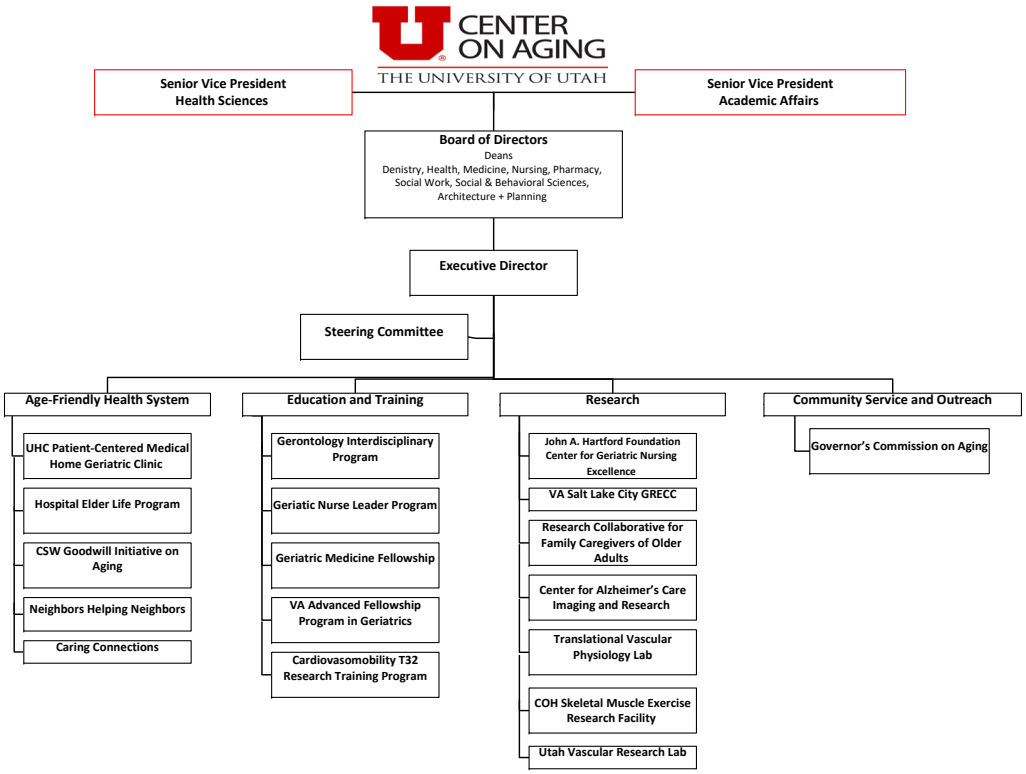
CENTER ON AGING
THE UNIVERSITY OF UTAH

2021 Progress Report – Submitted January 2022

This report summarizes the substantial progress made in the Center on Aging's (CoA) activities during 2021 and future directions for the next several years. The report is provided in two sections, the first focused on the CoA's "One U", four mission scope in the context of promoting the Age-Friendly Health System, and, the second, to update the evolving plan to prepare a competitive P30 Older Americans Independence Center (OAIC or, "Pepper Center") proposal for submission to the National Institute on Aging (NIA) in Fall 2022.

A. Center on Aging "One U" Four Mission Scope

Dating to its major restructuring in 2006, the CoA mission has intentionally been "One U" – in fact, one of few truly campus-wide Centers – and to encompass all four traditional academic center missions – research, education and training, clinical programs and community service and outreach. Much of its focus to date has been to establish a robust research infra-structure to support the expansion of aging-related research across the entire campus, and to support the development of NIH center level grant awards. Progress in this regard is summarized in the following section. In the past several years, increasing attention has been devoted to expansion of the CoA's other three missions under the organizing framework of the Age-Friendly Health System (AFHS) initiative. The CoA organizational chart has been revised to highlight this four-mission scope and the AFHS framework.



Several accomplishments have further enhanced the AFHS program in the past year:

1) A new administrative leadership position was established within the Geriatrics Division – an Associate Division Chief for Age-Friendly Care – and Dr. Timothy Farrell was appointed to this new role. Dr. Farrell will have significant protected administrative time devoted to leading the expansion of several AFHS programs that are underway.

