Chapter 17
Integration of Consortiums and Search for International Funding

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Abstract There is a rising number of older adults in the United States, and around the world. There are health, economical, and social implications and decisions to be made that affect all of us, including older adults. Data need to be gathered in order to inform these important decisions. Thus, there is a critical need for (1) societies to develop greater investments in aging-related research, (2) researchers to apply for funding in order to develop evidence-based practice and programs to prevent or treat the major causes of diseases and disability, and (3) recruitment and retention of older adults in research. In this chapter we describe funding mechanisms related to aging research, given that funding allows researchers to generate data and create novel interventions. We describe the process involved with searching for aging research funding and discuss important considerations when writing aging-related grant proposals. Additionally, we describe the importance of and methods on, forming international collaborations.

Keywords Grant writing · Funding · International consortiums

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17.1 Introduction

The twenty-first century is experiencing a significant growth in the older adult population. For example, in the United States older adults aged 65 years and older grew from 35.0 million in 2000, to 49.2 million in 2016 [1]. Worldwide, the number of older adults aged 60 years and over is projected to grow by 56% between 2015 and 2030 [2]. Advances in public health and technology, reduction in child mortality, and rising living standards have contributed to people living longer than ever before. Although this demographic change reflects advances in socioeconomic development and progress in human development, it is not without challenges. Older adults' longer lives are often fraught by sequelae of diseases and injuries.

Chronic non-communicable diseases (e.g., cardiovascular disease, cancer, chronic respiratory disease, and others) account for most of the global disease burden in older adults [3]. Older adults have the highest prevalence of multiple chronic conditions of which 77% of older adults have at least two [4]. The increase in chronic diseases is due to a shift in risk behaviors such as diets low in fruits and vegetables and high in sodium and saturated fats, tobacco and alcohol use, and physical inactivity [3]. In order to reduce the chronic disease burden, interventions at the individual and population levels, as well as epidemiology and surveillance to monitor trends and track progress need to continue to be developed and implemented [5].

The prevalence of neurodegenerative diseases, including Alzheimer's disease and other dementia-related diseases has also increased, as older age is associated with these diseases. In 2010, Alzheimer's disease and other dementias affected 35.6 million worldwide. It is projected that this number will increase to 66 million by 2030 [6]. As a global society, we are currently not prepared for the provision of care that such an increase will incur on our health systems and economy. Furthermore, Alzheimer's disease is the only cause of death that cannot be prevented or cured, and, as such, needs to be regarded as a global health priority.

The unprecedented demographic change that the world is encountering will lead to economic and social shifts. These changes are galvanizing policy makers, clinicians, and researchers worldwide to improve the care of older adults, maintain their quality of life, and protect against age-related decline. In order to tackle the issues that come with the negative effects of aging, data need to be derived in order to inform these important decisions. Thus, in order to derive data, there is a critical need for (1) societies to develop greater investments in aging-related research, (2) researchers to apply for funding in order to develop evidence-based practice and programs to prevent or treat the major causes of diseases and disability, and (3) recruitment and retention of older adults in research. Furthermore, there is an urgent need for research to be conducted among older adults in low-resource countries of the world, as low-resource countries are also confronting these demographic changes; however, data are only now becoming available.

In this chapter, we focus on funding mechanisms related to aging research, given that funding allows researchers to generate data and create novel interventions. We

describe the process involved with searching for aging research funding and discuss important considerations when writing aging-related grant proposals. Additionally, we describe the importance of and methods on, forming international collaborations.

17.2 Searching for Funding in the United States

There are many considerations to be made when searching for funding to apply for. One consideration is the type of funding, federal or foundation. At the federal level within the US, the most common funding source is the National Institutes of Health (NIH), which has strict rules for applying for the grants (https://grants.nih.gov/grants/how-to-apply-application-guide.html and https://www.nsf.gov/funding/preparing/). At the NIH many aging-related proposals are directed to the National Institute on Aging (NIA), one of the 27 Institutes and Centers of NIH that "leads a broad scientific effort to understand the nature of aging and to extend the healthy, active years of life." They state that they are the primary Federal agency supporting and conducting Alzheimer's disease research. However, many of the 27 Institutes of the NIH fund aging-related research, depending on the focus and funding priorities set forth by the institute. For example, research focused on age-related emotional regulation and processing should be directed to the National Institute on Mental Health (NIMH).

