor such as surgery. Little is known about the components of psychosocial function specific to geriatric surgical outcomes (e.g., mortality, functional decline) and treatment targeting these components has been limited to small surgery-specific cohort studies (i.e., cardiac). To address these gaps, our team recruited older surgical patients in the pre-operative setting to begin exploring their surgical experience through one-on-one interviews. Our preliminary findings support that many older surgical patients suffered from low psychosocial function. This was especially true if post-operative symptoms were still present 6 months after surgery. The long-term goal of this project is to understand and improve the psychosocial function of older adults before and after major surgery. The objective of this application is to collect pilot data to support an NIH R01 application focused on describing, quantitatively, the psychological and social challenges older surgical patients experience before and after major surgery. This application will focus on (1) developing a feasible and acceptable psychosocial survey for the older surgical patient and (2) developing and testing a post-operative recruitment strategy of older non-elective surgical patients. Our team has a track-record of successfully recruiting older patients undergoing elective major surgery and in conducting one-on-one interviews. We are well-equipped to achieve these aims. "

9. Project Title: Assessing inpatient disparities in pain assessment and management for older minority patients

Leader: Aksharananda Rambachan, MD, MPH

"Despite an increased emphasis on identifying pain as the "fifth vital sign," there are shortcomings in our approach to assessing, documenting, and responding to pain. Cognitive impairment in older persons, drugdrug interactions, patient comorbidities, fall-risk, and frailty all present additional challenges for prescribing clinicians. Furthermore racial, ethnic, cultural, and language-based differences across patients are areas where disparities are present. Studies across various health settings have found that older patients and minority patients are at high risk for underassessment and undertreatment of pain. Pain assessment tools are ubiquitous, given regulatory and hospital level requirements, yet their appropriateness and utility remain

understudied in this patient population. Pain is assessed by nursing across various time points using various self-report and behavioral tools. Clinicians often utilize their own individualized bedside approach and review of clinical data in assessing and managing a patient's pain, disconnected from nursing workflows. There is a paucity of guidelines for inpatient pain management for both acute and chronic conditions and minimal research into best practices for elderly minority patients. We do not know how pain is managed quantitatively across common medical diagnoses for these patient groups, and with regards to the interaction between age, race, ethnicity, and language status."

10. Project Title: Mixed methods evaluation of the Best Case/Worst Case-Geriatric Oncology communication tool

Leader: Melisa L. Wong, MD, MAS

"To promote delivery of goal-concordant care in geriatric oncology, I recently completed a focus group study with 40 stakeholders (14 older adults with lung cancer, 12 caregivers, and 14 medical oncologists) to adapt the innovative Best Case/Worst Case (BC/WC) communication tool to meet the specific needs of older adults with cancer and their caregivers. The original BC/WC tool was developed to improve shared decision making for older adults making non-cancer surgical decisions. BC/WC uses scenario planning—narrative description of plausible futures—to describe the best, worst, and most likely cases for each option. Scenarios are informed by clinical judgement and knowledge of patient risk factors (e.g., frailty, comorbidities). These scenarios plus an accompanying graphic aid help patients formulate and express preferences and concerns about treatment burdens and outcomes. The clinician then provides a goal-concordant recommendation. In our geriatric oncology adaptation study, 15 participants believed that the BC/WC tool could help patients understand their cancer care choices, explore tradeoffs and picture potential outcomes, and deliberate about decisions based on their goals and values. Oncologists also reported that the tool could guide conversations to address points that may frequently be skipped (e.g., alternative options, treatment goals). Based on participant input, our adaptations included framing cancer care as a series of decisions, eliciting patient preferences and asking permission before offering the worst-case scenario, and selection of the two most relevant options to present if multiple exist. I now propose a two-part feasibility pilot study with an initial lead-in phase to refine the intervention, training, and study procedures (2 medical oncologists and 4 older patients) followed by a cluster randomized trial (CRT; 6 medical oncologists, 42 older patients, and up to 42 caregivers) to evaluate our adapted BC/WC-Geriatric Oncology (BC/WC-GeriOnc) communication tool for use with older adults with advanced cancer and their caregivers. In the CRT, 6 medical oncologists will be randomized 1:1 to BC/WC-GeriOnc intervention training versus usual care with wait-list control."

DEVELOPMENT PROJECTS (11 Development Projects Listed)

1. Project Title: Methods with Survey Data
Leader: Grisell Diaz-Ramirez, MS, Bocheng Jing, MS

Core(s):

Currently there are no clear methods or best practice guidelines regarding analysis of survey data to support all survey topics ranging from surgery prediction to cognition. There are currently no software packages available, thus creating an issue of no standardized methods in calculations to perform analysis. The aims of this development project were to explore survey data issues from three main aspects: survival prediction (cox model, competing risk), propensity score methods, and linear mixed model.

Since the start of this project, Ms. Diaz-Ramirez and Mr. Jing have been actively disseminating their findings, of note:

1. The following proceeding paper was accepted to SAS Global: “Mixed-Effects Models and Complex Survey Data with the GLIMMIX Procedure”
2. The following proceeding paper was also accepted to SAS Global: “Propensity Score Matching with Survey Data”
3. SAS proceedings papers on mixed model and propensity score were presented at the Virtual SAS Global meeting. They are both now published on the Proceedings of the SAS Global Forum 2020 and also accessible online to reach the a global audience

[Mixed model download link](#)

[Propensity score download link](#)

2. Project Title: Statistical Harmonization of Two Nationally Representative Data Sets: HRS and NHATS

Leader: Sun Jeon, PhD

Core(s):

Dr. Sun Jeon seeks to develop a harmonized coding of ADL/IADL and other functional measures using the Health Retirement Study (HRS) and the National Health Aging Trends Study (NHATS). Through her analysis of the prevalence of disabilities in those two data sets, NHATS showed higher prevalence across ADL/IADL measures than that in HRS. Currently there is a lack of an understanding of whether the NHATS cohort consists of generally sicker people or the discrepancy was derived from the way the questions were asked or the survey is done. From observation of work that UCSF Pepper Center Investigators are engaging in, she has seen great overlap their interests in and demands for this work. Dr. Jeon will be dedicating her effort to further study in this area to get a deeper understanding of NHATS/HRS cohorts, survey design, and of course as well as some statistical tests.