2) We are funded as a dissemination site for a John A. Hartford AFHS Project, "Caregiver Proxy Access." The Geriatric Medicine clinic (Madsen location) and the Geriatric Psychiatry Clinic are involved in this project's implementation.

3) Dr. Jorie Butler is funded to support an AFHS Outcome Evaluation Project as one of three sites selected for this project.

4) The Hospital Elder Life Program (HELP) was recognized as a critical component of U Health's AFHS commitment and received direct funding from U Hospitals and Clinics.

5) Drs. Fuller and Hendrick are leading an initiative to achieve Geriatric Emergency Department Certification. This has been significantly delayed due to pressures in the ED incumbent with managing the persistent COVID pandemic.

6) Dr. Jessica Cohan is championing the effort to develop the Geriatric Surgery Verification Program. This is the focus of her application to the "Emerging Leaders in Aging Award" program that is currently under review.

7) Alignment with a parallel process underway at the VA Salt Lake City Health System to develop its AFHS program an achieve "Participant" status.

8) Continued support for the AFHS focus required for the HRSA funded Geriatric Workforce Enhancement Program led by Dr. Linda Edelman.

In 2021, the culmination of these efforts resulted in U Health being advanced in AFHS status achieving the Institute for Healthcare Improvement's "**Committed to Care Excellence for Older Adults**" national recognition. Looking ahead to 2022, we have made an intentional connection with the University HSC strategic planning group to identify the areas of alignment between the AFHS activities and the pillars of the 2025 HSC Strategic Plan outcomes. While there are synergies between AFHS and each of the strategic plan's pillars, for the FY23 HSC strategic plan the focus will be on two of these:

- Within the Equity, Diversity and Inclusion pillar, steps will be taken to incorporate anti-ageism into its current mission statement as follows, "We eradicate sexism, racism, *ageism* and bias to enable health equity in our community and equity, diversity, and inclusion in our institution."
- Within the Accountable for Outcomes pillar, there is an opportunity to revise one of its current goals, "We successfully manage chronic disease (e.g., diabetes, CHF, and COPD) in longitudinal, value-based payment care programs" to address an important AFHS goal to align care with what matters most to older adults. To achieve this, this goal must be modified to recognize that the most common chronic disease among older adults is multiple chronic conditions (MCCs), and transition from becoming disease-centric to become patient-centric.

B. P30 Older Americans Independence Center "Pepper Center" Submission Planning

The 2020 CoA Progress Report provided the background for the decision to prepare a NIA P30 Pepper Center application for the next submission cycle in the Fall 2022. The

following summary will highlight the intentional steps that have been taken to establish the infrastructure that will need to be in place to support this Pepper Center proposal.

1) Membership

As part of an overall revamping of the CoA website the Directory has been updated to reflect the current membership of approximately 200 faculty members from across the Utah campus (https://aging.utah.edu/membership/directory/index.php). To facilitate the ability of members to network with each other, as well as for those external to CoA to identify potential collaborators, new functionality was created to identify faculty member research interest categories (e.g., cognitive resilience and caregiving) to align with thematic research areas. This permits individuals to better locate those with similar interests. These member groups will be a natural feeder for faculty users of Pepper Center cores.

2) Funded Aging-related grants at UU – total and by thematic area

The annual update of aging-related grants across the University for 2022 demonstrates a total of $23.8 million annual total costs – a $5.6 million increase from the prior year. Details for these awards are in **Appendix A**. This level of funding, the number of awards, and key faculty are all important benchmarks with respect to supporting the Pepper Center proposal. Moreover, Pepper Centers are designed to provide support, provide synergies, and efficiencies for investigators who have research funding that aligns with the Center's theme and who will be utilizers of its research cores. To that end, there has been growth in research funding in the cognitive resilience area – 26 funded awards for a $8.2 million total. Another important thematic alignment is with caregiving science (11 awards; $3.2 million total) – inclusive of Dr. Ellington's NIA-funded Caregiving Science Collaborative – and of these a sizeable fraction that pertain to caregiving and cognitive resilience (5 awards; $0.9 million total). This thematic breakdown is detailed in Appendix A.

