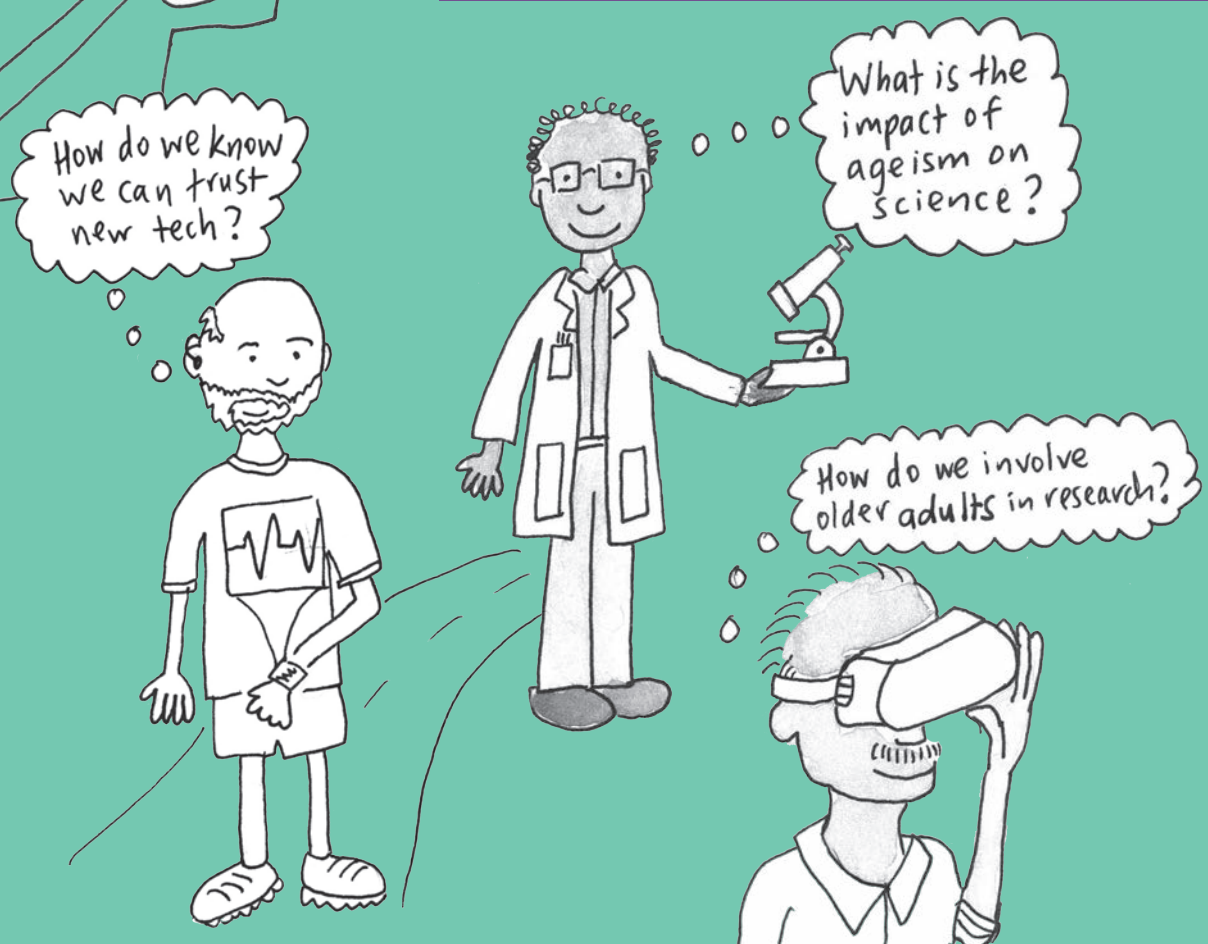




**The future of ageing:
ethical considerations for
research and innovation**
Key themes, findings, and
recommendations

**NUFFIELD
COUNCIL ON
BIOETHICS**





Intergenerational roundtable event in Exeter: The event consisted of 41 participants (college and university students aged 16-25 years, and middle-aged and older adults, aged 50-70 years) across eight roundtables. (Date: 25 April 2022)



Participant from a creative workshop with Greater Manchester Growing Older with Learning Disabilities (GM GOLD) - holding a design of her 'dream machine' that she would want in later life to improve healthy ageing. (Date: 8 June 2022)

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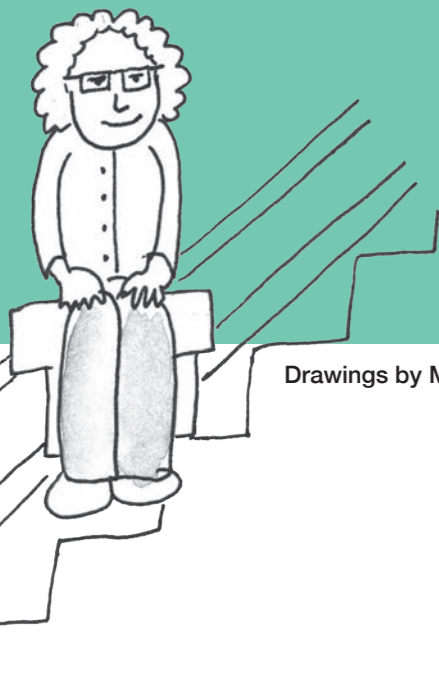
This short report outlines the main themes, findings and recommendations of the Nuffield Council on Bioethics' inquiry, *The future of ageing: ethical considerations for research and innovation* (published in April 2023).