3. Project Title: Developing an Algorithm to Identify Older Persons with Unmet Need for Equipment in National Datasets

Leader: Kenneth Lam MD, John Boscardin PhD

Core(s):

Dr. Kenny Lam (VA Quality Scholar) and DAC collaborated on developing a novel algorithm that has since resulted in a high-profile publication. The team first approached the development of this algorithm by creating a cohort of older adults aged 65 and above from the nationally representative National Health and Aging Trends Study (NHATS) and selecting participants with bathing and toileting equipment needs. Next, they cross referenced this cohort with Medicare claims data. Afterwards, the team examined how many participants did not receive equipment based on the NHATS annual follow up interviews, where interviewers meet annually with participants in person to ask about health, function, living environment, and finances and to conduct an objective assessment of physical performance. Lastly, the team used data from the 2016 to 2019 waves to determine the incidence of equipment acquisition among those with unmet need in 2015. The description of this methodology and the analysis made possible with this novel algorithm has been published in JAMA Internal Medicine, as cited below: Lam K, Shi Y, Boscardin J, Covinsky KE. Unmet Need for Equipment to Help With Bathing and Toileting Among Older US Adults. JAMA Intern Med. 2021 Mar 22:e210204. doi: 10.1001/jamainternmed.2021.0204. Epub ahead of print. PMID: 33749707; PMCID: PMC7985819.

4. Project Title: Deep Natural Language Processing Identifies Variation in Care Preference Documentation

Leader: Rebecca Sudore, MD

Core(s):

Retrospective chart reviews are one of many methods for researchers and clinicians to extract key information about subjects and patients. However, this is usually a time-intensive process. In the past year, Dr. Sudore and her collaborators have explored the use of natural language processing (NLP) and how it may increase efficiency in performing chart review. NLP (i.e., computer identification of phrases within electronic records) can be combined with deep learning (i.e., computer systems that can access and use information in an adaptive way) to create tools to aid in the rapid identification of care preference documentation. Neural network models are commonly used in deep learning. Similar to the neural networks in the human brain, computational neural networks include a series of statistical algorithms capable of modeling and processing nonlinear relationships between inputs and outputs in parallel and real time. These algorithms generate rules to associate sequences of words or images on a prespecified concept, such as care preferences, and become more accurate (i.e., learn) with more data over time. This adaptive learning process can be used to abstract complex information from clinical data with an accuracy similar to highly trained humans. As an example of this application, Dr. Sudore and her collaborators have developed and validated deep natural language processing in the identification of documentation of care preferences for patients admitted to the ICU. Their methods and findings can be found in the following manuscript: Udelsman BV, Moseley ET, Sudore RL, Keating NL, Lindvall C. Deep Natural Language Processing Identifies Variation in Care Preference Documentation. J Pain Symptom Manage. 2020 Jun;59(6):1186-1194.e3. doi: 10.1016/j.jpainsymman.2019.12.374. Epub 2020 Jan 9. PMID: 31926970.

5. Project Title: An eHealth platform to facilitate financial understanding and legal preparation for patients with dementia and their caregivers

Leader: Rebecca Sudore, MD

Core(s):

In collaboration with Sarah Hooper, JD and David Farrell, MPH, Dr. Sudore is a Co-I on this new NIA R44 grant. Prior work shows that digital programs can be designed to be usable and effective for patients with dementia and their caregivers. The team will be working to build and test a web-based platform for educating patients and caregivers about financial risks, strategies they can undertake, and the specific legal preparations they can make; facilitating completion of legal documents in coordination with legal professionals; and communicating about financial and legal issues with health professionals. Dr. Sudore is providing ongoing VARC consultation on the development and testing of new interventions for older adults and recruitment and retention of study subjects.

6. Project Title: Developing an Evidenced-Based, Online and Advance Care Planning Program to Prepare Surrogates for Medical Decision Making**Leader: Rebecca Sudore, MD****Core(s):**

Dr. Sudore obtained funding from the Greenwall Foundation to develop and test a new intervention designed to help caregivers and care partners prepare for their role as a medical decision maker. Dr. Sudore and her research team have obtained surrogate input in focus groups and in-depth interviews and are developing an online PREPARE for THEIR Care Program. Video stories have been produced and co-developed with a community advisory board. They show surrogates how to start advance care planning conversations, how to communicate with medical providers, and how to make informed medical decisions for others.