There are several types of funding opportunities available from the NIH (https://grants.nih.gov/grants/how-to-apply-application-guide/prepare-to-apply-and-register/understand-funding-opportunities.htm), and various ways to learn more about the mechanisms or particular topic areas of interest to the NIH more specifically. First, Parent Announcements are broad funding opportunity announcements (FOAs) in which applicants submit an application for a specific activity code (e.g., R01, R03, R21 are several of the main types of funding, as outlined below). Many NIH institutes and centers participate in these FOAs, they are usually ongoing, and these R mechanisms use the NIH standard due dates. Second are Program Announcements (PA), which are from one or more Institutes and Centers to highlight areas of scientific interest. There are PAs with set-aside funds (referred to as PAS), and PAs with special receipt, referral, and/or review considerations (referred to as PAR). Third are Request for Applications (RFA), which are also from one or more Institutes or Centers to highlight well-defined areas of scientific interest to accomplish specific program objectives. However, these have the amount of set-aside funds indicated, state the anticipated number of awards to be given, and usually have a single due date not too long after the RFA is posted.

The NIH has different activity codes, depending on the size and objectives of the proposal (https://grants.nih.gov/grants/funding/funding_program.htm). Generally, PIs and other personnel supported by NIH research grants are not required to be US citizens; however, some NIH programs/mechanisms have a citizenship requirement. Any citizenship requirement will be stated in the PA or RFA. The NIH strongly

encourages non-US applicants to review the Eligibility section of the FOA to determine whether their non-US organization is eligible to respond to that particular FOA.

The NIH offers numerous research career development awards to support researchers (https://researchtraining.nih.gov/programs/career-development). For example, there is funding to support: early career scientists in need of both advanced research training and additional experience (K01); promising clinician scientists with demonstrated aptitude to develop into independent investigators (K08); experienced scientists who wish to broaden their research capabilities or to make changes in their research careers by acquiring new research skills or knowledge (K18); or to support both an initial mentored research experience (K99) followed by independent research (R00) for highly qualified, postdoctoral researchers, to secure an independent research position.

Some of the more common funding types to apply for include the NIH Research Project Grant Program (R01) which is used to fund a discrete, specified, circumscribed research project; is the most commonly used grant program; has no specific dollar limit with the exception that direct funds for research cannot exceed $500,000 in any given year unless specified in the FOA and/or requested to exceed that value by the Principal Investigator to the Program Official, and is generally awarded for 3–5 years. There are smaller funding opportunities, including the NIH Small Grant Program (R03) which provides limited funding (maximum of $50,000 per year in direct costs, not exceeding $100,000 over 2-years) to support a variety of types of projects, including: pilot or feasibility studies, collection of preliminary data, secondary analysis of existing data, small, self-contained research projects, development of new research technology, etc. An R03 is not renewable. A mechanism with available funding between that of an R01 and R03 is the NIH Exploratory/Developmental Research Grant Award (R21) which solicits new, exploratory and developmental research projects by providing support for the early stages of project development. Like the R03, the R21 is limited to 2 years of funding.

Foundation funding is also available. Some foundations have a general research mission, with specific research objectives. For example, the Retirement Research Foundation (http://www.rrf.org/) has a mission to improve the quality of life for our nation's older adults. They have Responsive grants in the areas of advocacy, direct service, professional education and training, and research; and Organizational Capacity Building (OCB) grants that provide funding for improvements in key management and governance functions within nonprofit organizations that serve older persons in the Chicago area.

Foundations often have a more direct and specific focus for funding. For example, the Alzheimer's Association conducts the Alzheimer's Association International Research Grant Program (https://www.alz.org/research/alzheimers_grants/overview.asp). They state that the impetus for their awards is their "desire to improve quality of life for people affected by Alzheimer's." Clearly, this type of aging-related research is more focused than general aging research. The American Federation for

Aging Research (https://www.afar.org/) is another nonprofit organization and has a mission to support and advance healthy aging through biomedical research. This focus on biomedical research is important to note, as those who are doing research in non-biomedical aging research might look for other funding sources.

The Sociological Initiatives Foundation (http://www.sifoundation.org/) funds research that supports social change by linking research to social action. This type of funding provides initial funding when addressing caregiving and aging in place issues. It funds research projects that investigate laws, policies, institutions, regulations, and normative practices that may limit equality in the United States. It gives priority to projects that seek to address racism, xenophobia, classism, gender bias, exploitation, or the violation of human rights and freedoms.

