



## FY16 Progress Report

The Center on Aging's (CoA) FY16–18 budget was approved in June 2015 with a requirement for an annual progress report detailing its progress toward aging-related grant – center, program project, and training – funding. This FY16 report will summarize the substantial progress made in grant submissions and provide updates on the Center's membership, pilot grant program, research retreat, and activities of the Governor's Commission on Aging.

### **Grant submission updates**

#### U01 Molecular Transducers of Physical Activity Clinical Centers

In March 2016, Drs. Mark Supiano and Paul LaStayo and a team of investigators submitted an application entitled, Utah Physical Activity Clinical Center: A Lifespan Approach, in response to the NIH Common Fund opportunity, RFA-RM-15-015 "Molecular Transducers of Physical Activity Clinical Centers (U01). It is scheduled to be reviewed on July 11. Six clinical center sites will be selected to participate in the consortium from among 38 applications. The application leveraged our geriatrics expertise as well as our experience in clinical trials involving exercise training. We highlighted our institutional strength related to the Utah Population Data Base as a mechanism to enrich participant recruitment efforts (illustrated using the example of the Center's Research Participant Registry, described below). In addition, the collaboration with the Utah CCTS and in particular its new satellite facility – the Skaggs Wellness Center located in the School of Dentistry building – as the exercise training and testing site was highlighted as a strength. If funded, hosting a clinical site for this U01 will serve an important role that will no doubt enhance our future NIA P30 Pepper Center application as well as the CCTS' renewal application in 2017. The grant details are listed below.

1U01AR071127-01	Supiano/LaStayo (PIs)	09/01/16-08/31/22
NIH Common Fund/NIAMS		\$6,000,000
Utah Physical Activity Clinical Center: A Lifespan Approach		
Goals: The Utah Physical Activity Clinical Center (PACC) will support a randomized, multi-center clinical study to evaluate the molecular transducers underlying the physiological effects of physical activity. The Utah PACC will: 1) Recruit phenotypically extremely well-characterized healthy adults across the lifespan with an emphasis on older adults; 2) Conduct standardized acute and chronic (12-week duration) exercise protocols – both aerobic and resistance – with appropriate biospecimen collection and data management; and 3) Effectively contribute to and collaborate with the coordinating center, the five other PACC sites, and the consortium's other components.		

#### Transformative Excellence Program

The Dean of the College of Architecture + Planning and Center member, Dr. Keith Diaz Moore, presented his work leading the Age Friendly City initiative being done in partnership with the Commission on Aging to the CoA Board of Directors. In the course of this discussion, we

recognized an opportunity to revise a Transformative Excellence Program proposal Dr. Diaz-Moore had submitted to incorporate aging. From this, the *Co-Laboratory on Resilient Places (CRP): Adaptive Capacity Promotion for Healthy Aging* was developed and submitted. The geriatric syndrome of heart failure was chosen as the disease condition to target, and faculty recruitment for an investigator – cardiologist or geriatrician – focused on the functional needs of heart failure patients would be supported. The proposal passed the first tier review; the second tier review is currently in process.

#### Longevity/Healthy Aging Genetic Studies

The genetics of longevity and healthy aging is another area of investigative strength within the CoA that we wish to expand and parlay into future center grant submissions. To that end, Drs. Cawthon, Smith and Supiano have been meeting with CCTS co-director, Dr. Will Dere, to generate preliminary data capitalizing on the robust genetic and phenotypic data that are available from families recruited from Utah that provided the most widely used samples in the Centre d'Etudes du Polymorphisme Humain (CEPH) project that was instrumental in generating human linkage maps. Thanks to Dr. Dere's support and with \$800K funding from an Eccles Foundation grant supplemented by support from the Department of Human Genetics, HSC Research Office and the Program in Personalized Health an agreement to perform whole genome sequencing from 600 individuals from the Utah Genetic Reference Project and utilize the rich phenotypic information that was obtained has recently been reached. We intend to construct a frailty index from the phenotypic data that are available to be able to define a "robust" aging phenotype. The DNA samples were sent to Washington University this month. The preliminary data from this project will be a critical strength supporting a P30 Pepper Center application in 2017.

#### Systolic Blood Pressure Intervention Trial

Many Utah CoA investigators are part of the Systolic Blood Pressure Intervention Trial (SPRINT) study. Dr. Alfred Cheung is a SRPINT Steering Committee member, PI for the Utah Clinical Coordinating Network, and co-author on the main trial results paper published last November (DOI: 10.1056/NEJMoa1511939). Dr. Supiano is a member of the SPRINT Intervention and Publication and Presentation Committees and co-leads the Geriatric Working Group. The latter role led to his co-authorship on the main results from the SPRINT-SENIOR study published in JAMA last month (doi:10.1001/jama.2016.7050).