In parallel with this initiative, Utah has a major role in the launch of a new, pragmatic clinical trial, PRagmatic EValuation of events And Benefits of Lipid-lowering in older adults – PREVENTABLE – study a landmark study of statins in 20,000 older adults age 75 years and older. Funded by NIA, PREVENTABLE will involve more than 100 sites from across the U.S. Clint Allred, MD (Clint.Allred@hsc.utah.edu) from the Division of Cardiovascular Medicine and Director of the Lipid Clinic, is the U Health Clinical site PI. Paul Eleazer, MD (paul.eleazer@va.gov) is the Salt Lake City VAMC Clinical Site PI. Mark Supiano, MD is on the trial's Steering Committee and chairs its Measurements, Procedures and Quality Control Committee. In addition, Dr. Srini Beddhu has received funding for a PREVENTABLE ancillary study to evaluate whether sedentary time duration is a, potentially modifiable, predictor of incident mild cognitive impairment and dementia. This ancillary study's focus also aligns with the CoA cognitive resilience theme.

3) Pilot Grant Program

A "Pilot and Exploratory Development Core" is one of the Pepper Center's required components. Since 2006, the CoA has provided $100,00 annually in support of its pilot grant program to promote the development of aging research at the University of Utah, typically funding four to five one-year awards. More recently, it has supported a larger,

two-year "Innovations in Aging" award. 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. It has had a very positive track record in achieving this goal, and particularly the return on investment as gauged by new, externally funded grant awards that pertain to the pilot award.

In 2021, the Innovations in Aging Research award (one year up to $50K support) was announced together with the traditional pilot grant award program (one year up to $25K support). We received and reviewed one innovations application and 15 traditional applications. Based on the independent reviews of the proposals, the CoA Steering Committee selected two traditional $25K awards for funding this year and one innovations, $50K award. The 2021 Pilot Grant recipients are:

Traditional Pilot Awards				
Acevedo	Claire	PhD	Dept of Mechanical Engineering	
"Contribution of Collagen Cross-Linking to Skeletal Fragility in Aging Bone"				
(Co-Is: Drs. Owen Kingstedt, Vishnu Sunderesh)				
Creem-Regehr	Sarah	PhD	Dept of Psychology	
"Effects of Older Age on Sensory Integration in Navigation"				
(Co-Is: Drs. Peter Fino, Jeanine Stefanucci)				
Innovations in Aging				
Hong	Andy	PhD	Dept of City & Metropolitan Planning	
"Healthy Aging and Resilient Places (HARP) Lab: Promoting Health and Resilience in Aging through Interdisciplinary Collaboration"				
(Co-I: Dr. Sarah Canham, Michelle Sorweid)				

The CoA pilot grant program has a successful track record in developing new research collaborations and in stimulating new externally funded grants. The table below summarizes outcomes of the pilot grant program for the last three fiscal years. Of note, in FY21 more than $6.2 million in total costs of grant funding were expended by new external grants that were awarded to prior pilot grant participants which pertained to the focus of their pilot grant. Details of the newly received external awards are found in **Appendix B**.

Pilot Program	FY19 Program	FY20 Program	FY21 Program
Applications	14 (6 Innovation)	15 (1 Innovation)	10 (1 Innovation)
Grants awarded	3 (1 Innovation)	5 (0 Innovation)	3 (1 Innovation)
# Departments awarded	5	8	8
# Schools/colleges awarded	5	4	5

Total investment (SVPHS)	$100,000	$100,000	$100,000
# Publications to date*#	6	4	TBD
# Current FY21 grant proposals in preparation**	8	6	TBD
# Total grants funded*	4	7	9
Extramural funding total	**$4,615,148**	**$5,894,157**	**$6,273,771**

*This reflects total funding of prior Center on Aging Pilot Awards. Reported by investigator as related to and resulting from work enabled by the pilot grant. If not reported by the investigator, this must be determined by a discipline knowledgeable individual with PhD or MD preparation. Tracking will only be conducted for 3 years past completion of the pilot grant or discontinued after first R01, whichever is sooner.

4) Faculty Career Development

A pipeline of qualified junior faculty from a span of different disciplinary backgrounds who are poised to benefit from research career development support focused in cognitive resilience is a critical prerequisite for the required Pepper Center's Research Career Development Core. One institutional strength in this regard is the number of T32 training programs that pertain to the Pepper theme, including the NHLBI Cardiovasomobility T32 co-led by Drs. Richardson and Supiano. In addition, the table below lists active career development awards that demonstrate our success in advancing the academic careers of these trainees. Of note, the disciplines represented in this list include: Basic Science, General Surgery, Gerontology, Psychology, Hematology, Epidemiology, Infectious Diseases, Nursing, Cardiology, Occupational Therapy, Physical Therapy and Exercise Physiology.