The McKnight Endowment Fund for Neuroscience (https://neuroscience.mcknight.org/) is an independent charitable organization that supports innovative research focusing on diseases of the brain and behavior, such as Alzheimer's disease, Parkinson's disease, multiple sclerosis, spinal cord injuries, and others. The Dana Foundation (http://dana.org/) is a private philanthropic organization that supports science and health grants through neuroimaging and clinical neuroscience research. In short, foundation funding related to aging is available, however, it is important to know the mission of the foundation and what types of research they prioritize to fund.

Researchers/investigators might also look to pharmaceutical/medical companies for funding. Some universities have restrictions on such funding relative to what their Institutional Review Board will review, or charges for services if the funding is from a pharmaceutical company. That said, they are often less restrictive of international PIs. For example, Abbott Fund (http://www.abbottfund.org/grants) was established by the company Abbott, a global health care company, in 1951, as a philanthropic foundation. They invest in ideas that promote science and medical innovation, and expand access to health care and strengthen communities around the globe. Other corporations like the Baxter Healthcare Corporation (http://www.baxter.com/inside-baxter/science/programs/medical-research-grants.page) provide support for programs that advance scientific research, medical education and patient care.

17.3 Important Details when Writing Proposals for Funding for Research on Aging

When writing "aging-related" proposals it is important to consider several factors. First, how is aging defined? It is a biological process? Or is the research more about aging-related factors? Next, what aspects of aging are being targeted? Environmental? Biological? Psychological? Cognitive? Physical? Cellular? Molecular? A combination of these or other factors?

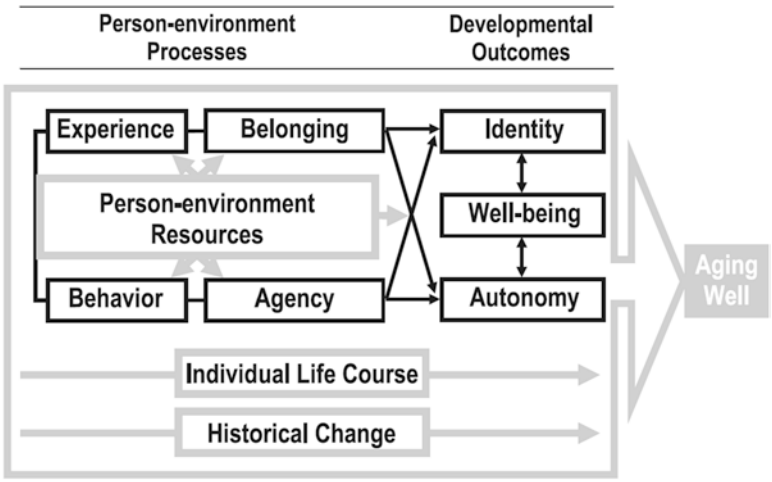

Fig. 17.1 Conceptual framework: interplay of belonging and agency, aging well, and the environment [7] Licensed by Oxford University, Number: 4293140398195

Another factor to consider is whether the research takes a lifespan approach or focuses on a specific age cohort, like middle-aged or older adults. For example, the objective of the research might be to see how circumstances or changes in midlife influence those of older adults. Thus, the focus is not on older adults, but an earlier age range that may have a lasting impact into older ages. Alternatively, the objective might be to examine the lives of current older adults, to describe, explain, or predict future aging. Research with older adults is frequently used synonymously with aging research, although aging research is not specific to work with people 65 years of age and older. These distinctions are important to consider when thinking of your funding body be it federal or foundation.

Researchers might consider using a framework or model of aging to explain their work and the relationships among variables. For example, Wahl, Iwarsson and Oswald (2012) proposed a conceptual framework of aging and the environment (see Fig. 17.1). The basic assumption of this framework is that two processes, experience-driven belonging and behavior-driven agency, assist in forming a better understanding and integration of existing Person-Environment interchanges *as people age*. This framework has a focus on the dynamic changes that occur with aging and over the lifespan, as people and their environments change. It includes the role of the immediate physical, spatial, and technical environment, which has been largely ignored in gerontological research, and is ever-so important in today's world. The authors state that a major implication of the model for future research is the importance of explicitly considering aging in the environment in longitudinal studies of aging rather than decontextualizing the aging individual, as most longitudinal studies tend to do. Thus, we can see that research focused on aging and the lifespan can benefit from frameworks such as this one.

