Division of Geriatric Medicine and Palliative Care
2022 Summer Research Program in Aging

Dear Medical Students,

The NYU School of Medicine Division of Geriatric Medicine and Palliative Care is excited to announce our fifth annual summer research program for medical students. The Division of Geriatrics and Palliative Care will be offering 16 Research Assistant positions on aging-related research projects being conducted by faculty throughout the NYU School of Medicine. Students will be paired with a faculty mentor on an aging-related project of their choice. The Summer Research Program in Aging will run for a total of 9 weeks, beginning in June. During this time, students will attend weekly didactic sessions that focus on career development, basic research topics and key geriatrics topics. Students will also have the opportunity to gain exposure to clinical geriatric practice by shadowing a physician on a home visit, observing at the Bellevue Geriatrics Clinic, shadowing on the inpatient consult service at Tisch Hospital, visiting Gouverneur Healthcare Center, or observing a cognitive clinical examination. If a student is interested, there will be an opportunity to attend the annual American Geriatrics Society meeting to present their research as a poster. All accepted students will receive a stipend of ~$4200 for 8 weeks of research funded by the NIA.

The pages below contain information on projects offered through the Summer Research Program in Aging at NYU School of Medicine and details on how to apply. We hope you find this opportunity as exciting as we do. We look forward to working with you to arrange for an educationally challenging and rewarding research experience.

Best of luck in your summer planning and we look forward to hearing from you!

Sincerely,

Joshua Chodosh, MD, MSHS, FACP
Michael L. Freedman Professor of Geriatric Research in Medicine
Interim Director, Division of Geriatrics and Palliative Care
Professor of Medicine and Population Health
NYU Grossman School of Medicine

Steven B. Abramson, MD
Chair, Department of Medicine
Senior Vice President and Dean for Education, Faculty and Academic Affairs

How to Apply to the Summer Research Program in Aging

The NYU Summer Research Program in Aging is one of seven National Training Sites that offer aging-related research projects to medical students. Applications are submitted directly to each Training Site. The application form is brief and asks for biographical information and a short personal statement. A recommendation letter from a mentor at your Home Institution is also required. NYU program administrators, Dr. Joshua Chodosh and Briana Roman, are available to help you with the application process.

An application can be completed here no later than **January 21, 2022 at 11:59 PM** (NYU internal deadline February 18th, 2022 at 11:59 PM).

Applications will be reviewed by the Summer Research Program in Aging advisory committee. Accepted students will be notified by **March 2022**.

Program Administrators:

Joshua Chodosh, MD, MSHS, FACP
Michael L. Freedman Professor of Geriatric Research in Medicine
Interim Director, Division of Geriatrics and Palliative Care
Professor, Department of Medicine
Professor, Department of Population Health
NYU Grossman School of Medicine
Joshua.Chodosh@nyulangone.org

Summer Research Program in Aging: Projects and Faculty Mentors

Faculty Mentor:
Joshua Chodosh, MD, MSHS, FACP
Michael L. Freedman Professor of Geriatric Research in Medicine
Interim Director, Division of Geriatrics and Palliative Care
Professor, Department of Medicine
Professor, Department of Population Health
NYU Grossman School of Medicine
Joshua.Chodosh@nyulangone.org

1. **Project Title**: ***Improving Care for Patients with Diabetes and Dementia***

Project Description: This project is focused on improving care for people with diabetes and dementia. Patients with dementia get both under-treatment and overtreatment of diabetes and related conditions, suffer from increased hypoglycemia and adverse effects of inappropriate management, and have high healthcare utilization driven by potentially preventable hospitalizations. People with cognitive impairment often are unable to follow complex self-management directions and their caregivers must be engaged to assist. Providers are confused about how to care for these patients because despite substantial research there are not current agreed-upon guidelines. In this project, we are developing decisional guidance for providers and patients, and designing and implementing a clinical intervention with providers and clinics to improve care for this vulnerable and increasingly common group of patients. The student will learn principles of evidence-based literature reviews, methods of human subject, clinical and implementation research, have the opportunity to recruit and interview subjects as we pilot this intervention and analyze findings as they become available, including instruction in statistical methods of analysis.

2. **Project Title:** ***NYU BOLD Public Health Center of Excellence on Early Detection of Dementia***

Project Description: The NYU BOLD Public Health Center of Excellence (PHCOE) on Early Detection of Dementia will be a national repository and catalyst for implementation of evidence-based and evidence-informed public health strategies that increase early dementia detection. The NYU BOLD center will engage public departments of health (DOH) to equip the general public with facts about ADRD and effective management strategies, community service and advocacy groups to empower patients, care partners and communities to expect dementia-relevant and responsive provider action and healthcare systems and providers to motivate development of dementia care pathways and training that integrates dementia detection into clinical care. The student will have the opportunity to work with a national team of stakeholders, collect, collate and disseminate evidence-based tools and strategies to increase early detection of dementia and assist the team in evaluation of the PHCOE.

3. **Project Title:** ***Program of Intensive Support in Emergency Departments for Care Partners of Cognitively Impaired Patients (POISED-CPCIP, or POISED)***

Project Description: Dementia is a common problem for older patients presenting to emergency departments (EDs) and for their family caregivers who often lack the support, understanding, and skills to manage the myriad of problems that may be related to the need for that ED visit. The purpose of the Program of Intensive Support in Emergency Departments for Care Partners of Cognitively Impaired Patients (POISED-CPCIP, hereon referred to as POISED) randomized controlled trial is to use previously established quality improvement methods of root cause analysis to uncover reasons for ED use and to focus on caregiver (CG) activation within a program of dementia care management. Study goals are to reduce recurrent ED visits and improve caregiver symptoms of depression, anxiety and need for social support. POISED, a 4-year NIH study, will test whether a novel care management intervention for family CGs of ED users with cognitive impairment and likely Alzheimer's disease and related dementias will reduce ED use at 3 and 6 months over the intervention period. ED use and other measures will also be examined during a brief follow-up survey at 12 months (6 months after completed intervention). In addition to ED use, we will test whether CGs exposed to the intervention will experience greater improvements (compared to controls) in family caregiving confidence in managing the healthcare needs of the care recipient (CR), and improved anxiety, depression and sense of social support. Students will be able to participate in subject recruitment, consent and observation of data collection and management. Preliminary data analysis that is descriptive of early findings will be possible.

