An Indiana University Center on Global Aging

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We propose the creation of an interdisciplinary Center on Global Aging to address the significant impact and opportunities associated with one of the world’s most dramatic demographic changes - the graying of the planet.

Indiana University will take a global leadership role in addressing the challenges associated with the expected doubling of the proportion of the global population over the age of 60 – from 11% to 22% -- between the years 2000 and 2050. In Indiana, 2015, four counties have more than 20% of the population over 65. By 2025, sixty Indiana counties will be among that group demographers call “naturally occurring retirement communities.” Worldwide, the number of people aged 60 years and over is expected to increase from 605 million to 2 billion over the next 35 years. Some observers see this demographic shift as problematic, even catastrophic; we suggest it can also be viewed as a grand opportunity.

Extending productive years and reducing the period of dependency are seen as the primary solutions to the global aging challenge and constitute the achievable goals of this initiative. Solutions to this challenge may be found largely in the social, environmental, economic, information and public health sciences as well as in the arts and humanities, so well represented by our university. In a new Center on Global Aging this unique approach to the aging challenge will be organized through multiple collaborating and learning systems, including the development of a unique Design Studio. It will be an approach as relevant to the communities of Indiana as it is to the worldwide community influenced by the extensive international reach of the university.
Indiana University Center on Global Aging

We propose that Indiana University take a global leadership role in addressing the challenges associated with the rapidly changing demographics of aging, the expected doubling of the proportion of the global population over the age of 60 – from 11% to 22% -- between the years 2000 and 2050. In Indiana, 2015, there are four counties with more than 20% of the population over 65. By 2025, sixty Indiana counties will be among that group demographers call “naturally occurring retirement communities.” Worldwide, the number of people aged 60 years and over is expected to increase from 605 million to 2 billion over the next 35 years. 80% of older people will live in low and middle-income countries. Chile, China and the Islamic Republic of Iran will have a greater proportion of older people than the United States of America. The number of older people in Africa will grow from 54 million to 213 million. Now, even in the poorest countries, the biggest killers are not infectious diseases, but chronic heart disease, stroke and lung disease, while the greatest causes of disability are visual impairment, dementia, hearing loss and osteoarthritis - conditions associated with aging. Some observers see this demographic shift as problematic, even catastrophic; we suggest it can also be viewed as a grand opportunity. The potential contributions of older adults to the cultural, social and economic well-being of society worldwide represents a potential windfall that can transform communities - if the social, cultural and economic capital of this group can be harnessed.

Hence, if there is a challenge, it is to find new ways for communities, states, and nations to address and meet needs but, more importantly, elevate the contributions of older adults globally. Extending productive years and reducing the period of dependency is seen as the primary solution to the global aging challenge. Solutions to this challenge may often be local in character and found largely in the social, environmental, economic, information and public health sciences as well as in the arts and humanities, so well represented by our university. In a new Center on Global Aging for Indiana University, this unique approach to the aging challenge will be organized through multiple collaborating and learning systems as described below. It will be an approach as relevant to the communities of Indiana as it is to the worldwide community influenced by the extensive international reach of the university. It will leapfrog Indiana University to the leading edge of the new positive aging movement.

GOALS

Our proposed Center on Global Aging will integrate research and practice to address challenges that may be amenable to high level policy change as well as to local innovations fostering health, mobility, economic well-being, caregiving, housing, civic participation and social integration of older persons in society. We argue that the intended consequence of these innovations will be an enabling effect, benefitting communities through transforming older consumers of services into producers of value and reducing the period of dependency in late life.

With this central idea in mind, we will create and develop a Center on Global Aging that will identify, document, study, understand and educate future professionals, researchers and other key stakeholders regarding the methods by which local communities and governments worldwide address these challenges through action in four major focus areas:

Creativity: This focus area will bring together IU faculty, researchers, practitioners, students and older adults to better understand the role that creativity plays in the promotion of individual well-being in later years, creativity and dementia, and the actual and potential contributions of older adults to the creative and civic fabric of communities for all ages, the education of children and the sustainability of cultural traditions.
Technology: This focus area will bring together IU faculty, researchers, entrepreneurs, students and older adults to better understand the role that technology can play in and pilot the development of technologies that support aging in place, caregiving, health, mobility and community participation.

Public Health: This focus area will bring together IU faculty, researchers, practitioners, students and older adults to engage in applied research to co-create age and ability-friendly communities; healthy food systems by and for older adults; healthy, sustainable environments; and peer-produced health outcomes.