Dr. Supiano has joined the SPRINT-MIND adjudication committee that is evaluating the rate of incident dementia in SPRINT participants. This effort will be ongoing given the interest in continuing to monitor SPRINT subjects for this outcome over time. To that end, Drs. Cheung and Supiano are included in the investigative team on a new R01 application, Alzheimer's, Senior and Kidney (SPRINT-ASK), that was submitted this month.

These efforts and our program's involvement in this landmark, multi-site trial will provide strong evidence supporting our P30 Pepper Center application.

#### Geriatric Workforce Enhancement Program

A multi-disciplinary team of COA investigators responded to a RFP from HRSA for Geriatric Workforce Enhancement Programs to establish the "Utah Geriatric Education Center:

Developing the Geriatric Primary Care Workforce to Improve Outcomes in Long Term Care.” Details of the funded project are listed below – Ginny Pepper from the College of Nursing is the PI and Mark Supiano is a co-investigator, project leader. The Utah Geriatric Education Center (UGEC) will enhance healthcare provider workforce capacity, as well as patient and family engagement, in order to improve primary care and geriatric outcomes in long term services and supports (LTSS) in urban and rural environments. Driven by a need to improve the quality of care provided in Utah’s LTSS programs, its educational activities are targeted to the interprofessional healthcare workforce that provides care in nursing facilities in Utah for long term residents who receive primary care through a system comprised of physicians, nursing home staff, and family caregivers. The four measurable project objectives are to: 1) Integrate geriatrics and primary care into the delivery systems in 21 nursing facilities of two long term care organizations and transform the learning environment for academic trainees and career development; 2) Develop health professionals and direct care workers with competencies in interprofessional collaboration who can assess and address the needs of older adults and their families/caregivers at the individual, community, and population levels; 3) Develop and deliver programs for interprofessional teams of providers and direct care workers, patients, families and caregivers focused on communication skills and transitions of care in the long term care setting that will promote a shared understanding of health information and goals of care, reducing unnecessary emergency department transfers and hospital readmissions; and 4) Improve the care of older adults with ADRD through academic, career development, and community based education for direct care workers, families, and health professionals.

U1QHP28741	Pepper (PI)	07/01/2015 – 06/30/2018
HRSA		\$2,600,000

Utah Geriatric Workforce Enhancement Program

This contract awarded from HRSA establishes the Utah Geriatric Education Center. Its educational focus is long-term care providers.

T32 Training Grant in Aging

We initially contemplated submitting a revised T32 Training Grant in Aging application to NIA in May 2016. However, after much consideration largely driven by the limited funding available for new T32 grants in NIA, we opted against this plan and instead will be developing a related application, but targeted to NHLBI. Drs. Russ Richardson and Mark Supiano will be the PIs. This application is due in January 2017.

Heart Failure Program Project and Pepper Center Applications

The growth in vascular aging funded grants and new faculty recruitments have addressed many of the critiques from our first application for an Older Americans Independence (Pepper) Center at the University of Utah (P30AG044272). The projects described above are also adding major components to the aging research infrastructure that will strengthen our application. We plan to resubmit this application in response to the next Pepper Center RFA that is expected to be released in 2017. In parallel with this, we – together with faculty from the Cardiology Division – are planning to prepare a related program project grant application that will focus on unique

physiological characteristics of heart failure with preserved ejection fraction (HFpEF) – a cardiogeriatric syndrome. Planning for both of these center grants will begin this summer.

**Membership**

There are now approximately 185 University of Utah CoA faculty members. These faculty members represent eleven schools and colleges from across the entire University campus – about 75% are from the five Health Sciences colleges (Dentistry, Health, Medicine, Nursing and Pharmacy) and 25% from six main campus colleges. Details regarding current CoA membership including current research interests are found in the Members directory section of the CoA web site, [www.aging.utah.edu](http://www.aging.utah.edu).

**2016 Pilot grant program**

The CoA began its pilot grant program in 2006 to promote the development of aging research at the University of Utah. The goal of this program is to encourage the development of new investigators, attract established investigators to aging research, and stimulate interdisciplinary research collaborations ultimately leading to new externally funded research.

There were 10 applications reviewed in response to the 2016 call for pilot grant proposals. In addition to these objectives, we encouraged projects that aligned with the CoA’s thematic interests in vascular aging and the genetics of longevity. The following five projects were selected for funding (\$20K each for one year).

Center on Aging 2016 Pilot Awards

Ashley Walker, PhD	“Preventing age-related arterial stiffening to preserve cognitive function”
Kalani Raphael, MD, MS	“Sodium bicarbonate, a potential therapy to prevent chronic kidney disease”
Heather Hayes, DPT, PhD	“Psychological, physical, and social influences on elder caregivers of stroke”
Joel Trinity, PhD	“Orthostatic Hypotension and Frailty in Geriatric Hypertension”
D. Walter Wray, PhD	“Inflammation and Vascular Function in Heart Failure with Preserved Ejection Fraction”

Progress from the most recent two rounds (2014 and 2015) of pilot grants has been substantial as summarized in the table below. While it is premature to expect that these recent pilots have led to new externally funded grants, it is encouraging to note that 11 grants have already been submitted and another 6 are in development. Detailed information on these pilot awards is included in the attached Appendix.

