2.0 Candidate Background

My goal in seeking the Paul B. Beeson Career Development Award in Aging is to **become an independent investigator and leader in geriatric oncology. I seek to investigate the impact of chemotherapy on physical function and develop interventions to prevent physical disability in older cancer patients receiving chemotherapy.** I am an Assistant Professor in the Section on Hematology and Oncology at Wake Forest University School of Medicine (WFUSM) focused on geriatric oncology. I was first attracted to the challenges and rewards of caring for older patients and then struck by the lack of evidence available to guide treatment decisions, particularly in oncology. This led me to apply for fellowship training in geriatrics, followed by Hematology and Oncology and fuels my passion for a .geriatric approach. in oncology. My clinical experience has sensitized me to the need for balancing cancer treatment and maintaining functional independence for older adults. My career development plan (CDP) will impart the knowledge and skills to: 1) rigorously investigate the impact of chemotherapy treatment on physical function, and 2) design and execute physical activity intervention studies to improve functional outcomes for older adults with cancer. Ultimately this training will allow me to build a clinical and research program at WFUSM translating principles of geriatric medicine and research on physical activity into improving the practice of oncology for older adults.

Education:
After obtaining my MD degree, I completed a residency in Internal Medicine, with fellowships in Geriatrics and Hematology-Oncology. I am one of the few physicians board certified in Internal Medicine, Geriatrics, Medical Oncology, and Hematology. In November 2006 I was selected as a WFU Claude D. Pepper Older Americans Independence Center (OAIC) Research and Career Development Core (RCDC) Scholar. While recognizing that I was uniquely qualified from a clinical perspective to pursue a career in geriatric oncology, to round out my research training, with support from the OAIC, I obtained a M.S. in Health Sciences Research from Wake Forest University (WFU) in 2008 with course work in epidemiology, health services research, clinical trial design, and biostatistics. This experience provided a foundation to pursue epidemiologic research through secondary data analyses and the basic methodology to help develop clinical trials. The OAIC provided structured, interdisciplinary mentoring and guidance in career development and research content and methodology. The RCDC mentoring team (Stephen Kritchevsky, PhD, Bayard Powell, MD, and Ann Geiger, PhD) are the core of the Mentoring Committee proposed for this Beeson Award.

Research Experience:
Primary Research Endeavors:
For my master's thesis, I investigated the association of physical performance measures with disability and death in older cancer patients in the Health, Aging, and Body Composition (HABC) study. I developed skills in analyses, interpreting results, accessing secondary data sources and manuscript preparation[1]. While completing my masters thesis, I competed for an intramural grant (2007) that supported the preliminary data collection for my successful American Society of Hematology (ASH) ASP-ASH Geriatric Hematology Research Award (2008). I was the first ASH scholar to receive this T. Franklin Williams award. The project "Investigating the Relationship between Physical Function, Comorbidity, Cytogenetic Risk Group and Prognosis in Older Adults with AML" is an observational study using geriatric assessment methods to compare the predictive value of self-report and objective physical performance on clinical outcomes in AML. The award has provided relevant design and study management experience, and key preliminary data for this Beeson Award. Early results were presented at the 2008 and 2009 ASH meetings. Enrollment will continue through December 2010. **Since my initial Beeson submission 10 months ago, I have: 1) exceeded projected enrollment; 2) continued to collect follow-up data on the impact of chemotherapy on physical function; 3) added repeated assessments of biomarkers of inflammation via an intramural grant; and 4) submitted the baseline manuscript entitled “Inpatient geriatric assessment in older adults receiving induction chemotherapy for acute myelogenous leukemia”.** Three outcomes manuscripts are anticipated upon study completion: 1) Baseline geriatric assessment measures predict morbidity and survival in AML; 2) Change in geriatric assessment measures pre and post AML chemotherapy; and 3) Systemic inflammation, functional decline and treatment outcomes among older adults receiving chemotherapy for AML.

Collaborations:
I was Co-Principal Investigator on an intramural grant called "A Feasibility Study of a Physical Activity Intervention in Older Adult Inpatients with Acute Leukemia" (PI: Danhauer, Klepin, Mihalko). This study

provides key pilot data and experience to support my career development and research goals. Results were presented at the 2009 International Society of Geriatric Oncology Meeting (oral presentation) and the 2009 Gerontological Society of America meeting. **This first-author manuscript is in press** (Appendix).
I am a co-investigator (site PI) on a completed multi-site study entitled "Determining the Utility of an Assessment Tool for Older Persons with Cancer" conducted through the Cancer and Aging Research Group (PI. Arti Hurria). This opportunity has provided experience in oversight of an observational study and participation in a national network of geriatric oncology collaborators. **I am co-author on the submitted manuscript** and am approved to write a first-author manuscript on predictors of early discontinuation of planned chemotherapy in older cancer patients. Finally, I was co-investigator on a project entitled "Colon Cancer Treatment and Surveillance among the Poor" which provided additional experience with analyses of large secondary datasets. Results were presented at the 2009 ASCO meeting. A co-authored manuscript is in press (*Am J Clin Oncol)*. **A first-author manuscript**, and two co-authored manuscripts have been submitted. In summary, I am in an excellent position to pursue the research and career development goals outlined in this proposal. **Products of my research since January 2010 include** 3 first author manuscripts (1 published/accepted, 2 submitted); and 4 submitted co-authored manuscripts. Four additional manuscripts are in prep and/or planned from on-going work in 2011 demonstrating a continued upward trajectory of dissemination. To build on this foundation, I will commit 9 person-months to the career development activities proposed in this application.

Leadership:
I am committed to incorporating aging-related issues into clinical oncology at institutional, national, and international levels. At WFUBMC, I founded the Geriatric Oncology Clinic, defined by the patient's age (775 years), not tumor type. I have also promoted an aging focus in WFUBMC protocols. For example, I facilitated the addition of physical performance assessment to monitor functional outcomes in a protocol of novel radiation techniques in (mostly older) adults with lung cancer. I also helped develop an IRB-approved protocol investigating use of a frailty index to predict chemotherapy toxicity in lung cancer. I am active in the Cancer and Aging Research Group (CARG), which fosters collaboration among geriatric oncology researchers, and have developed key collaborations through them. I was invited to present my research ideas at all three CARG national meetings and am the site PI for two IRB-approved protocols from this group. In 2008 I was invited to serve on the Cancer in the Elderly Committee of the Cancer and Leukemia Group B (CALGB) cooperative group. CALGB disseminates "standard of care" treatments, allowing me to integrate my research findings on measurement of physical function into clinical trials at the national level.

Since the previous submission, I have developed a companion study of geriatric assessment that has already been embedded in an NCI approved national multi-site CALGB treatment protocol for older adults with AML. I am co-chair on this protocol and will coordinate training and supervision of the geriatric assessment study for all participating national sites. This is an unsurpassed opportunity to disseminate my work and to shape future oncology clinical research. I was also appointed to a 3-year term as the **Quality of Life Liaison to the NCI Leukemia Steering Committee**, another opportunity to ensure that national trial outcomes are highly relevant to older adults. I was an invited faculty speaker in an Educational Session entitled "Evaluating, Treating and Supporting Older Adults with Acute Leukemias" at the ASCO annual meeting in 2008 and am the primary author of 3 book chapters and 3 review articles on treatment of malignancies in older adults. My new leadership roles in the CALGB and at the NCI are further evidence that my training and expertise are recognized nationally.