17.4 International Collaborations and Funding

International research collaborations improve the possibility of external funding. Establishing and synchronizing planning takes time, but given communication technology, it is possible and can have many positive outcomes. Many academic institutions, medical centers, and foundations provide pilot study funding opportunities for new researchers as well as for senior researchers. This vehicle for preliminary funding provides an ideal opportunity for international collaboration and future funding. At times, universities will make funding available for a researcher to attend or present preliminary research findings at an international conference or congress, where researchers can also network and establish working relationships with colleagues of similar research interests. Additionally, when applying for foundation grants and international conference grants offered by academic or medical institutions, researchers can include preliminary communications and collaborations that have been established with international colleagues. In the grant application, the visiting researcher can also indicate that they will schedule an in-person meeting with an identified researcher in the country in which the international conference is being held in order to further develop a grant application or a joint publishable paper. It has become increasingly necessary to have published works with colleagues prior to applying for research funding. This allows the visiting researcher to become further acquainted with potential research colleagues and/or research teams working in areas of mutual interest. This also enables the visiting researcher to become familiar with the inner workings of institutions, grant mechanisms, collaborative research opportunities, and community partners. Given that researchers tend to attend the same conferences or congresses annually, they can coordinate enhancing and concretizing their research funding endeavors with these professional meetings.

In order for a visiting researcher to learn about the context of the research setting, it is necessary that they engage with the communities they aim to study. Historically, researchers have excluded community members, leaders, and stakeholders from research endeavors. It is therefore essential that these players be included in the conceptualization phase of international research endeavors, given that community engagement will strengthen and expand proposed research projects.

One way to enhance one's research internationally is through the International Aging Research Portfolio (IARP; http://agingportfolio.org/), an independent joint initiative of government, academic, corporate, patient advocacy, and charitable funding organizations. IARP is a flexible system that enables funding organizations to collaborate, track, analyze, structure, make decisions, and set directions for future research efforts in aging; it also address the needs of research investigators, health care policymakers, government officials, interest groups and the general public. It tracks international progress in aging research and provides a wide array of information on funded projects, including projects funded by the Center for Global

Health. The Grant Match Maker(TM) tool within the IARP is designed to identify prospective sources of project funding, identify similar or related projects that have successfully received financing in the past, and help classify the project into relevant categories. The system uses the project categorization algorithms (see the "Aging Portfolio Classification Algorithms") to identify related projects and categories within the Aging Portfolio database. The use of international research conference grants, seed grants, foundation grants, and IARP as opportunities to create future collaboration partnerships has been successful for researchers. The following website, http://staff.lib.msu.edu/harris23/grants/privint.htm, provides a list of international and foreign grant makers, with links to various funding sources. It is possible to obtain funding with international collaborators, but this requires strategic planning and cultural humility in interactions with members of the international community. Exchange opportunities can enhance and create research funding collaborations, and researchers can gain a global perspective in their efforts to address the needs of older adults.

17.5 Conclusions

Funding in the US and around the world is becoming more competitive, often with more investigators applying for reduced funds over time. Given the changing age demographics of most countries, aging-related research is a focus of many governments and foundations. However, there is more work to be done, as funding is not keeping up with age-related problems people are experiencing. By informing oneself of various funding agencies and mechanisms, and working with a strong collaborative team, success can be achieved so we can continue to learn and help improve the lives of older adults.

References

1. US Census Bureau (2017) The nation's older population is still growing, Census Bureau reports. Available at: https://www.census.gov/newsroom/press-releases/2017/cb17-100.html. Accessed 31 Jan 2018
2. World Population Ageing 2015 (n.d.) Available at: http://www.un.org/en/development/desa/population/publications/pdf/ageing/WPA2015_Report.pdf. Accessed 31 Jan 2018
3. Prince MJ, Wu F, Guo Y, Gutiérrez-Robledo LM, O'Donnell M, Sullivan R, Yusuf S (2015) The burden of disease in older people and implications for health policy and practice. Lancet 385(9967):549–562. https://doi.org/10.1016/S0140-6736(14)61347-7
4. National Council on Aging (2014) Healthy aging fact sheet. Available at: https://www.ncoa.org/wp-content/uploads/FactSheet_HealthyAging.pdf

5. Bauer UE, Briss PA, Goodman RA, Bowman BA (2014) Prevention of chronic diseas in the 21st century: elimination of the leading preventable causes of premature death and disability in the USA. Lancet 384(9937):45–52 https://doi.org/10.16/S01406736(14)60648-6
6. Wortmann M (2012) Dementia: a global health priority- highlights from an ADI and World Health Organization report. Alzheimers Res Ther 4(5):40. https://doi.org/10.1186/alzrt143
7. Wahl HW, Iwarsson S, Oswald F (2012) Aging well and the environment: toward an integrative model and research agenda for the future. Gerontologist 52(3):306–316. https://doi.org/10.1093/geront/gnr154