Faculty Mentor:
Bruce N. Cronstein, MD
Dr. Paul R. Esserman Professor of Medicine, Department of Medicine
Professor, Department of Biochemistry and Molecular Pharmacology
Professor, Department of Pathology
bruce.cronstein@nyucm.org

Project Title: ***The Role of Adenosine in Regulation of Cartilage and Chondrocyte Homeostasis***
Project Description: Osteoarthritis is one of the most common medical problems facing Americans today. It affects up to 27 million people in the United States and the prevalence of osteoarthritis increases with age. The costs of treating osteoarthritis have been estimated to account for up to 0.5% of the GDP. Chondrocytes are the cells that manufacture and maintain cartilage, the structure within the joint that is most directly affected in osteoarthritis and in recent experiments we have observed that adenosine, acting at one of its receptors (the A2A receptor), plays a role in helping to maintain chondrocyte and cartilage homeostasis. The experiments that a student could participate in include assessments of the effect of adenosine receptor stimulation on chondrocyte function. We expect that these cell culture experiments will provide an excellent project for an interested student.

Faculty Mentor:
John Dodson, MD, MPH
Associate Professor, Department of Medicine
Associate Professor, Department of Population
Director, Geriatric Cardiology Program
NYU Grossman School of Medicine
john.dodson@nyulangone.org

1. **Project:** ***The RESILIENT Trial: Mobile Health Cardiac Rehabilitation in Older Adults***
   Project Description: The RESILIENT trial is testing whether mobile health cardiac rehabilitation (mHealth-CR) is effective in patients age ≥65 with ischemic heart disease. These mHealth-CR platforms have significant potential but have yet to be rigorously evaluated in older adults. The trial is funded by the National Institute on Aging and is currently in Year 3. The medical student will

create a project using preliminary RESILIENT data in collaboration with Dr. Dodson. Potential areas include evaluating mHealth-CR engagement, cardiovascular risk factor control, or activity data. Students with an interest in cardiology, geriatrics, digital health, and/or clinical trials are encouraged to apply.

2. **Project:** ***NSTEMI***
   Project Description: Decide: Piloting a Mobile Health Decision Aid for Geriatric Patients Considering Invasive Coronary Angiography for Non-ST Elevation Myocardial Infarction Shared decision making (SDM) is critical with older adults, who often prioritize health outcomes other than simply prolonging life. Decision aid tools used at the point of care can help facilitate SDM by increasing patient knowledge, improving concordance between patient values and ultimate decision, and leading to more accurate expectations about treatment course and possible complications. For older adults with non ST elevation myocardial infarction (NSTEMI), invasive coronary angiography has both risks and benefits. Based on preliminary data that both patients and cardiologists thought SDM was important but that available tools were lacking, we developed the first decision aid (NSTEMI Decide) to be used in this clinical setting. This decision aid conveys procedural details as well as quantified risks and benefits, and is developed for use on portable electronic devices (smartphone or tablet) to allow implementation at the bedside. In summer 2022 we will continue to collect pilot data on older adults hospitalized with NSTEMI to examine the feasibility of the NSTEMI Decide mobile health decision aid. The MSTAR student will be involved in primary data collection from patients (including screening, enrollment, and data entry), as well as preliminary analysis of study results. This is an ideal project for student interested in mobile health, cardiovascular disease, and shared decision making.

Faculty Mentor:
Corita Grudzen, MD, MSHS, FACEP
Professor, Ronald O. Perelman Department of Emergency Medicine
Professor, Department of Population Health
Assistant Dean for Clinical Sciences in OSR
Vice Chair for Research, Department of Emergency Medicine
NYU Grossman School of Medicine
corita.grudzen@nyulangone.org

Project Title: ***EMPallA (Emergency Medicine Palliative Care Access)***
Project Description: Half of older Americans visit the emergency department (ED) in the last month of life, making the ED a key decision point when doctors and nurses work with patients and families to establish a plan of care going forward. Palliative care interventions in the ED can both capture high-risk patients at a time of crisis and dramatically improve patient-centered outcomes by providing an extra layer of support for older adults and their caregivers. By testing novel models of care that can be delivered more efficiently, the project team hopes to build on the effectiveness of specialty palliative care demonstrated in ED patients admitted to the hospital. EMPallA is a large, multisite study based in eighteen emergency departments (EDs) across the country to understand which model of palliative care in the community improves patient- and family-centered outcomes. The two models of comparison are nurse-led telephonic case management and specialty outpatient palliative care The models vary on the level of integration with patients' other providers and whether palliative care is delivered via the outpatient clinic or at home, and in-person versus by telephone. The study will recruit a geographically, racially, and ethnically diverse group of older adults living at home with advanced cancer or end-stage organ failure, and their caregivers, upon visiting the ED. The study will measure and evaluate patient- and caregiver-centered outcomes as primary and secondary end

points, including quality of life, healthcare use, loneliness, and burden on caregivers. The study will answer the following important question: When caring for older adults with serious, life-limiting illness discharged home after an ED visit, how effectively does nurse-led telephonic case management enhance quality of life and reduce healthcare use, loneliness, and burden on caregivers when compared with facilitated outpatient specialty palliative care?

Students will have the opportunity to assist with subject recruitment, engage with research coordinators and research staff at the participating recruitment sites, assist in preliminary data analyses, conduct telephonic follow up surveys, gain hands on experience in abstract/paper writing, and work on special projects as they emerge.

Faculty Mentor:
Scott Sherman, MD
Professor, Department of Population Health
Professor, Department of Medicine
Professor, Department of Psychiatry
NYU Grossman School of Medicine
PI, Center for Alternative Tobacco Product Studies (CATS)
scott.sherman@nyulangone.org

1. **Project Title**: ***Financial Incentives for Smoking Cessation Treatment II (FIESTA II)***
Project Description: Hospitalization is a “window of opportunity” to help people quit smoking, yet our previous study showed that fewer than 50% of smokers use evidence-based smoking cessation treatment after discharge. After a very promising demonstration project, we are now conducting a large randomized, controlled trial of financial incentives to help hospitalized smokers quit. Patients are randomized to financial incentives or usual care. Within the incentives arm, they are further stratified into goal-directed incentives (receive money for being abstinent) or process-directed incentives (receive money for using smoking cessation medications and receiving cessation counseling). Recruitment from among smokers hospitalized at Bellevue will continue throughout 2022. Students will assist with recruiting participants and conducting follow-up interviews. It is also expected that the student will write a paper using data from a recently completed study.

