

Consultation response: Future of ageing

Submitted to
Nuffield Council of Bioethics

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Please comment on how attitudes to ageing influence research and innovation – and how more positive attitudes to ageing could be promoted within the research and innovation context.

A PHG Foundation [workshop on healthy ageing](#) found that the development of technologies specifically to assist older people to stay healthy runs the risk of stigmatising this population group, and that this effect could be magnified by technologies ‘using inaccessible language, setting unrealistic standards or becoming a controlling force’.

It concluded that changing the social perceptions of ageing to reduce the fatalism sometimes associated with the ageing process would be important, as would adopting a holistic approach to lifetime planning including for older age from much earlier in the life-course, and considering possible interventions in the context of all the needs of an individual rather than focusing on isolated elements.

Which ageing challenges should medical and technological developments prioritise – and why?

It is already acknowledged that developed countries need a renewed focus on healthy life expectancy as opposed to life expectancy. In the same way, efforts to extend overall life expectancy should not be prioritised above those to extend healthy and high-quality life, including to address the current socio-economic imbalances on both these measures.

Please comment on the likely benefits, and possible harms, of developments in the area of ageing research with which you are familiar.

The PHG Foundation [workshop on healthy ageing](#) found that using new technologies to improve health outcomes and quality of life for older people in many instances relies on the collection and amalgamation of information from multiple sources such as sensors and digitally enabled support systems. Concerns about these approaches included:

Loss of privacy - individuals might feel that they are ‘being watched’ ostensibly for the provision of support



Data sharing – essential to maximise utility, but also highly dependent on public trust and acceptability

Liability - who is liable for errors made by technologies?

Person-centred care – will the increasing use of technologies effectively depersonalise healthcare and decrease the scope for flexible and responsive clinical judgement and shared decision-making?

Please comment on the role of older people, and of intergenerational public input, in helping shape research and innovation directed towards the needs of current and future older populations.

It is essential that older people (and the carers and families of older patients) should be involved in research and innovation to meet the needs of older populations. Achieving this may well require dedicated effort to achieve appropriate levels of diversity and inclusion, such as developing a broader range of mechanisms and opportunities for involvement in early adoption and ongoing development of health technologies and other interventions. This should be a priority alongside efforts to address other underrepresented groups.

Our report [Health technologies and social impacts](#) noted that early adopters and enthusiasts for innovations and technologies have a disproportionate impact on their development, being more likely to get involved with the result that it will be tailored more to their needs. This means that the later adopters – usually the majority – may receive products that do not work so well for their particular needs, which is a barrier to utility and uptake. For this reason, research and development processes should include purposive recruitment of expected late adopter groups and the development of practical standards for design.

The PHG Foundation workshop on healthy ageing concluded that designing technologies with the end users in mind is important for this older population and that the heterogeneity of such older people in this context must be properly understood. Participants noted a ‘tyranny of low expectations’ whereby older people may be thought of as being multi-morbid and with physical impairments limiting their abilities. On the other hand, focusing too much on capabilities and what older people can do could be harmful for those who lack sufficient capabilities, who might also be blamed for their failure to help themselves.

Thinking particularly of technologies to improve the health of older people through personalised prevention, the workshop participants concluded that access should be based on need and not restricted by financial or other social barriers, otherwise they will exacerbate existing health inequalities.

Of particular note was the reported tendency for researchers ‘to think of elderly people as older versions of themselves – which

usually means educated, middle class people who have a nice life and for whom things are relatively easy.’ Participants felt there was a need to address social inequality in designing and providing new interventions, and that achieving this requires suitable acknowledgement that people’s experience is shaped by their community. This may include direct limitations and an acceptance of reduced agency, and technologies designed without understanding of this sort of experience may have limited utility among such groups. In both instances, involving a wider and more representative range of older people in research and innovation would mitigate these factors – for example, ensuring inclusion of those with different educational levels, cultural and language needs, and sensory, cognitive and physical needs.

What role should biomedical and technological approaches play versus greater emphasis on, and funding of, other policy approaches that might have a similar effect on ‘levelling up’ the healthspans of the most disadvantaged to the least?