These findings result from a two-year in-depth inquiry by an interdisciplinary working group, who benefitted from the evidence and experience shared by many contributors from across the UK and beyond.

Contributions were made through:

- Responses to an open call for evidence and online survey
- Participation in roundtable and one-to-one meetings with the working group
- A series of creative engagement events with older adults and intergenerational groups
- A public dialogue exploring and critiquing draft recommendations
- Expert critiques of our draft findings by thirteen external reviewers

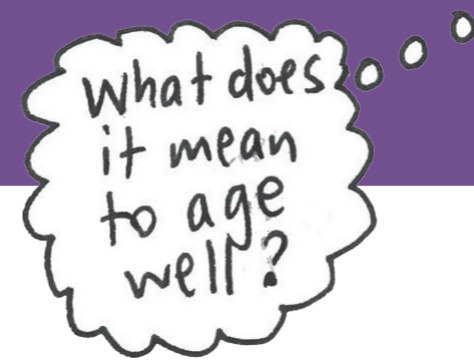
An extended report containing in-depth research, ethical analysis and detailed reasoning from the working group is available on the Nuffield Council on Bioethics' website. Also available are separate reports from the public dialogue, creative engagement events, and evidence reviews.



Drawings by Muna Al-Jawad



Overview and key findings



Our report looks at the role that biomedical research and technological innovation has to play in responding to the needs of an ageing population. We have focused on three broad areas of research and innovation:

- Research into biological ageing
- Assistive, monitoring, and communications technologies such as health apps and smart home technologies
- Data-driven detection and diagnosis of age-related conditions

Developments in these areas offer possible benefits in terms of supporting people to flourish in older age, but they can also raise significant ethical questions about how ageing is perceived, and how older adults are valued in our society.

In our report we identify the values, principles and factors that are most at stake in the context of research that seeks to influence our experience of ageing (see page 14). We note that research and innovation connected with ageing is often influenced by negative attitudes to ageing, and by assumptions about the attributes and roles of older people in society.

While many people and organisations have a role to play in challenging and changing ageist attitudes within the research and technology sector, a key step in making progress on this would be ensuring that research funding systems promote and encourage these changes.

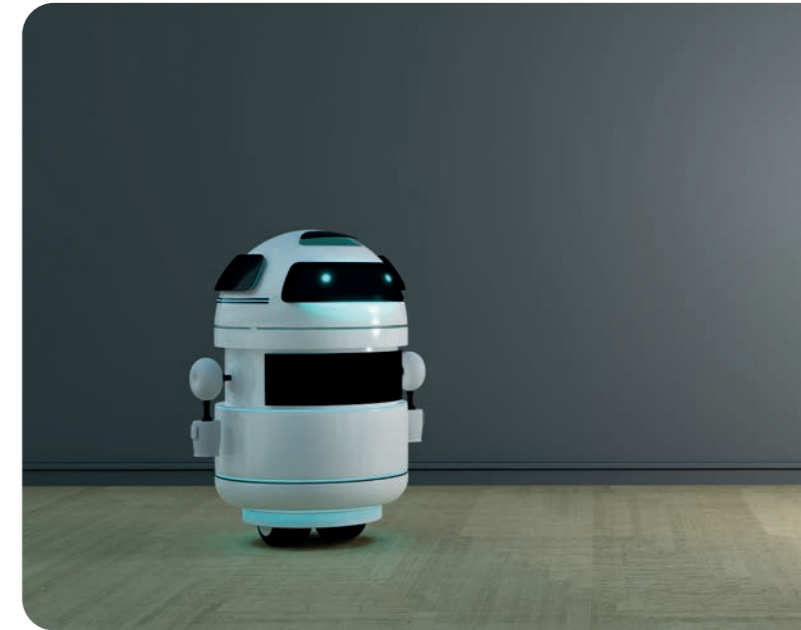
We believe that much more can be done to ensure research into ageing is conducted ethically, such as promoting inclusivity in research, and directing research and innovation towards addressing inequalities in health and wellbeing in older age.

We propose an 'ethical framework' (see page 16) to help everyone involved in conducting research relating to ageing to think through the ethical implications of their work.

We then set out 15 recommendations to policymakers, research funders, researchers, regulators and professional bodies, health care professionals and others involved in shaping research (see page 19).



Background: ageing and the role of science and technology



Our ageing population

The overall population structure within the UK is changing, and a growing proportion of the population is over 65. In particular, there are significant increases in the number of people aged 85 years and over. This age shift in the population is driven by decreasing birth rates and reduced immigration, as well as by increasing life expectancy.

The age-shift in the population has significant implications for the wellbeing of individuals in later life, particularly in relation to people's capacity to live lives that are fulfilling, as well as long. It also has implications for wider society – for example, for employment and retirement, the built environment, transport and local communities, and the provision of care and support.

Living longer – but not for all

The general trend of rising life expectancy in the UK hides the fact that there are longstanding and significant variations across the country. The benefits of longer life are not evenly distributed, with people in wealthier areas living up to ten years longer, on average, than those in deprived areas.