2. **Project Title**: ***E-cigarettes for harm-reduction among smokers with COPD***
Project Description: Smoking cessation is often the most effective means of slowing the decline of lung function, overall disease progression, and COPD mortality. Although effective smoking cessation treatments are available, these treatments are underutilized and nearly half (47.1%) of those with COPD are still smoking. The goal of this study is to assess the impact of e-cigarettes as a harm-reduction strategy in adult smokers with comorbid conditions. This pilot comparative effectiveness trial is taking place with patients with COPD within the VA and NYU Langone Health, where participants will be given smoking cessation counseling and randomized to use e-cigarettes or nicotine replacement therapy (NRT). The study will identify barriers and facilitators to cigarette reduction in patients with COPD, evaluate the acceptability of an e-cigarette harm-reduction intervention and determine feasibility of using text messaging to collect daily smoking data, as well as to assess preliminary effectiveness of e-cigarettes as a harm reduction strategy among people with COPD. Students will assist with recruiting participants and conducting follow-up interviews. It is also expected that the student will write a paper using data from a recently completed study.

Faculty Mentors:
Simona C. Kwon, DrPH, MPH
Associate Professor, Department of Population Heath

NYU Grossman School of Medicine
simona.kwon@nyulangone.org

Stella Yi, PhD, MPH
Assistant Professor, Department of Population Health
NYU Grossman School of Medicine
stella.yi@nyulangone.org

1. **Project Title**: ***CommunityHealth Resources and Needs Assessment among Asian American Older Adults***
   Project Description: The NYU Center for the Study of Asian American Health (CSAAH) is a National Institutes of Health (NIH) National Institute on Minority Health and Health Disparities (NIMHD) funded National Research Center of Excellence. It is based in the Section for Health Equity within the Department of Population Health at NYU School of Medicine. Since 2004, CSAAH has conducted the Community Health Resources and Needs Assessment (CHNRA). This is a large-scale health needs assessment in diverse, low-income Asian American communities in New York City, with the aim to identify health challenges and priorities in Asian American subgroup communities and determine best approaches to meet the needs of specific subgroup communities. As the older adult population is expected to almost double between 2016 and 2060 in the US, there is a greater need to understand the health related quality of life risk factors and to expand disaggregated data collection and health interventions for older adult populations. This round of the project will focus on implementing CHRNA with the low-income older adult population in New York City in partnership with community-based organizations and stakeholders who identified key areas for examination including of health status, sleep, social isolation, food insecurity, caregiving, etc. The student will have the opportunity to engage with community partners and conduct activities including, systematic literature review to identify gaps in the knowledge base, data collection of specific health status and health disparities issues and analysis to explore healthy aging priorities for older adults populations in New York City. This is an excellent opportunity to gain first-hand experience on health disparities research using a social determinants of health lens.

2. **Project Title:** ***The COVID Closures (CoClo) Project***
   Project Description: COVID-19 has disproportionately affected older Asian American adults and their ability to access food through programs or the neighborhood food environment. The COVID Closures (CoClo) Project aims to systematically assess the impact that COVID-19 has had on the food retail environment in New York City (NYC), the former U.S. epicenter of the pandemic. The primary objective of this project is to determine whether closures of food retailers, restaurants and produce vendors were differential across higher resourced, lower resourced, and Chinese ethnic neighborhoods in NYC. This project utilizes an innovative combination of methods to determine the operational status of food retail stores, restaurants and produce vendors in six NYC neighborhoods – higher resourced, lower resourced and Chinese ethnic neighborhoods in Manhattan and Brooklyn. Web-based, call-based and in-person data collection will be conducted to survey the environment at multiple time points following July 2020; pre-COVID-19 and during COVID-19 peak (May-July 2020) have already been assessed. Additional data collection efforts are planned for Fall 2020 and Spring 2021 to allow for a longitudinal evaluation of changes to the food retail environment as well as to examine its impact to priority populations, such as older adults. Data will be collected on the operational status (i.e., open, temporarily closed, indefinitely closed), changes in services provided (i.e., curbside pick-up, delivery, outdoor seating), and type of restaurants (i.e., chain or non-chain, counter or table service). Students may assist with data

collection, including interviews with stakeholders and community partners serving older adults, database management, including data entry, cleaning and consolidation. Prior interview and data analysis skills are a plus but not required. Additionally, students bilingual in English/Mandarin, Cantonese, or Spanish may be asked to help with translation tasks.

3. **Project Title:** ***Forging Asian & Pacific Islander Community Partnerships of Rapid Response to COVID-19***
   Project Description: The COVID-19 pandemic has revealed deep disparities related to structural racism and social determinants of health for minoritized and underserved populations, including the Asian American, Native Hawaiian and Pacific Islander (AANHPI) population. The lack of racial/ethnic data collected and reported by disaggregated AA and NH&PI subgroup has contributed to a poor understanding of the burden COVID-19 for this group. The NYU Center for the Study of Asian American Health (CSAAH) is based in the Department of Population Health Section for Health Equity at NYU School of Medicine. CSAAH is the only Center in the country that is solely dedicated to research and evaluation on Asian American health and health disparities. The Forging Partnerships project is a partnership between NYU CSAAH and the Asian & Pacific Islander American Health Forum, in leveraging new and existing data to identify high-risk AANHPI subgroups. The overarching goal is to collaborate with the Centers for Disease Control and Prevention (CDC) to enhance the ability to support the needs of AANHPI communities. Priority populations include CDC defined high risk COVID-19 populations like older adults, and AANHPI specific priority populations like individuals with elevated burden of diabetes and prediabetes, in the essential workforce, and who live in multigenerational homes. This project will focus on coordinating and informing the development, adaptation and dissemination of culturally appropriate strategies to reduce COVID-19 morbidity and mortality disparities in AANHPI priority populations and regional communities. The student will have the opportunity to engage with community partners and conduct activities including, systematic literature review to identify gaps in the knowledge base, data collection and analyses to explore COVID-19 health status and health disparities for priority populations in New York City and the nation. Students may assist with data collection and database management, including data entry, cleaning and consolidation. Prior data analysis skills are a plus but not required. Additionally, bilingual students may be asked to help with translation tasks.