The PHG Foundation’s [My healthy future](#) project found that many new technologies offer potential to improve and extend health and wellbeing for older people – for example, there is increasing scope for care in non-traditional environments via remote surveillance and monitoring technologies and connected telemedicine systems. This data-driven approach could be further enhanced with wider citizen generated data from digital footprints of activity such as movement or food consumption, and measurement of biomarkers via automated analysis of breath, saliva or urine, perhaps via home appliances. Harnessing this sort of data to provide personalised prediction and monitoring of disease, combined with the use of assistive technologies to help manage disease symptoms and improve quality of life, could have widespread benefits.

In the past, some technologies have proven to have the power to change health outcomes with significant social determinants (for example, vaccination against infectious diseases). It would therefore be unwise to exclude science-based approaches of this kind from consideration for public funding and policy; indeed, limiting the development and provision of innovations proven to be cost-effective and beneficial solely to the commercial sector would be even more likely to result in widening health inequalities.

Policy also has an important role to play in shaping the regulatory requirements for such tools and ensuring that they properly balance safety and efficacy against suitable respect for personal autonomy and choice. The PHG Foundation [Our healthy future](#) report noted that: ‘Policy-makers have a pivotal role in directing how innovations are developed and used for health to maximise benefits - and minimise harms - for individuals, groups and society’.

However, whilst it can be tempting to look to science and technology for relatively quick fixes, they can only ever be part of the solution to complex issues such as the maintenance of good health and prevention of disease. Broader policy approaches towards levelling up health in relation to housing, education, employment, diet, activity and other social and physical determinants of health will also remain vital, and potentially have much greater impact. Tackling wider inequalities within the health sector (including but by no means limited to the use of technologies) is also important; even interventions that improve overall population health may fail to address existing inequalities, or even widen them through differential effects on distinct sub-populations. Similarly, there is undeniable scope for biomedical and technological approaches to worsen inequalities in some instances.

Getting the right balance between social policy, health policy, and innovation and technology-based approaches is critical, and this will best be achieved by taking a proportionate and evidence-based approach to enable robust evaluation of all measures under consideration, to demonstrate their efficacy in practice. For example, the sometimes overly ambitious claims of health benefits from the use of technologies may not be borne out in practice; at the same time, assumptions about outcomes from social or public health interventions should also be properly evidenced in real-world situations. This will require the development and reliable collection of suitable high-quality indicators of health impact, and ideally performance of equality audits.

Outcome measures must also be built on evidence developed specifically for this age group, which requires a general understanding of what meets both general human needs and those of this group in particular, whilst also recognising that this demographic is, itself, heterogeneous. It will also necessitate evaluation of both individual and combinations of interventions to determine impact, and to identify when this has generated further inequalities, which may require the development of new methodologies.

In both cases, the true benefits of proposed interventions may also require much wider appraisal of the context in which they would be used in order to identify and address potential barriers, and so dedication of funding for not only research and development but also proper piloting, health economic, regulatory and policy appraisal of the most promising approaches will be important.

Finally, with respect to technologies, maximising equity of health benefits is likely to require active measures to maximise accessibility and utility for all groups – for example, directly addressing disparities in health and digital literacy and social infrastructure.

Please comment on the responsibilities of the various stakeholders (older people themselves, their families, professionals, wider society, the state) with respect to a healthier old age – including with respect to intergenerational solidarity and fairness.

With increasing options for innovations to support older people's health, it will be important to ensuring personal choice by focusing on the desires, concerns and circumstances of individuals. At the same time, the link often made between personal choices and personal responsibilities has limitations that should be acknowledged. Some have the knowledge, resources and capabilities to take responsibility for their health, but this expectation may be unreasonable when applied to those who lack such capacity. This applies to all adults, but no less to older adults.

In terms of wider responsibilities for health, the roots of healthier older age lie in attention to enabling healthier living and ageing from much earlier in the life course, and efforts to prevent disease and prolong health should be supported from the beginning of life and through middle age. This does not detract from the need to also maximise healthy life among the old, and including those already living with chronic or acute disease or disability. However, making the best use of new opportunities to personalise and improve disease prevention is likely to yield rewards in later life.