The length of time that someone lives in 'good' health ('healthy life expectancy') is just as important as the length of time someone lives altogether. Increases in life expectancy are not being matched by increases in healthy life expectancy which means that more people are experiencing longer periods of poor health and/or disability in the later part of their lives. There are even more stark variations in different parts of the country in relation to healthy life expectancy. It has been estimated that people in wealthier areas could live up to 20 years longer in good health than those living in more deprived areas.¹ People with experience of racial inequalities, disabilities, and people who are less well-off are more likely than others to develop age-related medical conditions which affect their everyday lives, at a younger age.

The role of technology, research and innovation

There is increasing interest in the role that biomedical research and technological innovation can play in the way that the UK responds to the needs of an ageing population. This is emphasised in several current government policies, such as the *Life Sciences Vision*, the *UK Innovation Strategy*, and the social care white paper *People at the heart of care*.

Period life expectancy at birth across the UK has been rising for 40 years, and has reached:



nearly **83** for females



79 for males



Ageing in years, and biological ageing

When people talk about 'ageing', they can use the term in at least two quite different ways.



Unlike chronological ageing, biological ageing is highly malleable – there are many factors that affect how our bodies age and how quickly. The processes involved in biological ageing are an important target of research and innovation, alongside the development of preventative strategies to help slow or delay age-related conditions.

¹ See: Office for National Statistics (2022) Health state life expectancies by national deprivation deciles, England: 2018 to 2020, available at: <https://www.ons.gov.uk>.



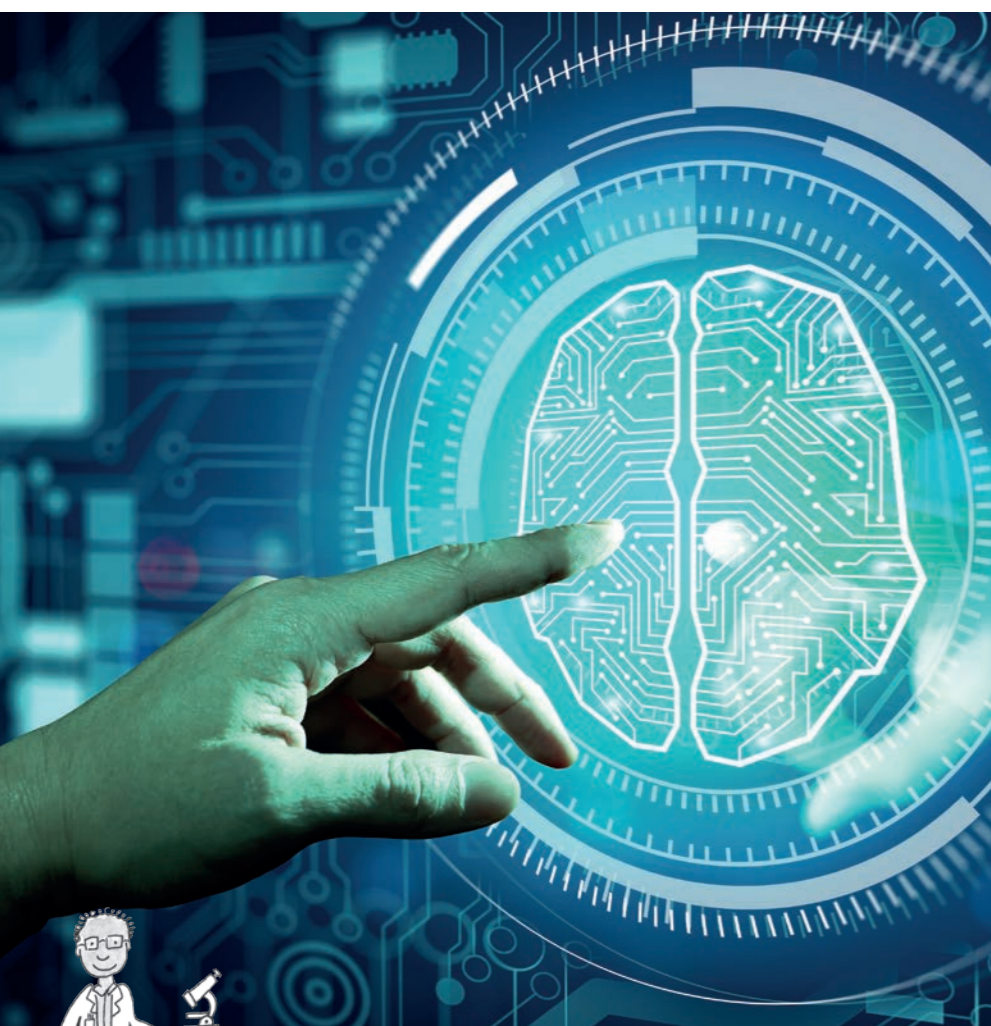
Biomedical and technological developments relevant to ageing include:

- **Improving understanding of the biology of ageing:** ('geroscience') with the aim of intervening early in the underlying processes driving biological ageing.
- **Assistive, monitoring, and communications technologies:** from health apps and monitoring devices to smart homes technologies.
- **Data-driven innovations in earlier detection and diagnosis** of age-related conditions, including the development of new biomarkers and diagnostic tests using artificial intelligence (AI) and deep learning.

Developments in these areas offer important future benefits, both for individuals and for wider society. However, they also raise significant ethical questions, not least about how ageing is perceived, and how older adults are valued.