7. Project Title: The Effect of Difficult to Read HIPAA forms on the Recruitment and Retention of Older Primary Care Patients in a Pragmatic Trial.**Leader: Rebecca Sudore, MD****Core(s):**

Dr. Sudore is a Co-I on this PCORI project. The parent trial is a 3 UC-site pragmatic trial designed to compare population-based advance care planning interventions. As part of the trial, a subset of these patients was recruited to answer questionnaires. In addition to helping this team create literacy- and culturally appropriate recruitment materials, Dr. Sudore also helped the team simplify the informed consent form to the 5th grade reading level. Unfortunately, the UC system would not allow the HIPAA forms to also be simplified. She mentored her colleagues at UCLA and helped to design a nested study to compare rates of recruitment for patients who were mailed recruitment packets that contained the HIPAA form and those that did not. Preliminary finds show that recruitment rates with the HIPAA forms were 9%, while the recruitment rates without HIPAA forms was 14%, $p < 0.001$. Recruitment was also lower for patients who self-identified as being from a racial/ethnic minority background, and those who spoke Spanish. For the group in which we did not include the HIPAA, we were able to achieve a closer demographic comparator group to the larger patient populations. Dr. Sudore is working with her UCLA colleagues to submit this manuscript and is working with the UCSF IRB to consider how to simplify the HIPAA forms.

8. Project Title: **A Novel Method for Identifying a Parsimonious and Accurate Predictive Model for Multiple Clinical Outcomes**

Leader: **Grisell Diaz-Ramirez, Sei Lee, MD, Alex Smith, MD, Siqi Gan, John Boscardin, PhD**

Core(s):

At present, there has been limited research on how best to develop clinical prognostic models that predict multiple outcomes simultaneously with accuracy and parsimony. Thus, the DAC Statistical Lab led by Dr. Boscardin collaborated with PESC core leaders Drs. Alex Smith and Sei Lee to evaluate a novel computing method for predictor selection in prognostic models of multiple clinical outcomes using the minimum average normalized BIC across outcomes, which they called the Best Average BIC (baBIC). To develop the proposed method, they used the Health and Retirement Study (HRS) data and a common set of health-related and demographic variables to predict time to: 1) Activities of Daily Living (ADL) Dependence, 2) Instrumental Activities of Daily Living (IADL) Difficulty, 3) Mobility Dependence, and 4) Death. Using HRS data, they demonstrated their method and conducted a simulation study to investigate performance. Upon testing, they found the average Harrell's C-statistics across outcomes of the models obtained with the baBIC and Union methods were comparable. Despite the similar discrimination, the baBIC method produced more parsimonious models than the Union method. In contrast, the models selected with the Intersection method were the most parsimonious, but with worst predictive accuracy, and the opposite was true in the Full method. In the simulations, the baBIC method performed well by identifying many of the predictors selected in the baBIC model of the case-study data most of the time and excluding those not selected in the majority of the simulations. This concludes that the proposed method identified a common subset of variables to predict multiple clinical outcomes with superior balance between parsimony and predictive accuracy to current methods. This body of work proves that it is possible to select a common set of variables to predict multiple clinical outcomes while maintaining parsimony and predictive accuracy. Moving forward, researchers will be able to use this algorithm and code to build prognostic models that are both accurate and parsimonious, potentially saving the clinical time and expense associated with gathering additional unnecessary predictors. Full details about this project are found in the following publication: Diaz-Ramirez LG, Lee SJ, Smith AK, Gan S, Boscardin WJ. A Novel Method for Identifying a Parsimonious and Accurate Predictive Model for Multiple Clinical Outcomes. *Comput Methods Programs Biomed.* 2021 Jun;204:106073. doi: 10.1016/j.cmpb.2021.106073. Epub 2021 Mar 27. PMID: 33831724; PMCID: PMC8098121.

9. Project Title: **A Novel Metric for Developing Easy-to-Use and Accurate Clinical Prediction Models: The Time-cost Information Criterion**

Leader: **Sei Lee, MD, Alex Smith, MD, Grisel Diaz-Ramirez, Ken Covinsky, MD, Siqi Gan, Catherine Chen, John Boscardin, PhD**

Core(s): Data and Analysis Core (DAC)

Current guidelines recommend that clinicians use clinical prediction models to estimate future risk to guide decisions. For example, predicted fracture risk is a major factor in the decision to initiate bisphosphonate medications. However, current methods for developing prediction models often lead to models that are accurate but difficult to use in clinical settings. The goal of this project was to develop and test whether a new metric that explicitly balances model accuracy with clinical usability leads to accurate, easier-to-use prediction models. The DAC

Statistical Lab, led by Dr. Boscardin, facilitated the cross-center collaboration amongst PESC core leaders, Drs. Alex Smith and Sei Lee, PESC Scholar Dr. Catherine Chen, and UCSF Pepper Center Director Dr. Ken Covinsky to develop and test whether a new metric that explicitly balances model accuracy with clinical usability leads to accurate, easier-to-use prediction models. The project team proposed a new metric called the Time-cost Information Criterion (TCIC) that will penalize potential predictor variables that take a long time to obtain in clinical settings. To demonstrate how the TCIC can be used to develop models that are easier-to-use in clinical settings, we use data from the 2000 wave of the Health and Retirement Study (n=6311) to develop and compare time to mortality prediction models using a traditional metric (Bayesian Information Criterion or BIC) and the TCIC. Through their analysis, they found that the TCIC models utilized predictors that could be obtained more quickly than BIC models while achieving similar discrimination. For example, the TCIC identified a 7-predictor model with a total time-cost of 44 seconds, while the BIC identified a 7-predictor model with a time-cost of 119 seconds. The Harrell C-statistic of the TCIC and BIC 7-predictor models did not differ (0.7065 vs. 0.7088, P=0.11). Accounting for the time-costs of potential predictor variables through the use of the TCIC led to the development of an easier-to-use mortality prediction model with similar discrimination. Although current prediction model development strategies focus on improving predictive accuracy, the lack of attention to the clinical usability of prediction models have led to the development of many accurate models which are difficult to use in clinical settings. Through this project, our center has introduced the concept of using time-costs as a way of identifying predictors that are easier to obtain in clinical practice. This work has shown that prediction models with similar discrimination, but decreased time-costs can be developed, and this may lead to models that are as accurate and easier to use in routine clinical practice. Full details about this project are found in the following publication: Lee SJ, Smith AK, Diaz-Ramirez LG, Covinsky KE, Gan S, Chen CL, Boscardin WJ. A Novel Metric for Developing Easy-to-Use and Accurate Clinical Prediction Models: The Time-cost Information Criterion. *Med Care*. 2021 May 1;59(5):418-424. doi: 10.1097/MLR.0000000000001510. PMID: 33528231; PMCID: PMC8026517.