Faculty Mentors:
Chau Trinh-Shevrin, DrPH
Professor, Department of Population Health
Professor, Department of Medicine
NYU Grossman School of Medicine
Director, Section for Health Equity
Vice Chair for Research, Department of Population Health
chau.trinh@nyulangone.org

Tina Sadarangani, PhD, RN, ANP-BC, GNP-BC
Assistant Professor
New York University Rory Meyers College of Nursing
trs233@nyu.edu

Project Title: ***Improving the identification and management of cognitive impairment among community-dwelling immigrant older adults in the adult day health setting***
Project Description: Community-dwelling persons living with dementia (PLWD) are highly susceptible to avoidable emergency department (ED) visits and hospitalizations. Adult day service

centers (ADCs) provide community-based care to a growing number of racially diverse PLWD, the majority of whom are low-income. Daily assessment and serial observations by an ADC's interdisciplinary staff (which includes registered nurses, social workers, and program directors) support early detection of clinical problems in PLWD. However, when acute changes in health status occur, ADC staff who wish to provide timely notification to primary care providers (PCPs) frequently cannot do so effectively. In my prior research, I found that ADC staff relied on facsimile or voicemail message to communicate urgent information. This resulted in delayed or non-responses from PCPs and allowed minor health issues to escalate into medical emergencies. As the number of PLWD in ADCs grows, there is a critical need to strengthen communication of salient clinical information between ADCs, PCPs, and caregivers to reduce costly hospitalizations and ED visits. Mobile health (mHealth) interventions have been shown to improve communication and clinical information exchange across a variety of health care settings, but they have not been designed for ADCs. My goal in seeking a K23 award is to become an independent scientist who leads a research program that integrates care from ADCs and PCPs using mHealth interventions to reduce avoidable health care utilization disparities in PLWD. With support from an experienced interdisciplinary mentorship team, I will acquire training in three areas: using integrated health systems to ad- dress health care utilization disparities, developing mHealth interventions using user-centered design principles, and designing and testing behavioral interventions. With the requisite training, I will execute the following specific aims: (1) identify the key domains of an mHealth application intended to support communication be- tween ADCs, PCPs, and informal caregivers regarding the health-related needs of PLWD; (2) design and test the visual layout of an mHealth application intended to support communication between ADCs, PCPs, and in- formal caregivers of PLWD; and (3) develop and examine the feasibility and acceptability of mHealth application use among ADC staff, PCPs, and informal caregivers in reducing hospitalizations and ED visits in PLWD over a 6-month period. My findings will inform a future R01 proposal to test the efficacy of an intervention using a fully operational mHealth application. This study is significant because the findings will be used to improve standards of care and reduce costly and traumatic outcomes in PLWD. It also advances legislation from the Office of the National Coordinator for Health Information Technology requiring that patients be able to access information from their medical records using their preferred smartphone application. This study is innovative because it leverages ADCs' strengths and incorporates frontline provider perspectives to inform the development of a pragmatic user-centered mHealth application to integrate care and reduce disparities in PLWD.

Faculty Mentor:

Jennifer S. Scherer, MD
Assistant Professor, Department of Medicine, NYU Grossman School of Medicine
Medical Director, River Renal Dialysis Center
Jennifer.Scherer@nyulangone.org

Project Title: ***Pilot Randomized Controlled Trial of Integrated Palliative Care and Nephrology Care versus Usual Nephrology Care***

Project Description: This project is a randomized controlled trial testing the impact of integrated palliative care and nephrology care versus usual nephrology care on symptom burden and documentation of advance care planning in patients with advanced CKD. Palliative care is a subspecialty that provides an added layer of support for patients with serious illness and includes symptom management and preparing for the future. We have established an ambulatory kidney specific palliative care program that works to maximize quality of life for patients and provide support throughout their journey with kidney disease. The student will learn principles of evidence-based

literature reviews, methods of human subject research and implementation science. Specifically, the student well have the opportunity to screen for new patients and to be involved with data management tasks such as data collection and patient interviews. The study entails a baseline survey administered by the research assistants, three palliative care appointments for the intervention group only, and an exit interview administered by the research assistants-- over the course of a three month period for each patient recruited into the study. The student will attend clinic sessions one half day/week and will be able to spend time shadowing on inpatient palliative care ward rounds.

Project Title: ***Symptoms of Advanced Chronic Kidney Disease Managed in an Ambulatory Kidney Palliative Care Clinic***

Project Description: This project is a retrospective analysis of change in symptom for patients with advanced CKD seen in our Kidney Palliative Care Program. The project will involve chart reviews, data base updates, and data analysis as well as manuscript preparation. As above, the student can also shadow providers clinically.

Faculty Mentor:
Ravichandran Ramasamy, PhD
Professor, Department of Medicine
Professor, Department of Biochemistry and Molecular Pharmacology
NYU Grossman School of Medicine
ravichandran.ramasamy@nyulangone.org

1. **Project Title:** ***Glucose Metabolism and Mechanisms of Cardiac Aging***

Project Description: Comprehensive analysis of clinical and preclinical studies reveals that the major factor underlying the risk of cardiovascular diseases in human subjects is advancing age. Innate dysfunction in the aging cardiovascular system in the vascular arterial structures and myocardium, in part, primes aging subjects for increased risk to superimposed stresses, including ischemia/reperfusion (I/R) injury. Our preclinical research focuses on dysregulated glucose metabolism, defined as glucose metabolism by pathways such as polyol pathway that does not lead to energy production, rather cofactor consumption, in part, leads to cardiac abnormalities. Our studies are built on the discovery that in conditions which exacerbate cardiovascular stress, advanced age, and I/R, hearts display (a) reduced NAD^+ dependent sirtuin SIRT1 activity, and (b) increased acetylation of metabolic, transcriptional, and oxidant stress proteins. Importantly, our preliminary studies in our laboratory demonstrate that the activity of cardiac aldose reductase (AR; a key regulatory enzyme in the substrate flux via the polyol pathway) is increased in aging hearts, while NAD^+/NADH ratio, NAMPT (nicotinamide phosphoribosyltransferase, a mechanism to generate NAD^+) and NAD^+ dependent SIRT1 activity and expression are reduced. Furthermore, our data demonstrate that dysregulated glucose metabolism leads to increases in acetylation of glycolytic enzymes and altered signaling via hypoxia responsive transcription factors. These data led us to hypothesize that dysregulated glucose metabolism modulates increased vulnerability in aging hearts to I/R injury, in part by acetylation-dependent mechanisms. Our research projects are aimed to determine how (1) increases in acetylation of glycolytic enzymes in aging hearts are due, in part, to decreased expression of histone deacetylases, specifically NAD^+ dependent SIRT1, and/or decreased availability of NAD^+ for
SIRT1 activity, (2) increases in acetylation lead to increased oxidative stress in aging hearts, and (3)dysregulated glucose metabolism and/or SIRT1 activity drives acetylation of nuclear transcription factor Egr-1 and consequent induction of genes linked to fibrosis in aging hearts. Our overall goal is to determine how dysregulation of glucose metabolism, along with impaired metabolic rescue,

impacts actions of molecules modulating energy metabolism, transcription, and oxidative stress in aging hearts. Uncovering of the dysregulated glucose metabolism driven mechanisms will lead to discovery of novel targets for the protection of aging hearts.