The age shift in our population is often presented negatively as a burden to society: for example, in terms of increasing needs for support for older adults, combined with decreasing capacity to provide that support.

Throughout our inquiry we heard many examples and experiences which challenge these sorts of negative assumptions, in particular, about the valuable contributions that older adults make to society and in caring for others. However, we also heard concerns that in-built assumptions about ageing can lead to research and innovation approaches that under-estimate the capacity of older people to manage their own lives or to flourish in older age.



What we think research and innovation should aim to do

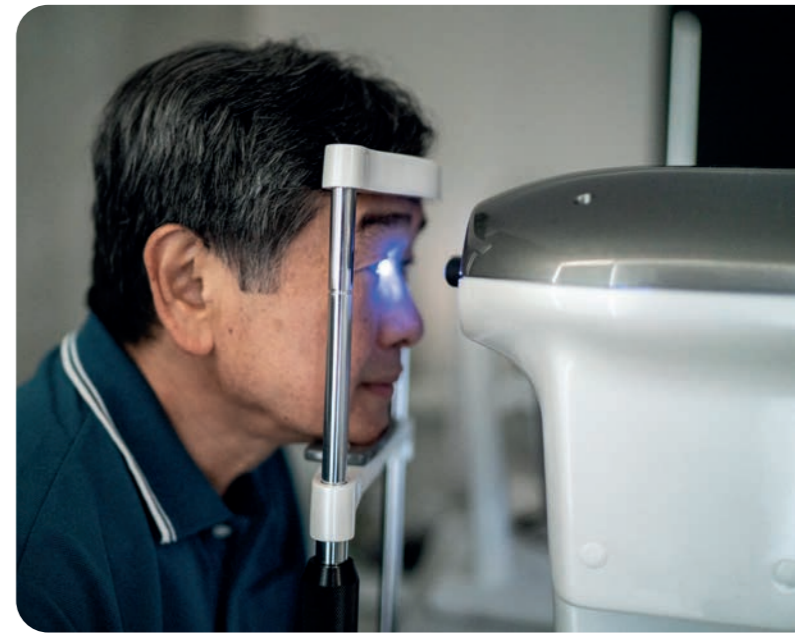
Biomedical research and technological innovation could potentially play a significant role in supporting people to thrive and flourish in later life. However, there may be harms and unintended consequences associated with new technologies and interventions. Scientific and technological approaches to care and support for older people must be considered alongside other ways in which society needs to change in order better to meet the needs of older adults. We argue for an emphasis on the *opportunities* that a longer, healthier life offers for all generations.

Given current disparities in healthy life expectancy, we think that research and innovation should be concerned with addressing inequalities in health and wellbeing in older age, experienced as a result of disadvantage and discrimination throughout the life course.



What is 'research on ageing'?

How do we support a healthy old age for everyone?



Our inquiry looked at three broad and interlocking areas of research into ageing, with the following aims:

1. Intervening directly in the way that bodies age, to extend the period of lives lived in good health.
2. Contributing to functional abilities by providing technological support to do valued activities despite age-related bodily changes.
3. Earlier identification, diagnosis and treatment of diseases linked to ageing, through the use of innovative predictive and diagnostic technologies including AI and machine learning.

In the UK, some research on ageing receives public funding, but the sector as a whole is driven strongly by commercial considerations. Rapid developments in these fields of research also mean that they do not always fit well within current regulatory systems.

1 Geroscience research and clinical trials

Geroscience research seeks to improve understanding of the processes that underlie biological ageing, with a view to intervening in those processes to prevent, delay or slow down the onset of multiple long-term conditions associated with older age, such as heart disease, stroke, and dementia. This may be a more effective way of tackling these conditions than the current approach of treating them all separately. An improved understanding of biological ageing processes may also support the development of biomarkers which can indicate that someone is at higher risk of developing a particular condition.

Currently, lots of geroscience research is in animal models, and the findings do not necessarily translate to humans. Nevertheless, several drugs have been taken forward into small clinical trials in humans, with the aim of targeting age-related conditions.

One of the many challenges involved in geroscience-guided clinical trials is the selection of appropriate markers of success ('endpoints'). These endpoints need to be meaningful to older adults as well as provide a basis for licensing new medicines. In public and media debates, geroscience is often associated with the prospect of significantly extending the maximum human lifespan. However, the aim of current trials is to maximise the amount of our lives we spend in good health – e.g., by delaying or shortening the period of ill health before death.



mTOR inhibitors

mTOR inhibitors, such as rapamycin, are drugs which target and inhibit the mTOR complex (a protein complex that has been recognised as playing a central role in biological ageing). In 2018, an early-stage clinical trial looked at the effect that mTOR inhibitors had on the efficacy of flu vaccination (something that declines with advancing age). The study found that the amount of antibody produced after vaccination was higher, and overall rates of respiratory infection decreased for a year in people who were given the mTOR inhibitors. The results show the potential benefit of mTOR inhibitors for improving immune function in older adults.

Senolytics

Recent evidence shows that damaged cells in the body either die or become senescent (ageing) cells – and that accumulation of these can contribute to the development of age-related conditions. A current 'proof-of-concept' study is underway in the US to evaluate whether a combination of two senolytics (drugs that can selectively kill senescent cells) can penetrate the brain in older adults with early Alzheimer's disease. This study aims to lead to a larger clinical trial to establish if senolytics may be effective treating symptoms of Alzheimer's disease. This same combination of senolytics has previously been shown to improve physical function in patients with the serious lung condition idiopathic pulmonary fibrosis.