2014 – 2015 CoA Pilot Awardee Results to Date

Papers Published	Book Chapters	Presentations	Grants Submitted	Grants being developed
8	1	33	11	6

Finally, two new CoA members are funded on career development awards (CDA). Sara Weisenbach, PhD, is a new faculty member in the Department of Psychiatry. She transferred her VA CDA-2 award to the VA Salt Lake City where she has been appointed to be a GRECC affiliated faculty member. Dr. Supiano is her CDA mentor. Ben Brooke, MD, PhD, received a **R03 Grants for Early Medical/Surgical Specialists' Transition to Aging Research** (GEMSSTAR) award from NIA to support his work focused on transitions of care for older surgical patients.

### **2016 Research Retreat**

The Center inaugurated its annual research retreat in March 2007. Retreat activities include a welcome reception and poster session for CoA faculty and trainees the afternoon of the first day with a keynote speaker and symposia the following morning. The 2016 Retreat was held on April 14–15. The poster session included 31 posters presentations. The theme for the retreat was “Long Term Care Policy and Practice” and was highlighted by a keynote address delivered by Dr. Lew Lipsitz from Harvard University titled, “Improving the Quality of Long-term Care in America: Two Experiments to Bring Geriatric Expertise to the Nursing Home”. CoA faculty led two symposia teams that addressed “Understanding Goals of Care” and “Health Promotion” topics. More than 200 guests attended the retreat.

### **Research Participant Registry**

The primary goal of the Research Participant Registry (RPR) is to link people in the community, who would like to participate in research, to aging-related studies at the University of Utah. Researchers conducting patient-oriented aging research may wish to contact individuals of all ages who may be interested in participating in aging-related research and determine if they qualify to enter their research studies. The Registry is a process for matching people to research projects.

The RPR is a partnership between the Center on Aging, the Resource for Genetic and Epidemiologic Research (RGE), the Utah Population Database (UPDB), and the Center for Clinical and Translational Sciences (CCTS). Individuals from the UPDB are contacted by the RGE and invited to become members of the RPR. Respondents sign a consent form and are sent a medical questionnaire survey to complete that provides information about their health history, functional status, current medications and other factors that might inform investigators about the type of study the participant would be interested in hearing about. The survey information is entered into the CCTS Red-cap server such that this information may be queried by CoA administrative staff. Investigators then submit requests to identify subjects in the RPR who may qualify for their IRB-approved study. The intent is to provide CoA investigators with a pool of potential research subjects whom they may contact who are pre-screened to be likely to meet the study’s entry criteria. This feature of the registry was touted as a resource in support of the Physical Activity Clinical Center U01 application cited above.

There are approximately 300 subjects currently enrolled in the registry. The accrual rate of entry into the registry is averaging 15 subjects per week. Our goal is to grow the registry to include 1,000 participants which we should reach in the next year. Since January 2016 the

registry's functionality has been beta tested three times: 1) Physical Therapy – aged 55-75 subjects with relative good health; 2) UPDB – Collecting Hair Samples – all ages; 3) Psychiatry – individuals aged 60-85 w/out dementia. The initial feedback regarding this functionality has been positive.

### **Utah Governor's Commission on Aging**

In 2005, the Utah legislature created the Commission within the Governor's office to address how state government and the private sector can prepare for the wave of aging individuals that began in 2006 when the oldest baby boomers turned 60. Its initial two-year appropriation was renewed for second two-year term when the Commission moved to the University of Utah to join the CoA. In October 2009 the Commission on Aging entered into a cooperative agreement with the Administration on Aging (AoA), now Administration for Community Living, to make it easier for people in Utah to learn about and access the full array of long-term care options that are available in their communities. This Aging and Disability Resource Center Award was funded until 2014. The Commission has provided great leverage opportunities with grants received from the State Innovation Model contract, HRSA the VA Office of Rural Health and foundations (notably Cambia). Anne Palmer who had served as the Commission Director since 2012 left her position in April 2016. We were fortunate to recruit a well-qualified individual to lead the Commission; Rob Ence was appointed in May.

The Commission on Aging continues to receive support from the legislature – it was awarded a \$100K annual budget for five years beginning in 2012. The Commission is up for legislative reauthorization in the coming year. Its sunset has been renewed for ten years to 2027. Efforts to appropriate funds to properly resource the Commission's activities for the next decade will be undertaken during the upcoming legislative session.