2. **Project Title:** ***Glucose Metabolism and Mechanisms of Cardiac Cell Death***

Project Description: Generation of advanced glycation end products in aging, obesity, and diabetes are known to drive mechanisms that foster cell death. While apoptotic cell death mechanism is well studies in cardiac cells, the less studied pathways of cell death in hearts are glutaminolysis and necroptosis. Our research projects are focused on elucidating if necroptosis and glutaminolysis occur in conditions that produce high levels of advanced glycation end products. Our overall goal is to determine if dysregulated glucose metabolism derived advanced glycation end products drive cardiac cell death by necroptosis and glutaminolysis and the potential mechanisms that facilitate these cell death pathways.

Faculty Mentor:

Thomas Wisniewski, MD
Gerald J. and Dorothy R. Friedman Professor of New York University Alzheimer's Disease Center, Department of Neurology
Professor, Department of Pathology, Department of Psychiatry
NYU Grossman School of Medicine
Director, Alzheimer's Disease Center, Neuropathology Fellowship, Pearl I. Barlow Center for Memory Evaluation and Treatment, Center for Cognitive Neurology, Division of Cognitive Neurology
Associate Chair for Research, Department of Neurology
thomas.wisniewski@nyulangone.org

1. **Project Title:** ***Proteomic Analysis of Alzheimer's Disease and Control Brains***

Project Description: Proteomics of human Alzheimer's disease (AD) brain tissue has been difficult to do due to limited tissue availability and limited methodology. To address these problems, we have developed a novel technique that allows unbiased proteomic analysis using
very small amounts of tissue microdissected from formalin-fixed paraffin embedded (FFPE) tissue, which is the most available type of human tissue specimens (*Scientific Reports*, 5: 15456, 2015; *Acta Neuropathologica*, 133: 933-954, 2017; *Methods in Molecular Biology,* 1723: 319-334, 2018). This technique allows quantification of thousands of proteins at once using very small tissue samples and is therefore very useful for answering specific questions about the many protein pathways involved in AD.
The overall goal of this project is to identify the comprehensive protein signature of AD by specifically examining vulnerable cell types and pathological features that define AD by performing a proteomic screen, which will ultimately help develop effective therapies. The two aims of my work during this fellowship are: (1) to determine what proteins are significantly altered in neurons and microglia in selectively vulnerable brain regions during the progression of AD, and (2) to determine what proteins are involved in the development of amyloid plaques and neurofibrillary tangles.

2. **Project Title:** ***Treatment of AD Transgenic Mice with Compounds that Block the Interaction between Aβ and Apolipoprotein E (apoE)***

Project Description: The Wisniewski lab coined the term "pathological chaperone" to denote the role of apoE in AD. Using this hypothesis we pioneered a novel therapeutic approach to treat AD-related pathology by blocking the binding of Aß and apoE, using Aβ12-28P. This approach has been shown to be highly effective in multiple AD transgenic lines, reducing the amyloid plaque burden, Aβ40/42 peptide brain levels, oligomer levels and tau pathology, with resulting cognitive benefits. We have

recently improved this approach using peptoids which we are testing in AD mouse models (*Scientific Reports*, Aug 14th, 7: 8009, 2017).

3. **Project Title:** ***Development of a Novel Immunomodulatory Approach to Treat Alzheimer's Disease***

Project Description: We have developed immunomodulation to ameliorate both amyloid β and tau related pathology concurrently. This approach induces an immune response specific to the shared pathological conformation of both oligomer/fibrillar Aβ and tau, as well as other amyloid proteins. We have hypothesized that through "conformational mimicry" the polymerized ABri peptide can induce a conformation selective immune response that will recognize Aβ (as well as other potentially amyloidogenic proteins such as phosphorylated tau). This is a ground breaking concept since such an approach could allow for the simultaneous targeting of multiple amyloid prone pathological proteins (*Scientific Reports*, Aug 29th, 7: 9881, 2017; *Alzheimer's Research and Therapy*, 10:10, 2018; *Alzheimer's Research and Therapy*, 10(1): 54, 2018).

4. **Project Title:** ***Testing of Innate Immunity Stimulation via TLR9 on CAA using Non-human Primates***

Project Description: We aimed to evaluate the stimulation of innate immunity via the use of TLR9 agonists to reduce CAA accumulation in our aged monkeys (18-19 years of age), at a point when CAA is already present. This is a treatment strategy we have previously tested in transgenic mouse models of AD (*Journal of Neuroscience*. 37(4): 936-959, 2017). Treatment will begin in aged monkeys as this will be more clinically relevant, since AD patients have substantial pathology by the time clinical symptoms are evident. Female adult squirrel monkeys will be subcutaneously injected every 2 or 4 weeks with a predetermined optimal dosages of TLR9 agonist CpG ODN or vehicle (saline) for a 25 month period. Animals will be continuously examined for signs of toxicity, and body weights were recorded at biweekly intervals. Injection site reactogenicity of repeated injections will be monitored. Plasma and CSF samples will be analyzed to identify immune responses and potential biomarkers associated with disease progression and/or treatment efficacy. Plasma samples are taken at specific times in the course of treatment and CSF samples were collected at sacrifice. Our adult monkeys underwent cognitive behavioral testing prior to treatment and in the final months of treatment as a longitudinal follow up. We designed novel cognitive tests which allowed us to further develop behavioral assessment of squirrel monkeys. Behavioral studies are completed and the old primates were euthanized for the analyses of brain pathology. Final histological and biochemical analyses in our old monkeys commenced upon completion of the immunization and behavioral protocols remain to be performed. In addition, a new cohort of monkeys is not beginning a new round of innate immunity stimulation followed by examination of biomarkers, brain imaging and cognitive testing.