Metformin

Metformin is an approved drug commonly used to treat type 2 diabetes. Some studies have shown it to also have beneficial effects for cardiovascular disease, and other age-related conditions. A trial in the US called the Targeting Ageing with Metformin (TAME) study is currently under development and aims to enrol 3,000 participants between 65 and 79 years old who do not have diabetes. It aims to measure the effect of metformin on the development of major age-related conditions such as stroke and heart failure.

In its 2015 *World Report on Ageing*, the World Health Organization identified the importance both of our 'intrinsic capacities' (the physical and mental capacities on which we can draw at any particular point), and of the environments in which we live. Together these determine our functional abilities – our abilities to be and do what we value.



2

Assistive, monitoring, and communications technologies

Developments in assistive, monitoring, and communications technologies relevant to ageing include the following:

- Technological approaches to disease prevention and rehabilitation, such as apps that encourage healthy behaviours
- Virtual reality tools to support rehabilitative exercise
- Devices that enable remote contact and support, providing reassurance to carers and family members, e.g., video call technologies or active monitoring or surveillance systems
- Systems to support people to live independently despite some loss of their intrinsic capacity, e.g., kitchen adaptations, or robot ‘butlers’
- Improved support for carers, such as facilitating routine care tasks, or providing support for lifting

The aims of these technologies may be to:

- Help to **build reserve** and delay a person’s loss of function
- **Compensate** for lost function
- Promote **reablement** after injury or treatment
- Help provide **care**

These are very different aims, and it is essential to match technologies appropriately to people’s actual needs. Providing technologies that compensate for lost function, or provide care, when re-enablement is still possible, can have a negative effect on people’s lives and health.

The evidence base for almost all new apps and devices is not very strong, especially in relation to meeting older people’s needs. Often these products are marketed as general consumer products, rather than medical devices which have more stringent regulatory requirements. This creates regulatory challenges, particularly in a fast-moving sector.

3

Data-driven approaches to earlier diagnosis and treatment

Data-driven innovations may offer the prospect of earlier detection and diagnosis of certain conditions, or early identification of an increased risk of developing a condition. Examples include:

- Apps or devices that enable remote monitoring of a person’s health, looking for early indications of medical conditions
- The development of ‘digital biomarkers’, for example capturing and analysing changes in how a person walks or estimating ‘brain age’ on the basis of multiple markers
- The use of AI and deep learning in interpreting scans, and in determining optimal approaches to treatment for individual patients

Given that some conditions, in particular neurodegenerative diseases such as Alzheimer’s, start developing long before symptoms appear, early detection of elevated risk or actual disease is perceived to be very important in developing new ways of treating them. However, early detection is a form of screening, and there are established criteria for the evidence required before screening approaches are rolled out into general populations. An important factor in determining if screening is appropriate is whether or not there is a proven treatment available that offers better outcomes for people if diagnosed earlier, compared to later diagnosis and treatment.



Why do attitudes to ageing matter in research?

Research and innovation connected with ageing does not take place in a vacuum. It is influenced by prevailing attitudes to ageing, in particular by assumptions about the attributes and roles of older people in our society.

What does it mean to age well?

People value their health in older age, but also many other things such as achieving personal goals, staying connected with family and friends, supporting others and getting out and about.

In this report, we use the language of 'ageing well' (rather than 'healthy' or 'successful' ageing) to capture this wider sense of everything that may be valued in later life. This language also recognises that not everyone can age healthily - particularly those who live with long-term conditions - but they can age well.

The impact of ageism

When people talk about the challenges associated with longer life and the age shift in the population, biological and chronological ageing often get conflated. Automatically associating physical changes in older age with negative effects on all the lives and experiences of older adults is an underlying factor in ageism. Of particular concern is a more insidious form of ageism, an implicit assumption that older adults who, because of their age, have greater needs of care and support, deserve less consideration than other (younger) people.

Ageism can have a powerful influence on older adults' life experience and opportunities, including by negatively affecting both their health and their own sense of worth.

Ageist attitudes can also influence the way that research and innovation develop - for example, through assuming that older adults will not value or want particular things.

A life course approach to ageing: the importance of prevention

Ageing (both biological and chronological) takes place throughout life - we do not 'become old' at a particular age. Our individual experiences and circumstances affect how and when our bodies age. Much is already known about the benefits of taking a preventative approach to health: through supporting healthy lifestyles and tackling the 'social determinants of health' such as poverty and discrimination. Research and innovation are likely to play an additional valuable role in helping delay and mitigate the impact of biological ageing on our lives.

Throughout this inquiry, we have tried to maintain a balance between considering ageing throughout the life course, which affects people's scope for living well in older age, and a specific concern with the needs of today's older adults. Both are crucially important.

What is the impact of ageism on science?



Ethical considerations in research and innovation

How can research be sustainable?

We heard directly from older adults from diverse backgrounds; from intergenerational groups; and from a variety of experts working in the field. Below, we summarise the ethical considerations that emerged across the stakeholders that we spoke to. Page 16 sets out the ethical framework developed by the working group in response to these considerations.

1 Inclusion: Whose voices are heard?

A core concern we heard was about the extent to which older adults' values and perspectives are included in the way that research is prioritised, planned, and carried out – and the implications of this for older adults themselves. This raises a series of important questions:

• Who benefits from research and how?