Economic Development and the Commons: This focus area will bring together IU faculty, researchers, students and older adults to study the role of public policies - federal, state and local, that inform and promote individual and family well-being, sustain community economic health, promote entrepreneurialism among older adults, enable older adults to remain in the work force when desired, and sustain and grow common economic, social, cultural and natural capital in communities.

PROPOSED RESEARCH AND IMPACT

Our research proposal is neither purely clinical nor experimental. It is, nevertheless, based on a core hypothesis – that individual and community well-being can be positively influenced through economic, social and cultural interventions that extend the productive years of adulthood and reduce the period of late life dependency. We will evaluate the effectiveness of interventions in multiple domains – technology, public health, economic policy and creativity. This will be accomplished through applied research that draws across multiple disciplines in the social sciences, public health, informatics, ethics, humanities and the arts. The following paragraphs describe exemplary forthcoming projects in each of the four focus areas. This is followed by a description of the methods by which collaboration and coherence across the domains will be achieved; a statement of the potential impact within the university, the state and beyond; and a reference to the innovative nature of the initiative within the field.

Creativity and aging

The relationship between creative pursuits and physical and mental health in later life has been well documented through the pioneering research of the late Gene Cohen, first Director of the Center on Aging at the National Institute on Mental Health.\textsuperscript{vii} There remain a number of practical questions concerning how communities can enable an engagement with the arts in later life, sustain participation in creative activity over the life-course and tap the creative talent of older adults to benefit children and their communities. In the field of music education, research into methods of instruction for new learners in late life holds great potential for the field. In the area of extending musical outreach to underserved Indiana communities, there is a potentially valuable role for students and emeriti faculty. The Jacobs School of Music will provide leadership in this realm. Identifying new ways to sustain traditional arts and engage older artists with their communities and with their own aging process will involve leadership from the Mathers Museum and Traditional Arts Indiana. For nearly twenty year, TAI has researched and supported the work of hundreds of senior folk artists and musicians in our state. We will continue to expand the circle of involvement to dance, theater, the visual arts, and creative entrepreneurialism. As Bloomington is the home of the first Creative Aging Festival in the US (entering its 6\textsuperscript{th} year), the potential for modeling community-based action around the arts is significant and multiple community partners are invested in being a part of the Center. An emerging relationship with the International Center on Creative Aging will enable a global perspective and entail potential exchanges with established IU partners around the world. Opportunities to participate in the 2016 Themester on beauty will be fully explored and provide a platform for the debut of work in this area. For example, Jon Kay has submitted
a proposal to Themester for his course *The Beauty of Indiana Folk Art*, which will bring several elder folk artists to our campus next fall.

**Technology and aging**

Technology can be used as a tool to enable older adults to stay independent in their homes and be connected and productive members of their communities for as long as possible. Faculty at IUB are already working on developing and implementing pervasive, wearable, mobile, and robotic technologies to address various social, psychological, and physical challenges faced by older adults. Within the Grand Challenge, we will further expand these technological efforts to augment and bring out the resources available to individuals and the community to sustain and expand the abilities of older adults as well as to promote joy, fulfillment, dignity, and social enrichment.

One main area of development will be technology to maintain and increase the life-space of individuals as they age, who find it increasingly difficult to go out into the community or find their social networks shrinking. Technology can enable telecommunication over distances to inform older adults about events in the community and help them connect to people in and beyond their proximate social networks (e.g., telepresence robots, mobile and ubiquitous technologies), thus ameliorating some of the social isolation associated with aging. We will also research, develop, pilot, and evaluate technologies that enable intergenerational communication and networking through family and informal social systems. A second area of technological development we will focus on is testing new ways to provide health information to older adults themselves, as well as their caregivers and medical service providers. Wearable, smart home, and robotic technologies can provide information on the physical, social and mental psychological activities of older adults that can inform their own behavior, assist in determining appropriate therapeutic interventions, and also act as a therapeutic tool (e.g., through providing reminders or motivating behavioral change, or enabling easier access to social interaction).