Faculty Mentors:

Els D Fieremans, PhD
Associate Professor, Department of Radiology
Els.Fieremans@nyulangone.org

Ricardo M. Osorio Suarez, MD
Associate Professor, Department of Psychiatry
Ricardo.Osorio@nyulangone.org

Project Title: ***Imaging biomarkers in aging and dementia***

Project Description: With a rapidly aging baby boomer population and increasing life expectancy, AD will continue to impact more lives, precipitating very important health and socioeconomic issues — unless medical breakthroughs identify ways to prevent or more effectively treat the disease.

Therefore, early biomarkers for the identification of people at risk prior to the clinical appearance of dementia have become a priority due to the potential benefit from therapeutic or preventative intervention. In addition, non-invasive surrogate markers to track AD in its earliest stage are essential for gaining insight to the disease mechanism and for measuring treatment effects of putative disease-modifying drug therapies. In this project, we will focus on imaging biomarkers and study multimodal PET and MRI datasets acquired on elderly patients at different stages in the AD course using our state-of-the-art MR-PET scanner. Students will get familiar with the different imaging modalities and get the opportunity to closely interact with imaging physicists and neuroradiologists for image evaluation and processing, as well as become involved in research design and statistical analysis. The overall goal is to create more sensitive and specific imaging markers of neurodegeneration, and compare against conventional MRI structural markers and PET markers for Aβ and tau accumulation. Student will be encouraged to write their results as a paper.

Faculty Mentor:
Arjun V. Masurkar, MD, PhD
Assistant Professor, Department of Neurology
Assistant Professor, Department of Neuroscience and Physiology
NYU Grossman School of Medicine
Arjun.masurkar@nyulangone.org

Project Title: ***Neural basis of memory loss in prodromal Alzheimer's Disease (AD)***
Project Description: Memory loss is clinically apparent in early AD when pathophysiology extends into area CA1 of hippocampus from entorhinal cortex (EC). CA1 determines the main output of the hippocampus for memory-guided behavior and bears the brunt of AD pathology in the hippocampus. However, while prior studies have focused on CA1, they have treated the pyramidal neurons (PNs) as a uniform population. However, CA1 PNs are molecularly and functionally heterogeneous across multiple anatomical axes (radial, transverse, longitudinal). In order to develop better treatments for memory loss, it is imperative to understand network compromise at this cell-type specific level. In the lab, using optoelectrophysiology techniques in animal models and molecular/pathological analysis of human postmortem tissue, we have been investigating the circuit heterogeneity within CA1, the differential susceptibility of these circuits in aging and AD, and circuit-based therapeutic approaches to correct these changes.

1. Anxiety in preclinical and prodromal AD
There is a pressing need to find sign of AD that can detect disease earlier than memory loss, and that can portend fast decline. Neuropsychiatric symptoms often occur with cognitive decline in AD, and some occur concurrently or even before memory loss. We are exploring anxiety in this context. We are studying the prevalence, epidemiology, genetic association, and predictive capabilities of anxiety at all AD stages in human subjects via retrospective analyses of the NYU ADRC Brain Bank. Using this information, we have developed a scale to better track anxiety in early stages, which will be applied to the ADRC cohort. We also also analyzing MRIs of participant with prodromal AD with and without anxiety identify a putative structural biomarkers of AD. Translating this to the lab, using animal models we are exploring the neural mechanisms of anxiety within regions analogous to those identified on MRIs in human participants. This will identity druggable targets in order to better treat anxiety in AD and perhaps modulate progression.

2. Subjective cognitive decline (SCD) as a marker of preclinical AD
SCD has been linked to a higher conversion rate to prodromal AD/mild cognitive impairment and thus may be a preclinical AD stage. We are working on identifying markers of decline during and preceding the SCD stage. Via the ADRC, we are exploring the amyloid and tau biomarker correlations of SCD, and are also studying the validity of the SCD concept across racial and ethnic

groups. Ongoing work is also examining the difference between stable and progressive SCD. We are also improving the detection of SCD by comparing the longitudinal predictive capabilities of multiple SCD instruments.

3. Sensory dysfunction as a marker of preclinical AD

Multiple modalities of sensory function, and the structures involved, have been implicated early on in AD and may serve as early detection and tracking strategies. The most specific and sensitive way to measure these sensory functions, and the underlying mechanisms of their dysfunction, is unclear. We have spearheaded several projects, both independent and collaborative, to explore these issues in olfaction, vision, hearing, and touch. In olfaction, we have previously conducted clinical studies of olfactory loss in aging and in the lab have identified olfactory-related hippocampal pathways that may be differentially vulnerable to early AD. We have collaborated with Neuro-ophthalmology to conduct a study on visual biomarkers to distinguish normal from prodromal AD. A collaboration is focusing on AD-related synaptic plasticity dysfunction in visual cortex.

4. Vascular disease (VaD) as a modulator of early AD progression

Vascular disease (VaD) is the second most common pathology in age-related cognitive decline after AD, and is often found concurrently. The relationship between VaD and AD is complex, and may have differential impact depending on stage and also across racial and ethnic groups. We are studying the clinical phenotypes of VaD versus AD at early stages in order to better distinguish based on signs and symptoms. In addition, in collaborative efforts, we have been involved in developing imaging-based methods to detect various aspects of VaD . Since sleep dysfunction is a risk factor for vascular disease, in collaborative efforts we are investigating the influence of sleep dysfunction on VaD and AD biomarkers and risk for cognitive decline. Lastly, we are looking to study the impact of biomarkers of amyloid/tau versus VaD in predicting cognitive decline across racial/ethnic groups.