Do interventions and technologies do what people want and need them to do, or are they primarily designed for the convenience of others? Are potential harms taken fully into account?

• Who sets the agenda and determines the need?

What role do commercial interests play in driving the research agenda, and how does that affect the outcomes? Contributors to our public dialogue, among others, emphasised the importance of people of all ages, and from diverse backgrounds, being involved in influencing the research agenda to help prioritise research outcomes that would be most beneficial to people.

• Who takes part in research?

Lack of inclusion of older people in clinical trials, including those in poorer health, is a long-recognised problem across biomedical research. Similar challenges arise in the technology sector. The scope for older people to benefit from research and technology will only improve if the design of trials adapts to include older adults and those living with long-term conditions. The lack of representation in large data sets being used to drive innovation in healthcare is a particular concern because the data used for 'training' AI models does not reflect

the diversity of the populations who will be affected by the use of those models.

2 Equitable access

Concerns around the accessibility, availability and affordability of products and treatments developed as a result of research was a strong theme across our discussions with both public contributors and with experts. How widely available will new interventions be? Will they be easy to use? Crucially, what action is required to ensure that the introduction of technological forms of support does not exacerbate existing inequalities in health and care?

3 Choice and control

It is often assumed that new treatments or technologies will increase people's options and give them more control over aspects of their lives. However, this is not necessarily true, particularly where public services and budgets are stretched. A number of concerns were expressed as to how a more technological future might affect the choices available to older adults. For example:

- Would people be able to express a preference for tech-enabled assistance versus more hands-on care (or vice-versa)?
- Would social services offer a limited 'menu' of approved devices, regardless of other technologies that might be a better match for people's needs?
- Might people feel under pressure to take preventative medications? Or be persuaded to be screened for conditions that don't currently affect them and may not ever do so, regardless of their own preferences?

Who has the power to make decisions, and on what basis, were questions which emerged as an important issue in relation to all of these issues.

The use of assistive and monitoring devices, in particular, generated concerns about prioritising physical safety over other important needs and interests affecting mental wellbeing and privacy.

4 Impact on relationships

Interpersonal relationships and human contact are essential for wellbeing at all ages. The COVID-19 pandemic illustrated the harms that social isolation can cause, but also the importance of communications technologies in helping to maintain relationships when face-to-face contact is not possible. People's hopes and fears expressed in connection with the impact of ageing-related research and innovation on their relationships included:

- Concerns about the way that health and care services may become driven by protocols. As services become more 'data-driven' is there a risk that the human touch could be lost? As well as opportunities to challenge inaccuracies and major gaps in digital evidence?
- Whether adaptive devices will be used to promote independence – or lead to care that lacks human contact?
- What scope there will be for personalisation: how adaptable will devices be?

5 Trust and trustworthiness

Underpinning many of the ethical



considerations summarised above is a central question of whether people will feel confident in and trust innovative technologies and new approaches to prevention, diagnosis and treatment.

Factors that we heard are likely to affect people's trust include:

- Concerns about the motivations behind research (particularly the commercial drivers of research)
- The risks of those in power 'over-promising' – for example with respect to the benefits of earlier detection of disease or of taking preventative treatments
- Lack of confidence in one's own ability to use novel devices, including the risks of being 'locked out' of digital devices
- Uncertainty about, or lack of trust in how data generated by innovative technologies might be used or shared
- Concerns about the impact on trust-based relationships, including whether the use of technologies may lead to reduced access to personal medical advice

6 Sustainability

The UK health and care system is fragmented. Barriers to delivering sustainable future services include insufficient attention being paid to health impacts of public policies, persistent lack of multidisciplinary work within the research sector, and poor cross-over between research and practice. It seems clear that more collaborative working is required across research, health and care systems, if research benefits are to be translated into practice in ways that are sustainable in the long term.



An ethical framework for research and innovation

In response to the concerns, hopes and questions we heard as part of this inquiry, we set out the values, principles and factors that should underpin the development of biomedical research and technological innovation that aims to support people to live well in later life.



Research and innovation in ageing must recognise that:

Ageing is a part of life

Ageing is a fundamental feature of human life. Older adults should not be treated differently from other adults simply by reference to their age. The equal human worth of all older adults must be the starting point of any research and policy in this field.

Older age is diverse

The population of 'older adults' is extraordinarily diverse, and we all grow old in different ways and with different experiences. This diversity needs to be explicitly recognised in all ageing-related research, and in the ways that research translates into practice. Factors that need to be taken into account include:

- The diversity of people's background and experiences
- Older adults' contributions to the care and support of others
- Older adults' own needs for care and support, including how these change over time



Research and innovation should be aimed at:

Enhancing genuine opportunities to flourish in later life

Developments in research should be evaluated by reference to their potential contribution to promoting and enhancing someone's genuine opportunities to flourish in later life.

To achieve this, it is essential for research and innovation to be undertaken in partnership with people of all ages, from a broad range of backgrounds and experiences.

Reducing inequality

Research and innovation must take account of wider factors that affect people's genuine opportunities to flourish in later life including people's economic situation, their local environment and levels of social support, with the aim of prioritising initiatives that will reduce, not increase inequalities in older age.



Research should take account of:

Power in relationships

Interventions or technologies for older people should aim to enhance the control that people have over their lives and to support them to have equality in their relationships with others.