10. Project Title: Methods For Advancing The Rigor and Scope of Qualitative Datasets Relevant To Vulnerable Older Adults

Leader: Dan Dohan, PhD

Core(s):

Multiple NIA-funded PIs affiliated with OAIC and/or Dr. Dohan's Medical Cultures Lab (MCL) have assembled qualitative datasets examining experiences of aging, physical and cognitive disability (e.g., dementia), and quality of life among patients, care partners, and/or providers in primary, palliative, and end-of-life care. These rich data could be combined to answer new questions and to support OAIC investigators, akin to secondary analysis of quantitative data. Yet, the science and methods of secondary qualitative data analysis are nascent. Aim: To develop novel methods for merging qualitative and mixed methods data across studies involving older adults with disability and their care partners and clinicians. Approach: Drs. Dohan, Harrison, and team will develop standardized techniques to link concepts and narratives across multiple qualitative datasets – analogous to linking variables across quantitative datasets. We will work with OAIC/MCL-affiliated investigators to reach consensus on essential methodologic questions for merging. Examples include procedures for merging raw (e.g., recordings and transcripts) versus annotated data, how to include annotated

data (such as participant demographic information or fieldworker reflections) to inform analysis, and how best to include contextual data such as data collection setting (e.g., nursing home, community). We will use findings from the process of merging our MCL-OAIC datasets to describe standardized conditions under which qualitative data can be concatenated for analysis across studies in accordance with (a) recently updated NIH requirements for data use and sharing; (b) established practices of qualitative research ethics and protection of human participants. This will prepare merged qualitative datasets for secondary analysis using next-generation computer-assisted analysis methods developed through Dr. Dohan's NIA Director's Pioneer Award that exceed human-only qualitative coding in reliability, accuracy and efficiency.430-433

11. Project Title: Methods for Estimating the Causal Effect of Serious Acute Events on Long-Term Functional Trajectories and Other Longitudinal Measures

Leader: W John Boscardin PhD

Core(s):

Assessing the impact of acute events such as hip fracture or heart failure hospitalization on future outcomes in HRS, NHATS, and other Medicare-linked panel surveys poses substantial challenges, as disruptive events identified through claims can occur continuously in the dates between the annual or bi-annual interviews where function and cognition are assessed.18, 193, 244, 334 To date, we and others have employed a number of statistical methods for estimating the casual effect of the intervening event including (1) mixed effects modeling of the longitudinal outcome in a cohort of subjects, only some of whom experience the intervening event;244 (2) mixed effects modeling of the longitudinal outcome in those who experience the event and then matching them to subjects who have not experienced it;117, 240 (3) multistate modeling with states considering combinations of functional status and whether the intervening event has been experienced.111, 232 For these potential outcomes framings of the causal inference questions, we have found that the predicted before-and-after curves from fitting any of these models have tremendous graphical impact and clinical impact335 and clinical interpretability. We will thus examine the performance of these methods in a range of relevant scenarios. Our aims are: Specific Aim 1: To conduct a series of careful simulation studies to evaluate the relative advantages and disadvantages of these modeling methods in longitudinal studies with interval assessments, for example HRS, NHATS, and many others. Specific Aim 2: To disseminate open-source statistical programming code for the methods we develop. ? Approach: We will follow recently published best practices for simulation studies.336 We will use several primary strategies for generating our simulated data sets as in our recent work226 and others. First, we will assume a true underlying mixed effects model superimposed with possible times of disruptive event and death. We will vary key parameters (numbers of subjects and measures per subject, distribution of covariates, regression and variance components in the longitudinal model, hazard parameters for disruptive event, dropout and death) in a factorial or fractional factorial manner. Next, we will use assume that the data are truly generated from a multistate model where we again vary the key parameters including the observation times and the transition probabilities. Lastly, we will use recent developments in synthetic data generation337-339 to conduct our studies in random instances strongly reflective of our data setting of interest. The target causal estimates of interest are not expressible as single regression model parameters, but can be computed as contrasts in averaged counterfactual predictions. Finally, the code to conduct these analyses will be

distributed through the GitHub for our statistical laboratory.³³³ ? Selection of Future DPs:
The DAC will fund DPs in Years 2 and 4, and the VARC in alternating years. Our method for selecting subsequent DPs is described in the LAC. Briefly, we will disseminate a Request for Applications to the UCSF community and solicit 2-page letters of intent. Final proposals will be reviewed and selected by the LAC Selection Committee. We will give special preference to research on novel measurement approaches to late-life disability or which develop novel methods that can advance the science of analytic approaches to the study of late-life disability.

