CENTRE FOR AGEING BETTER

Industrial Strategy Challenge Fund Healthy Ageing Challenge Framework

Centre for Ageing Better

Executive summary

This document sets out a proposed framework developed by the Centre for Ageing Better for the Industrial Strategy Challenge Fund's £98 million challenge on **Healthy Ageing**.

In 2018 the Prime Minister announced a mission to "ensure that people can enjoy **at least five extra healthy, independent years of life** by 2035, while narrowing the gap between the experience of the richest and poorest". Although we have experienced a huge increase in life expectancy, a significant proportion of those extra years are spent in poor health.

The Centre for Ageing Better proposed that the Healthy Ageing Challenge Fund should focus on **seven themes** where we think there are the greatest opportunities to tackle market failures and stimulate innovation in pursuit of longer, healthier lives for all:

1. Sustaining physical activity
2. Maintaining health at work
3. Designing for age-friendly homes
4. Managing common complaints of ageing
5. Living well with cognitive impairment
6. Supporting social connections
7. Creating healthy and active places

Successful innovations across these themes will help us all to enjoy the later life we want, rather than managing the later life we fear. They will require **strong, effective partnerships and collaboration** between a wide range of relevant industries to deliver.

In line with the wider framing of the Industrial Strategy, the Healthy Ageing Challenge Fund seeks to deliver social, economic and fiscal impacts by stimulating the development of products, services, system innovations and alternative business models that are **preventative**, helping people to maintain their health as they age.

To have an impact at scale and contribute to tackling health inequalities, innovations must be **inclusive and affordable**. Successful innovations should target the commercial mainstream, not specialist health or care markets.

What do we mean by healthy ageing?

We know that good health is fundamental to our quality of life as we age. Good health allows us to remain independent, to work or get involved in our local community, to maintain our social connections and family life and to do many other things that give us meaning and purpose in life.

Following the World Health Organization, we define healthy ageing as "the process of developing and maintaining the **functional ability** that enables wellbeing in older age." This is the result of the interaction between a person's health and their external environment, which helps or hinders them in doing the things that matter to them.

Background

The Centre for Ageing Better (Ageing Better) is an independent charitable foundation working for a society where everyone enjoys later life. We are a What Works Centre, working to promote evidence-based policy and practice in the field of ageing. Ageing Better is offering independent advice and guidance to the UK Research and Innovation (UKRI) on the Industrial Strategy Challenge Fund's £98 million first wave challenge on Healthy Ageing.

This document has been designed to stimulate ideas and discussion. This in turn should maximise the contribution of the challenge to the wider Healthy Ageing Grand Challenge set out by the Prime Minister to "ensure that people can enjoy at least five extra healthy, independent years of life by 2035, while narrowing the gap between the experience of the richest and poorest".

1. Why healthy ageing matters

Our increased longevity represents a huge medical and public health success. However, despite this achievement in increased life expectancy, a significant proportion of those extra years are spent in poor health.

Today, men aged 65 can expect to live another 19 years, but only 10 of those will be spent in good health. Women aged 65 can expect to live another 21 years, but only 11 will be spent in good health (ONS, 2017). In addition, there are significant inequalities in healthy life expectancy, with people in lower socio-economic groups developing long-term conditions at younger ages and spending a larger proportion of their later life in poor health.

As well as being essential for the quality of life of individuals, enabling people to remain in good health for longer also benefits society for example by reducing demand for health and social care. The IFS and the Health Foundation have estimated that, on current trends, healthcare spending will have to increase by 3.3% and social care spending by 3.9% every year for the next 15 years, just to keep pace with increased demand (Charlesworth & Johnson, 2018).

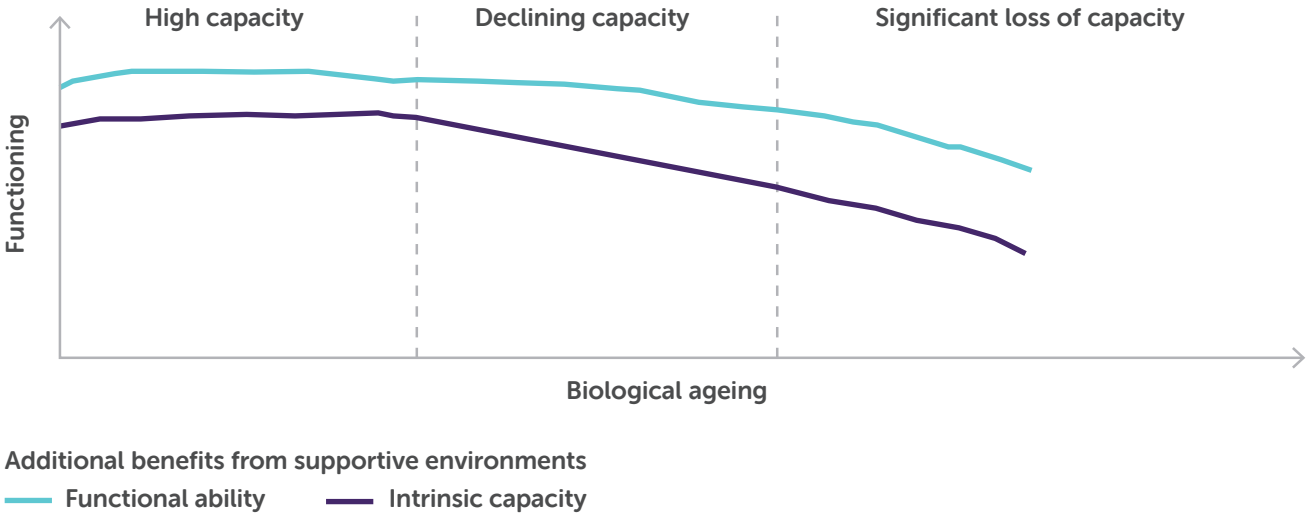
In terms of our workforce, it is estimated that 1 million people aged between 50 and SPA have left the labour market involuntarily – most commonly due to health conditions (DWP, 2017). As well as increased GDP and tax receipts, and a reduction in the working age benefit bill, supporting people to work for longer will also help tackle increasing skills and workforce shortages, which will become even more acute after Brexit (Centre for Ageing Better, 2018a).