Our research will place technologies in the homes of older adults and in the broader community, in both rural and urban areas in and around Bloomington. A major infrastructural resource will be a Design Studio, described below. This unique space will give us the opportunity to use participatory methods to develop community-based technology designs and evaluate their social as well as technical success and robustness. It will also provide a singular way of incorporating older adults into the local economy in a way that adds value to their own lives and those of other community members. Connecting IU students and faculty to older adults in the community to work together on technology development and evaluation projects will enable the construction of intergenerational teams and open up a new area for creative expression for elders in the community. This involves participating in “maker” activities, as well as active engagement with design projects through ongoing work with researchers and a living lab and in-home technology evaluations in the new residential space. We also will include opportunities for peer production of technology, and technologies to enable older adults to help each other and community members. Research findings from the Design Studio will also provide opportunities for new tech park start-ups to engage with our initiative.

**Public Health**

Basic research into the physiology of aging as well as disease-oriented research is no doubt important and the Indiana University Center for Aging Research (CAR –Indianapolis) is a leading institution in that endeavor. This proposal complements that effort through building upon additional strengths of the Bloomington campus in the social sciences, informatics, the arts and humanities, and public health. It is useful to distinguish between disease, on the one hand, and function, on the other, a nuance lost to the Medicare program. Above all, older adults seek to be “well enough” – to continue growing psychologically, emotionally and spiritually and to sustain their engaged and meaningful contributions to
family, neighborhood, community and country. Technologies, in the broadest sense of the term, that enable these goals to be met constitute the focus of this proposed initiative. In the realm of public health we will include projects that address health disparities and inequities, access to care, and research and practice in prevention and management of chronic conditions. Recent research, including that of Nobel Prize winner Angus Deaton, has demonstrated the relationship between lifelong disparities in income and education that correspond with late life disparities in health and health care. To that end, research and outreach conducted through this initiative will target underserved populations and communities in southern Indiana and with potential partner institutions around the world. Much of the applied research that will emerge from this initiative will be based in a model of participation, co-creation and co-production of positive outcomes for individuals and communities. We will include research into treatment and rehabilitation practices that are informed by a deep understanding of the lifeworld that the social sciences, arts and humanities can provide.

Indiana has become known as a leading proponent and innovator in the development of “age- and ability-friendly” communities. This work is especially relevant to small towns experiencing the changing demographics of longevity paired with out-migration of youth. A form of “reciprocal revitalization” spurred both for and by older adults has the potential to transform Indiana downtowns, as work is beginning to show. The Center will provide leadership for this work through serving as a vital partner to or the backbone organization for the growing Lifelong Indiana Coalition and will develop a research agenda to study, evaluate, disseminate and support best practices in age-friendly community development applicable to a wide variety of cultural settings, from small town Indiana to far flung, worldwide locales.

(Fresh) food security has been identified as a critical element of livable, healthy communities and older adults are often vulnerable to inadequacies in diet and isolated from social practices organized around food, so critical to well-being. Yet, worldwide, older adults play an incredibly important role in food systems. This will be a valuable line of research for the Center, as we come to understand the labor, the agricultural knowledge, the preparation and the cultural food traditions carried by older adults worldwide. Identifying the supports necessary (policy, program, etc.) to enable the continuation and growth of the role of older adults in food systems will be a real contribution to the welfare of communities in Indiana and elsewhere.

Economic development and the Commons
Economic security in late life is the organizing point for much of the global discourse around the changing demographics. The needs of longevous populations will put new pressures on welfare systems, health care systems, housing systems, transportation systems, employment systems, and other institutions. It is critical that we study the relationships between these demographic changes and the future of the global economy and multiple factors that are associated or consequential: migration of youth, savings behaviors, employment policies and practices, threats to the intergenerational compact and even political conflict. Scholars supported through the Dept. of Economics will be key players in the development of a research agenda around economic security, which needs to address not only the needs and contributions of the current cohort of older adults but those of subsequent generations. As health disparities are a life-course issue, so is economic well-being. Societal and individual actions taken, or not taken, in childhood and early adulthood play a key role in determining economic well-being in later life. This is true for education, health behaviors, savings behaviors, family planning, structural poverty, racism, and a number of other factors. Hence, a comprehensive and longitudinal research model will be required to better understand and develop long range local, state and national support systems.
Summary
As action in all four focus areas has the potential to extend productive years and reduce the period of dependency in late life, mechanisms for collaboration, co-learning and measuring collective impact will be critical in a project work plan, to be fully developed in the proposal writing phase. One central point of collaboration will involve the development of a Design Studio incorporated into a future senior/intergenerational housing project on city-owned property along Bloomington’s B-line Trail and in the future Certified Tech Park. There, older adults, children, researchers, artists and entrepreneurs will create an exciting design and making space oriented to the arts (music education research and practice; dance and visual arts; traditional arts) to technology (innovating and testing new technologies in collaboration with residents and future tech park entrepreneurs); design of products, interiors, and environments for aging; food (a teaching/learning kitchen); and clinical/rehab/preventive services provided by supervised students in health-related fields. Each component will draw faculty instructors and researchers into direct contact with older adults in a living laboratory that will be unique in the nation and provide a site for innovation that can be replicated in Indiana communities and through partnerships with international institutions. Cultural exchanges will bring visiting older artists from around the world to teach and learn in the studio. Older entrepreneurs will mentor young entrepreneurs in tech park co-work space.