RESEARCH (0 Projects Listed)

PUBLICATIONS**2024****2023**

1. **Health Care Costs Associated With Hospice Use For People With Dementia In The US.**
Aldridge MD, Hunt LJ, Harrison KL, McKendrick K, Li L, Morrison RS
Health Aff (Millwood), 2023 Sep, 42(9): 1250-1259
<https://doi.org/10.1377/hlthaff.2023.00036> | PMID: 37669483
Citations: NA | AltScore: 22.65
2. **Clinical Outcomes of Intensive Inpatient Blood Pressure Management in Hospitalized Older Adults.**
Anderson TS, Herzig SJ, Jing B, Boscardin WJ, Fung K, Marcantonio ER, Steinman MA
JAMA Intern Med, 2023 Jul 1, 183(7): 715-723
<https://doi.org/10.1001/jamainternmed.2023.1667> | PMID: 37252732 | PMCID: PMC10230372
Citations: NA | AltScore: 827.91
3. **Longitudinal Associations between Concurrent Changes in Phenotypic Frailty and Lower Urinary Tract Symptoms among Older Men.**
Bauer SR, McCulloch CE, Cawthon PM, Ensrud KE, Suskind AM, Newman JC, Harrison SL, Senders A, Covinsky K, Marshall LM
J Frailty Aging, 2023, 12(2): 117-125
<https://doi.org/10.14283/jfa.2022.33> | PMID: 36946708 | PMCID: PMC10149140
Citations: 1 | AltScore: 2.75
4. **Response by Brubaker et al to Letter Regarding "A Randomized Controlled Trial of Resistance Training Added to Caloric Restriction Plus Aerobic Exercise Training in Obese Heart Failure With Preserved Ejection Fraction".**
Brubaker PH, Nelson WB, Kitzman DW
Circ Heart Fail, 2023 May(16): 5
[Randomized Controlled Trial; Letter; Comment](#) | PMID: 37070429 | PMCID: PMC10192000
Citations: NA | AltScore: doi: 10.1161/CIRCHEARTFAILURE.123.010419
5. **Medication misuse and overuse in community-dwelling persons with dementia.**
Deardorff WJ, Jing B, Growdon ME, Yaffe K, Boscardin WJ, Boockvar KS, Steinman MA
J Am Geriatr Soc, 2023 Jun 5, 71(10): 3086-3098
<https://doi.org/10.1111/jgs.18463> | PMID: 37272899
Citations: 1 | AltScore: 27.45
6. **History of Incarceration and Its Association With Geriatric and Chronic Health Outcomes in Older Adulthood.**
Garcia-Grossman IR, Cenzer I, Steinman MA, Williams BA
JAMA Netw Open, 2023 Jan 3, 6(1): e2249785
<https://doi.org/10.1001/jamanetworkopen.2022.49785> | PMID: 36607638 | PMCID: PMC9856648
Citations: NA | AltScore: 82.78
7. **Serum and plasma protein biomarkers associated with frailty in patients with cirrhosis.**
Ha NB, Seetharaman S, Kent DS, Yao F, Shui AM, Huang CY, Walston J, Lai JC
Liver Transpl, 2023 Oct 1, 29(10): 1089-1099
<https://doi.org/10.1097/LVT.000000000000128> | PMID: 36932707 | PMCID:

PMC10509322

Citations: NA | AltScore: NA

8. In sickness and in health: Loneliness, depression, and the role of marital quality among spouses of persons with dementia.

Hsu KY, Cenzer I, Harrison KL, Ritchie CS, Waite L, Kotwal A

J Am Geriatr Soc, 2023 Aug 4

<https://doi.org/10.1111/jgs.18520> | PMID: 37539784

Citations: NA | AltScore: NA

9. Value assessment of deprescribing interventions: Suggestions for improvement.

Hung A, Wang J, Moriarty F, Manja V, Eshetie T, Tegegn HG, Anderson TS, Radomski TR, Steinman MA

J Am Geriatr Soc, 2023 Feb 21, 71(6): 2023-2027

<https://doi.org/10.1111/jgs.18298> | PMID: 36808728 | PMCID: PMC10258143

Citations: NA | AltScore: NA

10. Diagnosis and the practices of patienthood: How diagnostic journeys shape illness experiences.

Jeske M, James J, Joyce K

Sociol Health Illn, 2023 Jan 27

<https://doi.org/10.1111/1467-9566.13614> | PMID: 36707922

Citations: NA | AltScore: 5.35

11. The association of gait speed and self-reported difficulty walking with social isolation: A nationally-representative study.

Kuang K, Huisingh-Scheetz M, Miller MJ, Waite L, Kotwal AA

J Am Geriatr Soc, 2023 Mar 31, 71(8): 2549-2556

<https://doi.org/10.1111/jgs.18348> | PMID: 37000466 | PMCID: PMC10524495

Citations: NA | AltScore: 30.15

12. Opinion and Special Article: The Need for Specialized Training in Women's Neurology.

LaHue SC, Paolini S, Waters JFR, O'Neal MA

Neurology, 2023 Jan 3, 100(1): 38-42

<https://doi.org/10.1212/WNL.0000000000201451> | PMID: 36180236 | PMCID: PMC9827127

Citations: NA | AltScore: 5.6

13. Intraoperative Use of Albumin in Major Noncardiac Surgery: Incidence, Variability, and Association With Outcomes.

Lazzareschi DV, Fong N, Mavrothalassitis O, Whitlock EL, Chen CL, Chiu C, Adelman D, Bokoch MP, Chen LL, Liu KD, Pirracchio R, Mathis MR, Legrand M, MPOG Collaborators
Ann Surg, 2023 Oct 1, 278(4): e745-e753

<https://doi.org/10.1097/SLA.0000000000005774> | PMID: 36521076 | PMCID:

PMC10481928

Citations: 2 | AltScore: 12.15

14. Race Differences in the Association Between Sleep Medication Use and Risk of Dementia.

Leng Y, Stone KL, Yaffe K

J Alzheimers Dis, 2023, 91(3): 1133-1139

<https://doi.org/10.3233/JAD-221006> | PMID: 36565126 | PMCID: PMC10153591

Citations: NA | AltScore: 1079.02

15. Systolic blood pressure, antihypertensive treatment, and cardiovascular and mortality risk in VA nursing home residents.