Faculty Mentor:

Abraham Brody, PhD, RN, FAAN
Associate Professor of Nursing and Medicine
Associate Director, Hartford Institute for Geriatric Nursing
Founder, Aliviado Health
Pilot Core Lead, NIA IMPACT Collaboratory
Ab.Brody@nyu.edu

1. Project Title: ***The Hospice Advanced Dementia Symptom Management and Quality of Life Trial (HAS-QOL Trial)***

Project Description: As the population ages, the incidence rate of Alzheimer's Disease and Related Disorders (dementia) is expected to triple. The National Alzheimer's Plan recognizes that while the number of persons with dementia (PWD) is increasing substantially, the healthcare and long term care systems are unprepared to provide high quality, effective and efficient care to the PWD and their caregivers. PWD often have many behavioral and psychological symptoms of dementia (BPSD) including agitation, depression and sleep disturbances that affect both the quality of life of the PWD and the caregiver. Unfortunately, due to a lack of programs to insert evidence-based care into the community, and hospice system specifically, PWD receive inappropriate and even harmful care. We have developed the Dementia Symptom Management at Home (DSM-H) Program to implement dementia friendly care for PWD and their caregivers in the community. Initially developed for use in home healthcare, we have modified the program for use in hospice. The DSM-H Hospice Edition is a systems level change program that includes workforce training, and agency level workflow changes. Through the Hospice Advanced Dementia Symptom Management and Quality of Life (HAS-QOL) Trial, in the R61 phase, we will: Aim 1: Establish the infrastructure necessary for implementing a

pragmatic clinical trial of the DSM-H Hospice Edition. Aim 2: Further tailor the DSM-H program specifically for hospice IDT members caring for PWD receiving end of life care and adapt for wide-scale implementation in hospice. Aim 3: Pilot test the complete protocol in 2 hospice agencies and refine the protocol further based on feedback from the pilot agencies. Following successful completion of the milestones at the end of the R61 year surrounding feasibility, applicability, and fidelity, we will move forward with the R33 phase where, we will: Aim 4: Conduct a pragmatic, randomized stepped wedged cluster RCT of the Dementia Symptom Management at Home Program Hospice Edition with advanced dementia patients living at home (N=30/agency per month) in 25 hospice agencies comparing antipsychotics (Primary Outcome) and analgesic use (Secondary Outcome) before and after implementation. Aim 5: Compare the rates of hospice continuous, inpatient and temporary respite care hours provided, and rate of permanent institutionalization in a nursing home prior to and after implementation (Secondary Outcomes). Aim 6: Assess care satisfaction of the bereaved primary caregiver. (Secondary Outcome) Exploratory Aim 7: Assess the spillover effects of the DSM- H on hospice patients who are identified as having dementia as a comorbidity, and advanced dementia patients who are living in nursing homes. This is an innovative proposal as it would be the first large-scale pragmatic trial in a hospice focused on PWD and their caregivers, and has a strong scientific premise, rigor and potential for reproducibility. Following completion of the trial, should the findings show that the DSM-H Hospice Edition is effective in improving quality of care and has high adoption and implementation fidelity, we will develop a technical assistance center through the Hartford Institute for Geriatric Nursing to disseminate the model of care.

2. Project Title ***A Multi-Site Cluster RCT of the Dementia Symptom Management at Home Program (DSM-H Trial)***

Project Description: As the population ages, the incidence rate of Alzheimer's Disease and Related Disorders (dementia) is expected to triple. Most persons with dementia (PWD) will be cared for in the community. However, the support and resources to ensure proper care is provided to PWD in the community is not currently present as noted in the National Plan to Address Alzheimer's. One form of community-based care that is frequently provided to PWD in the community is home healthcare. While these clinicians often care for PWD, few agencies, or home health clinicians are appropriately prepared to provide palliative, symptom based, patient and family centered care for this vulnerable population. There are over 10,000 skilled home healthcare agencies providing care in almost every county across the United States. Thus, home healthcare is an untapped existing resource that could be utilized more effectively to improve the quality of care and quality of life for the PWD and their informal caregiver, reduce utilization, and decrease healthcare spending. The most concerning areas in need of improvement is in managing pain and behavioral and psychological disturbances (BPSD) in the PWD as they have significant effects on both PWD and caregiver quality of life, as well as on healthcare utilization. The Dementia Symptom Management at Home Program (DSM-H) is an interprofessional evidence-based multi- component intervention developed specifically for home healthcare agencies. It includes clinician training, mentorship and evidence-based assessment instruments, careplans and caregiver teaching sheets. The DSM- H has shown strong preliminary results, and therefore this study will perform a multi-site cluster randomized efficacy trial. The DSM-H will be randomly implemented in care teams at three diverse home healthcare agencies located in different regions of the United States. The aims of this trial are to: 1) Measure the effects of the DSM-H on quality of life and symptom severity in the PWD. 2) Assess the effects of the DSM-H on quality of life, and physical and mental health in the informal caregiver of the PWD. 3) Assess the effects of the DSM-H on healthcare utilization in the PWD. This study will recruit 460 PWD-informal caregiver dyads and each dyad will be assessed on admission, 15, 30 and 60 days post admission by an independent, blinded research assistant using standardized assessment instruments. We hypothesize that the DSM-H will improve quality of life of the PWD and caregiver, improve symptom

management, and reduce utilization. While other interventions have focused on home-based models, no prior interventions have used both an interprofessional model and one where an existing, widespread, service model is used. This study is therefore significant and innovative as it will be the first to test the efficacy of a potentially widely disseminable and impactful evidence-based palliative and symptom management intervention for improving the quality of life for PWD and their informal caregivers receiving home healthcare.

***Within both trials there are multiple areas that can be carved out around mobile health applications, delirium, behavioral and psychological symptoms, pharmacology, intervention implementation amongst others.*

Faculty Mentors:
Victoria Vaughan Dickson, PhD, CRNP, FAHA, FHFSA, FAAN
Associate Professor
Director of the Pless Center for Nursing Research
New York University Rory Meyers College of Nursing
vdickson@nyu.edu

David R. Friedmann, MD, MSc
Assistant Professor, Department of Otolaryngology-Head and Neck Surgery
NYU Grossman School of Medicine
Director of Resident Research, Department of Otolaryngology
David.Friedmann@nyulangone.org

Project Title: ***Management of Severe Hearing Loss in the Veterans Health Administration***
Project Description: Hearing loss is one of the most common service-connected disabilities and may have a significant impact on quality of life and health. Comprehensive hearing health services mandates offering tailored treatments to individuals based on the degree of hearing loss and patient preferences. We plan to study how severe hearing loss is managed in the Veterans Affairs Health Administration. The VA is the ideal setting to study management of severe hearing loss, as data from the VA's audiometric repository is available to track patient, system, and provider factors associated with receipt of particular treatment strategies. This study uses a sequential explanatory design and interviews with various stakeholders including veterans and healthcare providers. We hope results from this pilot provide new information about treatment barriers, as well as facilitators that help in the management of severe hearing loss. We plan to develop educational materials to create and test an implementation approach to achieve best practices in the treatment of severe hearing loss. Qualitative data will be collected from veterans and key stakeholders to identify barriers and facilitators to management of Veterans with severe-profound hearing loss. Students will have the opportunity to help collect and analyze qualitative data for this project.