RESOURCES
The constellation of multiple IUB and IUPUI talents and the potential to network these resources will result in a true center of innovation and excellence across the entire field of aging studies, practice and policy. The design studio concept has already attracted a number of talented faculty and researchers from the School of Informatics and Computing (soon to include a Dept. of Intelligent Systems Engineering; the Jacobs School of Music; the Mathers Museum and Traditional Arts Indiana; the School of Public Health; the Department of Economics; the Institute on Disability and Community; the Social Science Research Commons; the Center for Survey Research; the School of Social Work; the Dept. of Anthropology; the Food Institute; the Poynter Center for the Study of Ethics and American Institutions; Center for the Study of Global Change in the School of Global and International Studies; the Dept. of Apparel Merchandising and Interior Design; and the Media School (Journalism). We have been approached by several graduate students from such quarters as the Kelly School of Business and Informatics. We have been interacting actively with key stakeholders in city government, publicly elected officials, senior housing developers, arts and design professionals, Visit Bloomington, and the IU Alumni Association. The city of Bloomington released a request for proposals for tech park senior housing on October 21, providing perfect timing for a unique city/university partnership.

Resources needed to move forward with a Center would need to include:
- An annual budget to operate the center
- A development officer assigned to the Center and budget for fund raising activities such as entertaining potential donors, newsletter, branding materials
- Endowed director’s chair
- Faculty lines assigned to affiliated schools and departments to expand the research and associated teaching
- Funds for pilot projects and community participants in research projects
- Colloquia or speaker series
- Graduate Research Assistants, Postdocs
- Design, capital and maintenance funds for university-owned Design Studio
• Incentives for faculty to participate in the Center such as stipend, course release, support for a student
• Support for events and related initiatives
• Staff positions such as administrative assistant, communications officer, tech and web support, community development liaison for southern Indiana communities
• Travel support for faculty to develop and nurture relationships with international partners in higher education, research, practice and funding
• Exchange programs for students with partner institutions and for elders-in-residence
• Support for outreach support with selected Indiana partnership communities in the arts, technology, health, economic development; includes stipends for retired faculty associates
• Support for subsidization of 2-4 apartments for students in the senior housing development

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SUSTAINABILITY
As cited above, much federal funding directed towards aging research targets specific, often age-related pathologies such as Alzheimer’s, cancer, diabetes, etc. Within NIH, the National Institute on Aging (NIA) is composed of four divisions, three bio-medical in character and the fourth being the Behavioral and Social Research Division (BSR), the most likely source for NIH funding for the kinds of research being proposed here. Candidly, the picture is not pretty for aging research, which, in 2012, was at its lowest level as a percentage of research funding since 1990. Approximately 4% of the NIH budget is directed towards NIA. Through the impetus provided by the current administration’s $100 million brain initiative, it is fair to report an increase in support that will benefit researchers funded through NIA. The research priorities of BSR align nicely with this proposal: Health Disparities; Aging Minds; Increasing Health Expectancy; Health, Work, and Retirement; Interventions and Behavior Change; Genetics, Behavior, and the Social Environment; The Burden of Illness and the Efficiency of Health Systems. Increasingly, broad comprehensive, longitudinal and cross-national studies are being called for, and major international survey initiatives are working assertively to develop common measures, giving an advantage to large, university based, multi-disciplinary projects. A new initiative of NIH holds promise for future funding and is exemplary of the kinds of projects we can foresee down the road - Collaborative Aging (in Place) Research Using Technology (an infrastructure initiative of $6 million that would dovetail nicely with the local senior housing/certified tech park proposal cited above). The National Science Foundation has been a key federal player in aging research as well. Several team members, notably in Informatics, have been successful in securing NSF funding. In addition to external funds to support aging and life-sciences research, we anticipate consistent funding from both the National Endowment for the Arts and the Indiana Arts Commission to support ongoing “creative aging” projects and initiatives.