Liu X, Steinman MA, Lee SJ, Peralta CA, Graham LA, Li Y, Jing B, Fung KZ, Odden MC

J Am Geriatr Soc, 2023 Feb 24, 71(7): 2131-2140

<https://doi.org/10.1111/jgs.18301> | PMID: 36826917 | PMCID: PMC10363184

Citations: 1 | AltScore: NA

16. **Disparities in advance care planning among older US immigrants.**

Mindo-Panusis D, Sudore RL, Cenzer I, Smith AK, Kotwal AA

J Am Geriatr Soc, 2023 Jul 11, 71(10): 3244-3253

<https://doi.org/10.1111/jgs.18498> | PMID: 37431769

Citations: NA | AltScore: NA

17. **Physician Perspectives on the Use of Beta Blockers in Heart Failure With Preserved Ejection Fraction.**

Musse M, Lau JD, Yum B, Pinheiro LC, Curtis H, Anderson T, Steinman MA, Meyer M, Dorsch M, Hummel SL, Goyal P

Am J Cardiol, 2023 Apr 15, 193: 70-74

<https://doi.org/10.1016/j.amjcard.2023.01.050> | PMID: 36878055 | PMCID: PMC10114214

Citations: 1 | AltScore: NA

18. **Frequency and implications of coexistent manifestations of serious illness in older adults with dementia.**

Nothelle S, Bollens-Lund E, Covinsky KE, Kelley A

J Am Geriatr Soc, 2023 Mar 13, 71(7): 2184-2193

<https://doi.org/10.1111/jgs.18309> | PMID: 36914983 | PMCID: PMC10363196

Citations: 1 | AltScore: 9.1

19. **Social strain and conflict among older community-dwelling adults serving as caregivers: Findings from a national sample.**

Nyarko-Odoom A, Kotwal A, Lisha NE, Yank V, Huang AJ

J Am Geriatr Soc, 2023 Aug 14

<https://doi.org/10.1111/jgs.18523> | PMID: 37578382

Citations: NA | AltScore: NA

20. **Elder Mistreatment Experienced by Older Caregiving Adults: Results from a National Community-Based Sample.**

Nyarko-Odoom A, Lisha NE, Yank V, Kotwal A, Balogun S, Huang AJ

J Gen Intern Med, 2023 Jan 30, 38(7): 1709-1716

<https://doi.org/10.1007/s11606-022-07981-9> | PMID: 36717433 | PMCID: PMC10212890

Citations: NA | AltScore: NA

21. **Effect of the COVID-19 pandemic on meaningful activity engagement in racially and ethnically diverse older adults.**

Oh A, Gan S, Boscardin WJ, Neilands TB, Stewart AL, Nguyen TT, Smith AK

J Am Geriatr Soc, 2023 Jun 15, 71(9): 2924-2934

<https://doi.org/10.1111/jgs.18466> | PMID: 37317827 | PMCID: PMC10524549

Citations: NA | AltScore: 7.35

22. **Reducing Volatile Anesthetic Waste Using a Commercial Electronic Health Record Clinical Decision Support Tool to Lower Fresh Gas Flows.**

Olmos AV, Robinowitz D, Feiner JR, Chen CL, Gandhi S

Anesth Analg, 2023 Feb 1, 136(2): 327-337

<https://doi.org/10.1213/ANE.0000000000006242> | PMID: 36638512 | PMCID: PMC9846579

Citations: 1 | AltScore: 6.1

23. **Predisposing and Precipitating Factors Associated With Delirium: A Systematic Review.**

Ormseth CH, LaHue SC, Oldham MA, Josephson SA, Whitaker E, Douglas VC

JAMA Netw Open, 2023 Jan 3, 6(1): e2249950

<https://doi.org/10.1001/jamanetworkopen.2022.49950> | PMID: 36607634 | PMCID: PMC9856673

Citations: 11 | AltScore: 228.13

24. Care Setting Transitions for People With Dementia: Qualitative Perspectives of Current and Former Care Partners.

Radcliffe KG, Halim M, Ritchie CS, Maus M, Harrison KL

Am J Hosp Palliat Care, 2023 Feb 2 1.04991E+16

<https://doi.org/10.1177/10499091231155601> | PMID: 36730920 | PMCID: PMC10394111

Citations: 1 | AltScore: 4.35

25. Impact of persistent pain on function, cognition, and well-being of older adults.

Ritchie CS, Patel K, Boscardin J, Miaskowski C, Vranceanu AM, Whitlock E, Smith A

J Am Geriatr Soc, 2023 Jan, 71(1): 26-35

<https://doi.org/10.1111/jgs.18125> | PMID: 36475388 | PMCID: PMC9871006

Citations: NA | AltScore: 300.85

26. Musculoskeletal Pain, a Possible Indicator of Central Sensitization, Is Positively Associated With Lower Urinary Tract Symptom Progression in Community-Dwelling Older Men.

Senders A, Bauer SR, Chen Y, Oken B, Fink HA, Lane NE, Sajadi KP, Marshall LM

J Gerontol A Biol Sci Med Sci, 2023 Jun 1, 78(6): 997-1004

<https://doi.org/10.1093/gerona/glac204> | PMID: 36149833 | PMCID: PMC10235191

Citations: NA | AltScore: NA

27. Development and applicability of a risk assessment tool for hospital-acquired mobility impairment in ambulatory older adults.