Technology and care relationships

Technological contributions to providing care should look to support, not replace, important human relationships and activities. Technology may, for example, provide much needed support for carers, potentially freeing up time to be spent on things that enable older adults, and those supporting them, to flourish. For some people, technology may be a preferred alternative to human assistance, particularly where it can help to support their privacy.



Research should promote:

Trustworthiness

The process of research, its outcomes, and the ways that people are introduced to research-based interventions all need to actively demonstrate how they are **trustworthy**. Those taking part in research or using novel technologies and treatments need to have confidence that their needs and interests have been properly taken into account all the way through the process, and that their data will not be misused.

Sustainability

Research and innovation also need to be **sustainable** in the resources they consume – including in terms of energy, time, and finance.

Bringing together these values, principles and factors, we have developed an ethical framework, which is illustrated on the following page. This framework can be used as a tool to help all those concerned with the development, conduct, and implementation of research relating to living well in older age to think through the ethical implications of their work.



Recommendations

How do we involve older adults in research?

Our guiding ethical principles will make no difference to people's lives if there are no means by which these principles can be translated into action in the real world. Many different institutions and individuals share responsibility to ensure that research concerned with ageing is conducted and translated ethically, including:

- National and local governments
- Those running public services, including (but not limited to) health and social care
- Research funders, including the commercial sector
- Regulators and professional bodies
- Research ethics committees and academic journals
- Research institutions and individual researchers
- Individual health and care practitioners
- Charities and non-governmental organisations

In our report, we make 15 recommendations to help underpin the change in attitudes to ageing needed to make this vision a reality. These are summarised below.

1 We recommend that everyone with influence over how research and innovation concerned with ageing - from individual researchers and practitioners to governments and funders - takes account of the ethical framework and toolkit presented in our report to guide their thinking. A more detailed interactive version of this framework is available on our website.

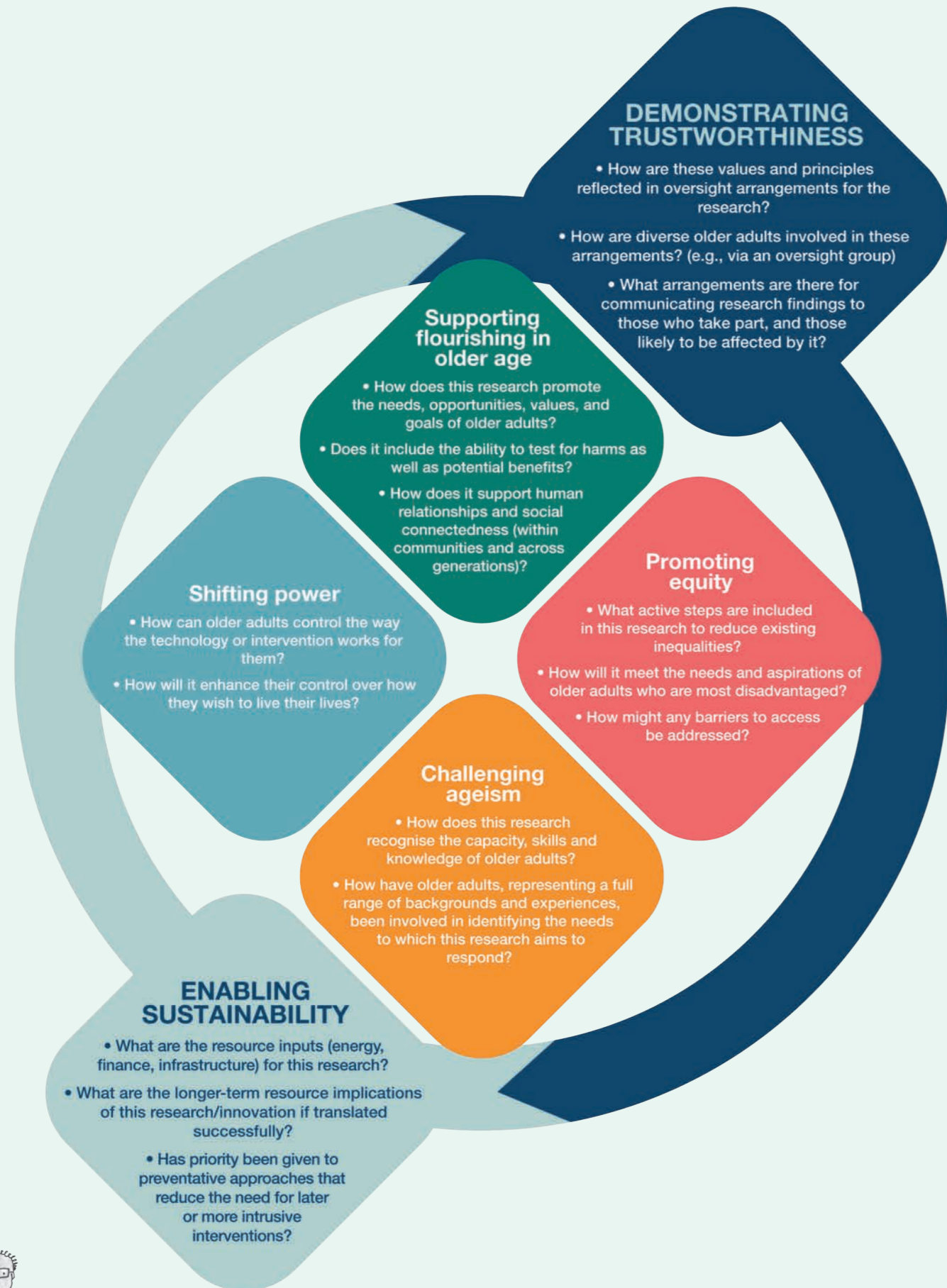
2 *Public input into policymaking*
Many organisations - including the House of Lords Science and Technology Committee - have raised the need for a cross-strategy to support the UK Government's aim of using science and technology to help people live longer, healthier lives. We echo this call and believe that members of the public of all ages, and from a wide range of backgrounds, should have a voice in how it is implemented.