Interferon-Induced Transmembrane Protein 3 (IFITM3) Regulates Thrombosis During Inflammation in Aging	NIA	5K01AG059892-03	K01	CAMPBELL, ROBERT A
Identifying Barriers to Patient-Centered Decision Making for Older Adults with Diverticulitis	NIA	5R03AG067994-02	R03	COHAN, JESSICA N
Developing and Testing the Enhancing Active Caregiver Training (EnACT) Intervention for Dementia Family Caregivers	NIA	1K01AG065623-01A1	K01	EATON, JACQUELINE
Research Collaborative for Family Caregivers of Older Adults	NIA	5K07AG068185-02	K07	ELLINGTON, LEE A
Development and Preliminary Validation of a Bleeding Quality of Life PatientReported Outcome Measure for Older Adults	NIA	1R03AG074074-01	R03	PARKS, ANNA
Hypertensive Disorders of Pregnancy and Subsequent Risk of Vascular Dementia, Alzheimer's Disease, or Related Dementia: A Retrospective Cohort Study Taking into Account Mid-Life Mediating Factors.	NIA	5K01AG058781-02	K01	SCHLIEP, KAREN C.
Modulating Immune Senescence of Effector Lymphocytes in Chronic HIV Infection	NIA	5R03AG060192-02	R03	SPIVAK, ADAM MITCHELL
Improving Palliative Care Access Through Technology (ImPAcTT): A Multi-Component Pilot Study	NIA	3K76AG054862-05S1	K76	STEPHENS, CAROLINE

The Role of MicroRNA 181b in the Development of Vascular Stiffness with Age	NIA	1K08AG070281-01A1	K08	TUDAY, ERIC
Leveraging Physical Therapy to Improve Physical Activity in Older Adults with Chronic MSK Conditions	AHRQ	5K01HS026518-03	K01	THACKERAY, ANNE
Optimizing Outcomes for Patients with Heart Failure and Atrial Fibrillation	NHLBI	5K23HL143156-04	K23	STEINBERG, BENJAMIN ADAM
Impact of Initial Stroke Rehabilitation Placement on Functional Recovery and Cost-effectiveness	NICHD	5K01HD097280-03	K01	HAYES, HEATHER A
Mechanisms of Impaired Skeletal Muscle Blood Flow and Exercise Intolerance in Veterans with Heart Failure with Preserved Ejection Fraction: Efficacy of Knee Extensor Training	VA		CDA	Brunaswat, Mandy
Mechanisms of systemic dysfunction responsible for exercise intolerance induced by breast cancer and cytotoxic chemotherapy in Veterans	VA		CDA	Broxterman, Ryan

5) Research Participant Registry

The Research Participant Registry was created as a partnership between the Center on Aging, the Resource for Genetic and Epidemiologic Research (RGE), the Utah Population Database (UPDB), and the Utah Clinical and Translational Sciences Institute (CTSI). The primary goal of the 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 intent is to provide CoA investigators with a pool of potential research subjects whom they may contact who are prescreened to be likely to meet the study's entry criteria.
There are approximately 589 subjects currently enrolled in the registry (279 males/309 females/1 transgender). The age range of current participants is from 50 to 99. New participant enrollment was curtailed during most of 2020, first due to RGE requirements that needed to be updated and secondly due to COVID restrictions on RGE staff. The Center on Aging Registry has to date been utilized to support participant recruitment into 19 research projects with 5 during this calendar year.

In the coming year we plan to add several enhancements to the RPR to develop it into a future Pepper Center Data Core resource. These include: 1) merging with the "Cognitive Health in Aging Database" that has its origins in the Center for Alzheimer's Research and Imaging Center, 2) incorporating the phenotypic characterization of cognitive and functional status in selected participants with an intentional plan to obtain this information in a longitudinal manner, 3) explore biorepository options to add to the cognitive and functional data, 4) incorporate the Caregiver Research Resource and its plan to develop a Caregiver dyad registry in partnership with UPDB.