Faculty Mentor:
Adam Faye, MD, MS
Assistant Professor, Department of Medicine at NYU Grossman School of Medicine
Assistant Professor, Department of Population Health at NYU Grossman School of Medicine
Adam.faye@nyulangone.org

Project Title: ***Risk Factors for Postoperative Complications among Older Adults with IBD***
Project Description: Dr. Faye has an interest in outcomes of older adults with IBD. As such, his project contains studying the role of sarcopenia as a risk factor for postoperative outcomes among

older adults with IBD. Students will work with Dr. Faye on extracting clinical variables from the electronic health record, partner with radiology colleagues to obtain measures of sarcopenia, and construct multivariable models looking at predictors of adverse outcomes. Dr. Faye is also working on gathering data pertaining to biologic use in older adults with IBD- also looking at predictors of adverse outcomes after initiation.

Faculty Mentors:
Adam Faye, MD
Assistant Professor, Department of Medicine at NYU Grossman School of Medicine
Assistant Professor, Department of Population Health at NYU Grossman School of Medicine
adam.faye@nyulangone.org

Aasma Shaukat, MD, MPH
Robert M. and Mary H. Glickman Professor of Medicine and Gastroenterology, Department of Medicine at NYU Grossman School of Medicine
Professor, Department of Population Health at NYU Grossman School of Medicine
Co-Director, Translational Research Education and Careers (TREC)
Director, Outcomes Research, Division of Gastroenterology and Hepatology
Aasma.shaukat@nyulangone.org

Project Title: ***Screening/Surveillance Colonoscopy Outcomes among Older Adults***
Project Description: Yield and outcomes of colonoscopy for older individuals. The risk of advanced neoplasia increases with age but so do the risk of colonoscopy. We would perform a chart review to understand colonoscopy practices in older (>65) individuals and yield of neoplasia.

Faculty Mentor:
Jeannette M. Beasley, PhD MPH RD
Assistant Professor, Division of General Internal Medicine and Clinical Innovation
NYU Langone Health
jeannette.beasley@nyulangone.org

Project Name: ***BRInging the Diabetes prevention program to GEriatric populations (BRIDGE)***
Project Description: Over 30 million Americans are ≥65 years and have prediabetes.. This study will compare a Diabetes Prevention Program Tailored for Older Adults and delivered via Telehealth (DPP-TOAT arm) to an in person DPP tailored for older adults (DPP arm) using a randomized, controlled trial design (n=230). Our preliminary data suggests DPP-TOAT is a feasible and acceptable way to deliver the DPP to older adults, and this will be the first study to compare the effectiveness and implementation of two strategies (telehealth versus in-person) to deliver a tailored DPP for the unique needs of the growing population of older adults. Findings will inform best practices in the delivery of an evidence-based intervention that could reach the 24+ million adults aged 65 and over with prediabetes. Students will have the opportunity to participate in writing the protocol manuscript, recruitment, and data collection.

Faculty Mentor:
Melanie R. Jay, MD
Associate Professor, Department of Medicine
Associate Professor, Department of Population Health
Melanie.jay@nyulangone.org

1. **Project Title**: ***Testing the Efficacy of a Technology-Assisted Weight Management Intervention within Patient-Centered Medical Homes: The GEM Study***

Project Description: The Goals for Eating and Moving (GEM) Study tests the efficacy of a technology-assisted health coaching intervention over 12 months to improve weight management in primary care at the Manhattan VA. We will be analyzing our implementation outcomes based on the RE-AIM (Reach, Effectiveness, Adoption, Implementation, and Maintenance) framework and will also be conducting secondary data analyses.

2. **Project Title**: ***Financial Incentive Strategies for Weight Loss in Primary Care Patients with Obesity Living in Socioeconomically Disadvantaged Neighborhoods: The FIReWoRk Study***
   Project Description: The FIReWoRk Study tests the comparative- and cost-effectiveness of financial incentives for weight loss as compared to the provision of behavior change resources alone. The primary outcomes of this intervention are a ≥5% reduction in baseline weight at 6 months, use of evidence-based weight management programs, and quality of life. We have finished analysis of primary outcomes and will be looking at secondary outcomes including physical activity, dietary behavior, and self-monitoring of diet and weight.

3. **Project Title**: ***Adapting Evidence-Based Physical Activity Practices for Adults with Obesity to Local Greenspace: The Green Activity Pilot (GAP) Intervention***
   Project Description: In the GAP project, we are conducting qualitative interviews with patients to identify barriers and facilitators to physical activity in the natural environment as it relates to weight loss maintenance and quality of life, and with providers to understand implementing green activity interventions in partnership with primary care. We will work with Sunset Park community advisors to adapt evidence-based practices to the local context to address the community's specific barriers and facilitators at multiple levels.

4. **Project Title**: ***The Retrain Your Brain for Healthy Eating Study***
   Project Description: The aim of this mixed methods study to evaluate the feasibility of a food response training (FRT) intervention, a novel behavioral strategy, to reduce unhealthy dietary intake in diverse patients with obesity. FRT targets automatic processes in the food reward system to help patients who might not respond to traditional behavioral interventions. We will evaluate FRT's effects on diet, weight and clinical outcomes and explore factors (environmental and genetic) associated with response to FRT. This study will be conducted among 60 patients with obesity recruited from NYU Langone Health. Measurements will occur at baseline and at three months follow-up. For a subgroup of participants, we will collect saliva samples for genetic analysis at baseline assessment (ancillary study).

Faculty Mentor:
Himali Weerahandi, MD
Assistant Professor, Department of Medicine at NYU Grossman School of Medicine
Assistant Professor, Department of Population Health at NYU Grossman School of Medicine
Himali.weerahandi@nyulangone.org

Project Title: ***Identification of systems facilitators and barriers to a safe discharge from a skilled nursing facility following a heart failure hospitalization***
Project Description: This is a study examining the transition from skilled nursing facility (SNF) to home after heart failure hospitalization. The study consists of structured surveys administered to patients or their caregivers over the phone after they have been discharged from the SNF. Study tasks involve screening the medical record to identify potentially eligible subjects, traveling to the SNF (study is being conducted at 3 SNFs in Manhattan) to approach these potentially eligible to tell them about the study, and conducting the survey over the phone after they've been discharged.