We recommend that a cross-governmental strategy on ageing should be supported by a public intergenerational advisory forum including people of a range of ages including older adults.

3 *Inclusion: influencing the research agenda*
Action is needed within many parts of the research system to make sure that the experiences of diverse older adults help to shape decisions about research. This should be a core part of wider commitments to include diverse public representation in how research is conducted in the UK.

We recommend that research funders, regulators, research ethics committees, and journals should all require meaningful collaboration with older adults to inform decisions about research that is related to ageing.

4 We recommend that public research funders who support research in ageing should collaborate to support partnerships between research teams and public contributors.



Inclusion: taking part in research

Older adults with significant care needs are unlikely to be included in research. This needs to change. Research on ageing must include more older participants – with a particular focus on ensuring diverse experiences of ageing.

5

We recommend that funders of research on ageing should require (and fund) researchers to collect a minimum demographic dataset about their research participants. This should include, as a minimum - age, sex/gender, ethnicity, socioeconomic status, and nature of access to family or other support.

6

We recommend that the Medicines and Healthcare products Regulatory Agency (MHRA) should consider mandating the inclusion of data from older research participants, and/or participants living with multiple long-term conditions, as part of licensing authorisations, where new products will be relevant to the older population.

7

We recommend that the Health Research Authority (HRA) working with funders such as the National Institute for Health and Care Research (NIHR), should identify and share examples of good practice in the inclusion of older adults, especially those with impaired mental capacity, in research. These should be shared with ethics committees to support them when scrutinising research proposals.

8

We recommend that research funders should provide dedicated funding to support researchers and engagement practitioners in developing relationships with older adults in their communities and with the care sector, to enable older adults with care and mobility needs to participate in research.

9

We recommend that researchers and research funders responsible for large-scale volunteer databases and cohort studies should ensure that the studies capture both the breadth of diversity in the ageing process, and the scope to intervene positively in the ageing process.

Supporting interdisciplinary research

Recent initiatives to improve the coordination of research in ageing and bring together different disciplines include the creation of 11 UK Ageing Networks, established by the Biotechnology and Biological Sciences Research Council and the Medical Research Council. Such networks can play a crucial role in supporting collaboration on research.

10

Provided the initial funding of the UK Ageing Networks demonstrates its success, we recommend that all relevant funding councils within UK Research and Innovation (UKRI) should commit to long-term joint funding of these networks.

11

We recommend that public and charitable funding for research on ageing in the UK (including research partnerships with the commercial sector) should be based explicitly on a public health, life-course approach to ageing. Such an approach would:

- Recognise the importance of interventions and support across the life course to enable people to live as healthily as possible, with a particular focus on preventative approaches at all ages
- Prioritise the needs of those who are currently most disadvantaged, with particular emphasis on addressing structural barriers to ageing well
- See scientific and technological innovation as an important complement to, but not substitute for, wider social policies that are fundamental in supporting people to age well.

Regulation and accreditation

Many technologies that promote healthy lifestyles at all ages or provide support for people to live well in later life are marketed as general consumer products; they are not regulated in the category of 'medical devices'. Given the growing commercial interest in these technologies, it is particularly important for developers to demonstrate ethical processes in their research and innovation.

12

We recommend that the British Standards Institution (BSI), the MHRA and Innovate UK, should collaborate to develop accredited standards for promoting ethical research practices for technologies designed to support people to live well in older age. We suggest our ethical framework is used as a starting point for these standards.

Better links between research and implementation

Research and innovation can only make a real difference in people's lives if the resulting treatments and products are made available to those who will benefit from them. This requires close working between researchers, older adults, and service providers, to ensure that the aims of research are relevant and achievable. It also requires commitment and flexibility from those who fund services used by older people.

13

We recommend that research funders should take active steps to promote closer working between researchers, and those directly involved in providing services for older people. Possible approaches include creating grant opportunities directly aimed at partnerships between researchers and practitioners.

The value of early detection or screening depends on the availability of effective support or treatment for the conditions that are being screened for.

14

We recommend that any new screening or testing programmes associated with age-related conditions should only be rolled out if accompanied by services and support for people who receive diagnoses and their families and those who provide care and support.

Promoting interdisciplinary approaches

Professional education has a particularly important role to play in increasing awareness of: a life course approach to ageing, the benefits of interdisciplinary approaches to supporting older adults, and making the best use of research and innovation.

15

We recommend that providers of undergraduate education for health professionals and biomedical scientists ensure that their students gain a rounded, interdisciplinary understanding of ageing, supported by our ethical framework and toolkit.





This short report and the full report are available at:
www.nuffieldbioethics.org

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