In their respective fields, scholars associated with this project have been very successful in the development of funding for their work, as reflected in bio-sketches. The marketplace for technology to assist aging adults in the Longevity Economy is expected to grow sharply from $2 billion today to more than $30 billion in the next few years, according to the updated report by Aging in Place Technology Watch. Corporations like Intel and Phillips have well-established initiatives to study the potential uses of digital technology, using global ethnographic research and user-centered design methods to prototype "calm" or "quiet" devices and services to meet a variety of needs, including personal medical information gathering, analysis, and communication to increase social interaction among family and friends despite sensory perception and cognitive functioning loss. It is not surprising that new companies are being started literally every day and the major players are increasingly, and quickly, building up capacity to respond to this burgeoning market. These companies will certainly look for university partnerships of the kind being built herein. As much of the development will involve customization of existing technologies, the Design Studio will provide a favorable environment not only for basic research but also for new models of training for consumers. The authors of this proposal also believe that, given its urgency and universal relevance, major donors to a Center on Global Aging, perhaps with a major naming opportunity, would be forthcoming with support through the IU Foundation and the IU Alumni Association.

PARTNERS
We will explore the development of an international advisory group for the Center that will provide guidance, evaluation, and access to funding in the future. Connecting with Indiana cities and towns will
be facilitated through close ties with the Indiana Housing and Community Development Authority, the Office of Community and Rural Affairs, the Divisions of Aging and Rehabilitative Services, the Indiana Association of Cities and Towns, the Indiana Philanthropy Alliance, the Indiana Arts Commission, and public officials closer to the ground. We have a history of working with each of these units for several years. We will also work with the Centerstone Research Institute, a major mental health care provider in the mid-West serving around 12,000 older adults annually, to recruit older adults and medical and caregiving staff as research participants. We are currently working with the well-known Dance Exchange in the development of a creative placemaking project along the B-line Trail.

Collegial partners for the effort will include major centers of aging research and major national associations, funders and corporations actively involved with our four focus areas. These can include, for example, the National Center on Creative Aging, Grantmakers in Aging, Orton Family Foundation, SCAN Foundation, Retirement Research Foundation, INTEL, Pew, AARP, and others.

As international partnerships for research and exchange will be a major thrust of the center, we will nurture academic, government and NGO relationships through the existing IU infrastructure, initially. Scholars on the proposal have important collegial ties in Turkey, Japan, Liberia, Ethiopia, Central Europe, UK/Ireland, Brazil and other locations, several of which are identified in the IU International Outreach Strategic Plan. We have an established relationship with the International Center on Creative Aging.

**METRICS**

International research in the area has increasingly moved towards a standardization of important quality of life measures, including that funded by NIA to Angus Deaton, the most recent Nobel Laureate in Economics. The WHO Age-friendly Network is developing a set of consensually accepted indicators for age-friendly research studies, opening the way for important cross-national comparative research. Insofar as our initiative emphasizes local innovation and context-sensitive development, we also practice, and are quite prepared to promote participatory action research and co-development of innovations that can be evaluated for their local impact. While local impact will be very important to us, we foresee the potential to learn significant and replicable lessons about how to facilitate “small change”, lessons about barriers to change, personnel and leadership requirements at the local level, forms of capital that can be mobilized for change, sustainability of positive change over time, the interaction of individual economic and social behaviors and public policy across various forms of governance.

Some key comparative indices that can be employed across a comprehensive research agenda that focuses on extending productive years and reducing late life dependency include workforce participation; morbidity and mortality measures; chronic disease measures and measures of disability (as recently defined by WHO); savings rates, government expenditures in health sectors, pension systems; creative output; product development and its economic impact; market behavior; and others to be explored. The Social Science Research Commons and Center for Survey Research will play an important methodological role in the initiative, supporting collaboration and learning across disciplines.

Writing for reflection, what George Marcus calls “writing culture”, is a significant method by which scholars can better understand the construction of their object of research. Professor Coleman will play an important role in fostering writing from the field and its corresponding role in collaboration and the creation of joint understandings. The Poynter Center will play an important role in undergirding research and practice within an emerging ethical framework that involves new challenges in the areas of security, privacy, international development, participation, and very basic questions around aging, dignity and end of life.
i 10 Facts on Aging and the Lifecourse. World Health Organization.


iii 10 Facts on Aging and the Lifecourse. World Health Organization.


