

Enhancing the impact of aging research for its intended beneficiaries

The knowledge generated through aging research has huge potential for improving individual lives and society. Embedding the principles of participant involvement and appropriate representation of the diversity of the aging population into this research can help to ensure that its intended benefits are fully realised.

Although every researcher and health professional might have different motivations for the work they do, these often boil down to a single worthy goal: to make a difference, whether it be by improving individual lives, influencing broad-scale societal change, or pursuing new knowledge to be shared with the world. In the many fields of aging research, the target beneficiaries of such research are often older adults — both present and future — as well as those who care for them. More broadly, the principal beneficiary of aging research is society at large, as we will all inevitably be affected by what we discover now and what we do with that knowledge in anticipation of the needs of an increasing aging population.

Responding to population aging — and in particular, supporting healthier aging — is increasingly being recognized as a key societal challenge alongside issues such as climate change and energy and food sustainability (<https://sdgs.un.org/goals>). This means there is huge demand for high-quality research to better understand aging itself, and to produce an evidence base for preventive public health measures, effective treatments, and best-practice health care. As a result, we are now seeing large-scale investment of public funds in aging research. In the USA, for example, the annual total budget of the National Institute of Aging is approximately US \$3 billion (<https://www.nia.nih.gov/about/budget/fiscal-year-2021-budget>). In 2018, the UK Government announced a £98 million investment, the Healthy Ageing Challenge Fund, designed to support the development of products and services to maintain people's independence as they age and to delay transition into higher levels of care (<https://www.ukri.org/our-work/our-main-funds/industrial-strategy-challenge-fund/ageing-society/healthy-ageing-challenge/>). However, this is just a slice of the respective Governments' annual budgets for research and development, and the competition for funding for various scientific endeavours is intense. Hence, it is crucial that the positive impacts and benefits of aging research are clearly demonstrable to the public, policy-makers, and funders. Key to the likelihood

of effecting real change in the lives of older adults, and societal advancement in our common understanding of aging processes and effective interventions, is to continuously consider the target beneficiaries of the research findings throughout the research process and beyond. Ultimately, the closer the link between evidence generation and those who would benefit from it, the better.

When designing and conducting research on aging, involvement and representation of older adults are two key principles that can help to increase the likelihood of the research ultimately reaching its intended beneficiaries. Participant involvement (also known as stakeholder engagement or co-production) refers to researchers actively engaging the particular population of interest (in this case, older adults) to design, conduct, participate in, and disseminate the research that will ultimately affect them and their peers. This places older adults at the centre of the research, as opposed to conducting research about them without them, and greatly increases the chances of achieving the study's impact goals (<https://go.nature.com/3z1A4sZ>). Embedding the principle of involvement into research is valuable and rewarding, but not always easy to do. Thankfully, it is becoming easier with the establishment of networks (such as ENRICH (<https://enrich.nihr.ac.uk/>) and VOICE (<https://www.voice-global.org/>)) that are designed specifically to bring researchers, participants, and stakeholders closer together and to enable individuals to play a more active role in research that will hopefully improve the world. A cultural shift towards greater emphasis on stakeholder involvement and engagement in aging research is still needed, but the resources and frameworks to support this shift have begun to emerge.

The second principle, and a cornerstone of successful participant involvement, is achieving appropriate representation of the study population in research samples. Underrepresentation of individuals from minority ethnic groups and lower socioeconomic backgrounds is an issue that has plagued aging research for far too long. When the vast majority of participants are white, middle-aged, and

from higher socio-economic backgrounds, there are limitations on the generalizability of research findings to underrepresented groups. Remarkably, older adults are often excluded from research that affects them on the basis of arbitrary age cut-offs or the presence of multi-morbidities. This issue has been particularly well-documented in regard to clinical trials (Zulman, D. M. et al. *J. Gen. Intern. Med.* **26**, 783–790; 2011 and Lockett, J. et al. *J. Am. Geriatr. Soc.* **67**, 218–222; 2019), and has received increased attention as a result of the Covid-19 pandemic and vaccine trials (Flores, L. E. et al. *JAMA Netw. Open* **4**, e2037640; 2021) for an infectious disease that predominately and most severely affects the oldest members of society. Priorities for policy change to address this were developed over a decade ago, but are still just as relevant today (Herrera, A. P. et al. *Am. J. Public Health* **100**, S105–S112; 2010). There are of course legitimate barriers facing researchers in reaching these populations while also struggling to meet the demands and deadlines involved in delivering funded research outputs. However, the importance of taking the extra time and effort in the recruitment phase of the research to enhance representation of the study sample cannot be overstated, as it will increase the ultimate value and impact of the research.

The research we conduct on aging today has the potential to influence the quality and equality of the world in which we will grow older together. An analysis of impact case studies from the UK's Research Ethics Framework shows that, for the diverse disciplines related to aging research, the most common descriptions of impact included informing government policy, health care service and clinical guidance, and commercializing technology (<https://go.nature.com/37TGqiq>). To ensure maximum public benefit, it is vital that the individuals most likely to be affected by changes to health policy, services, and technology are involved and adequately represented in the research process. □

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