Shah SJ, Hoffman A, Pierce L, Covinsky KE

J Am Geriatr Soc, 2023 Jun 2, 71(10): 3221-3228

<https://doi.org/10.1111/jgs.18456> | PMID: 37265397

Citations: NA | AltScore: 8.8

28. Social Frailty Index: Development and validation of an index of social attributes predictive of mortality in older adults.

Shah SJ, Oreper S, Jeon SY, Boscardin WJ, Fang MC, Covinsky KE

Proc Natl Acad Sci U S A, 2023 Feb 14, 120(7): e2209414120

<https://doi.org/10.1073/pnas.2209414120> | PMID: 36749720 | PMCID: PMC9963593

Citations: 1 | AltScore: 216.26

29. Development and validation of novel multimorbidity indices for older adults.

Steinman MA, Jing B, Shah SJ, Rizzo A, Lee SJ, Covinsky KE, Ritchie CS, Boscardin WJ

J Am Geriatr Soc, 2023 Jan, 71(1): 121-135

<https://doi.org/10.1111/jgs.18052> | PMID: 36282202 | PMCID: PMC9870862

Citations: 1 | AltScore: 33.1

30. Preoperative Factors Predict Memory Decline After Coronary Artery Bypass Grafting or Percutaneous Coronary Intervention in an Epidemiological Cohort of Older Adults.

Tang AB, Diaz-Ramirez LG, Smith AK, Lee SJ, Whitlock EL

J Am Heart Assoc, 2023 Jan 3, 12(1): e027849

<https://doi.org/10.1161/JAHA.122.027849> | PMID: 36583424 | PMCID: PMC9973564

Citations: NA | AltScore: 15.95

31. Age-related differences in cancer relative survival in the United States: A SEER-18 analysis.

Withrow DR, Nicholson BD, Morris EJA, Wong ML, Pilleron S

Int J Cancer, 2023 Jun 1, 152(11): 2283-2291

<https://doi.org/10.1002/ijc.34463> | PMID: 36752633

Citations: 2 | AltScore: NA

EXTERNAL ADVISORY BOARD MEMBERS

Jean Kutner, MD, MPH/MSPH
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Seth Landefeld, MD
School of Medicine, University of Alabama at Birmingham
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RECOGNITION AND AWARDS (2023-2024)

Recognition and Awards not specified.

MINORITY RESEARCH

General Brief Description of Minority Activities:

Not defined.

Minority Trainee(s):

- Aksharananda Rambachan, MD, MPH, Assistant Professor, Medicine
"Despite an increased emphasis on identifying pain as the “fifth vital sign,” there are shortcomings in our approach to assessing, documenting, and responding to pain. Cognitive impairment in older persons, drugdrug interactions, patient comorbidities, fall-risk, and frailty all present additional challenges for prescribing clinicians. Furthermore racial, ethnic, cultural, and language-based differences across patients are areas where disparities are present. Studies across various health settings have found that older patients and minority patients are at high risk for underassessment and undertreatment of pain. Pain assessment tools are ubiquitous, given regulatory and hospital level requirements, yet their appropriateness and utility remain understudied in this patient population. Pain is assessed by nursing across various time points using various self-report and behavioral tools. Clinicians often utilize their own individualized bedside approach and review of clinical data in assessing and managing a patient’s pain, disconnected from nursing workflows. There is a paucity of guidelines for inpatient pain management for both acute and chronic conditions and minimal research into best practices for elderly minority patients. We do not know how pain is managed quantitatively across common medical diagnoses for these patient groups, and with regards to the interaction between age, race, ethnicity, and language status."
- Anna Oh, BSN, MSN, MPH , former VAQS fellow, now nurse scientist at Stanford
Engagement in meaningful activities – enjoyable physical, leisure, social, spiritual activities related to personal interests and values – gives life identity and purpose, and is therefore beneficial to the emotional and physical well-being of older adults. As older adults age and become more susceptible to disease, disability, and cognitive impairment, the ability to participate and engage in meaningful activities place the older adult at higher risk of loss of identity and well-being. Dr. Oh’s cross-sectional examination published in JAMA IM of meaningful activity engagement in the National Health and Aging Trends Study (NHATS) found functional disability was the leading factor of nonengagement. Yet, diverse racial and ethnic groups of older adults may have varying experiences with meaningful activity engagement over time due to cultural and language barriers as well as limited access to services and resources. Little is known about meaningful activity engagement in diverse groups of older adults from historically disadvantaged backgrounds, its relationship to disability, and barriers and facilitators for engagement, such as social support, neighborhood factors, and socioeconomic and demographic factors. Previous studies have documented concerning racial and ethnic differences in the experience of aging, older Americans and their caregivers in caregiving experiences, access to and use of in-home rehabilitation services, and advance care planning. In addition to reducing racial and ethnic differences and health disparities, culturally-sensitive, community-based interventions have the potential to increase access to high-quality healthcare for diverse older adults. Culturally-sensitive, community-based interventions that include assessments of meaningful activity engagement can guide goals of care conversations, medical treatment recommendations, and target existing services and supports (e.g. home health, hospice, long-term services and supports)

for older adults to stay engaged in meaningful activities. The objective of this study is to identify activity engagement in older, community-dwelling African-American/Black, Latinx/Hispanic, Asian, and bi/multiracial NHATS participants before and after the onset of the COVID-19 pandemic. The data and findings from this research will be a springboard for a K23 award where Dr. Oh will examine longitudinally the barriers and facilitators to staying engaged in meaningful activities. Through support from this award, the Pepper Center is helping to catalyze Dr. Oh's long-term goal is to become a clinician leader who improves the quality-of-life of diverse, community-dwelling, seriously ill older adults with home-based models of care.

- Jennifer E. James, PhD, MSW, MS, Assistant Professor, Institute for Health & Aging at UCSF

Incarceration and the health of currently and formerly incarcerated individuals was highlighted as an important social determinant of health in Healthy People 2020. Individuals with a history of incarceration report more chronic health problems after incarceration than before (Schnittker & John, 2007), in many cases regardless of the length of time served (Schnittker & John, 2007; Massoglia, 2008). Compared to the general population, incarcerated persons are more likely to have high blood pressure, asthma, cancer, arthritis and infectious diseases (Healthy People 2020) and studies have shown that women with a history of incarceration face a greater disease burden than men with a history of incarceration (Healthy People 2020; Covington, 2007). Ninety percent of recently released women have chronic medical, mental health, or substance use disorders, which is significantly higher than the general population (Mallik-Kane & Visser, 2005; Schnittker, Massoglia & Uggen, 2012). Additionally, within the first two weeks after release, recently released individuals have a 12.7 times higher mortality rate than the general population and that relative risk is higher for women than men (Binswanger et al., 2007). Being Black, being a woman, being poor and having a history of incarceration each confer serious health risks (Braithwaite, Treadwell, & Arriola, 2008). The overall goal of this study is to use interviews and ethnographic observation to better understand the intersection of these interconnected forms of risk. Dr. James will use a novel qualitative interview approach called "collective dialogue", grounded in Black Feminist Epistemology, that engages participants in the analysis of the data they produce with the researcher over the course of open-ended interviews about their lives. This method, which Dr. James developed and piloted in her dissertation, enables her to center the lived experience of older, formerly incarcerated Black women and enables the women to participate in the production of knowledge about themselves. These interviews, combined with ethnographic observations of organizations advocating for the health and welfare of currently and formerly incarcerated women, will produce a multi-faceted and multilayered account of post-incarceration experiences of women with chronic disease and how they access healthcare. Currently, she is continuing to recruit participants for interviews. Her interviews to date have produced incredibly rich data. She is currently working with two research assistants to analyze the data, and have submitted abstracts based on preliminary findings to four conferences, and have been invited to present at two conferences this summer. However, attendance for conferences have been placed on hold due to COVID 19 safety protocols.

- Linda Park, RN, PhD, FNP, Associate Professor

UCSF RCMAR (Center for Aging in Diverse Communities or CADC) has been dedicated to eliminating health disparities in minority aging populations. Their goal is to support work that focuses on understanding health disparities and building and testing community-engaged interventions to reduce disparities among older adults. Like the UCSF Pepper Center, one of

our most important missions is to train and mentor talented, underrepresented junior investigators to develop independent research careers focused on health disparities and aging issues. During this year, CADC and UCSF Pepper Center have provided joint support for the following project and investigator: Improving Health Disparities by Promoting Physical Activity Among Asian American Older Adults with Cardiovascular Disease: A Pilot Study

Cardiovascular disease (CVD) is the leading cause of mortality, affecting 43.7 million older adults age 60 and over. To ameliorate this, cardiac rehabilitation (CR) is a highly effective, Class I level guideline-recommended 12-week group program that offers supervised physical activity (PA) after cardiac events (e.g., myocardial infarction, revascularization, valve replacement). It has been shown to improve physical function and decrease morbidity and mortality in older adults. Thus, maintaining PA after CR is essential in older adults to gain and maintain the critical benefits of improved physical function (balance, gait, strength, and endurance). PA maintenance after CR is also linked to reduced adverse geriatric outcomes such as falls and mobility impairment but thereby increases susceptibility to adverse secondary cardiac events, functional decline, and depression. Although it is estimated that minority individuals from diverse racial/ethnic backgrounds will comprise ~50% of the total U.S. population, minority older adults have more CVD burden than non-Hispanic Whites and have disproportionately lower rates of enrollment and adherence to CR (20% enrollment in Whites vs.8% in non-Whites). Asian Americans (AA) have been identified as a high-risk population for CVD based on genetic predisposition, coronary risk factor profile, and behaviors (e.g., PA and diet). In general, AA are less physically active than non-Hispanic Whites. Specific for CR participation, barriers may include cultural, socioeconomic, and linguistic challenges but it is unknown what the perceived barriers and facilitators are to continue PA behaviors after CR completion. Modifiable targets related to sustained PA may include depression and anxiety and slower self-efficacy, motivation, and social support. Tailored, accessible, and culturally appropriate interventions are urgently needed for AA older adults to promote sustained PA after CR to reduce future cardiac events. The objective of this mixed-methods proposal is to conduct a pilot study that will collect the critical data needed for a clinical trial to promote sustained PA through digital coaching after CR completion with a focus on improving physical function for AA older adults. This pilot work will reduce persistent health disparities that exist for ethnic minorities so we can target modifiable factors for sustained PA after CR. The underlying hypothesis is that there are distinct differences in barriers, facilitators, and preferences for interventions that aim to sustain PA after CR, thus requiring cultural tailoring for AA. My long-term career goal is to become a leading academic investigator who develops and tests behavioral interventions to improve older adults' health and well-being with CVD. While the COVID-19 pandemic led to delays in the initiation of this project, work on this project has now resumed, and Dr. Park plans to complete the survey distribution and conduct individual interviews by June 2021. Dr. Park and her team are IRB approved to achieve the study aims.

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