2. How do we define healthy ageing?

The World Health Organisation defines healthy ageing as "the process of developing and maintaining the **functional ability** that enables wellbeing in older age."

Functional ability is made up of:

- An individual's **intrinsic capacity** (their physical and mental health); and
- Their **environment/extrinsic factors**



Intrinsic capacity tends to decline over the life course. Where the environment is not supportive, even minor limitations in intrinsic capacity can significantly reduce functional ability. Adapted from WHO World Report on Ageing and Health (2015)

The **interaction between the individual and their environment** is what helps or hinders people to do the things they value in later life, allowing individuals to live a life that gives them satisfaction, meaning and purpose.

For example, people living with a health condition or disability that limits their mobility can still get around and go where they want to, provided they have the right assistive devices and adaptations at home, accessible public transport nearby, and accessible streets, shops, services and amenities in their area. Supportive environments, products and services allow people to maintain their functional ability despite a loss in their individual intrinsic capacity.

Equally, unsupportive environments reduce people's functional ability, especially if they have any limitations in their individual capacity. As a simple example, people with limited mobility will be severely constrained in where they can go or what they can do if transport is inaccessible, crossing timings are too short, kerbs are high and pavements are cracked, and shops and services have steep steps or uneven floors.

Healthy ageing, therefore, is more than simply the promotion of good health and prevention or treatment of ill health. It is about creating **supportive products, services and environments** that maintain people's **functional ability** so that they can continue to take part as active and productive members of society, even when their health limits their **intrinsic capacity**.

3. How do we enable healthy ageing?

Prevention to maintain intrinsic capacity
Poor health is not an inevitable consequence of ageing. For people currently in good health (high intrinsic capacity), the focus should be on promoting healthy behaviours – stopping smoking, limiting alcohol consumption, increasing physical activity and eating more fruit and vegetables. While health promotion has often emphasised individual awareness and action, changes to the environment can also drive shifts in behaviour at population level – for example, the ban on smoking in public places.

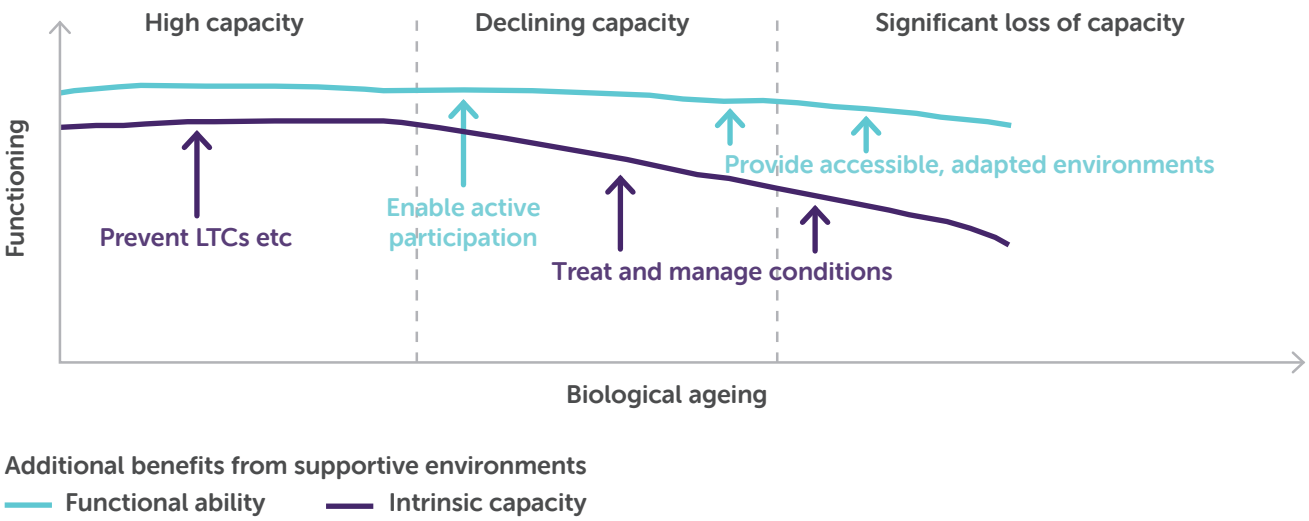
Management of decline in intrinsic capacity and mitigation to maintain functional ability
Health services for older adults are typically focused on treatment or management of long-term conditions. While this is an important requirement for healthy ageing, there is not always a sufficient focus on the impact of a health condition on what a person can do and their quality of life.

Assistive products such as spectacles or hearing aids are familiar ways to mitigate declining capacity. Services and adaptations to the environment can have a similar impact – for example, dropped kerbs, tactile pavements or lengthening the crossing period at pedestrian crossings, all make it easier for people with physical or sensory conditions to keep mobile and active.

There is increasing evidence that certain types of declines in capacity can be reversed, through changes in lifestyle, diet or exercise (e.g. Lean et al, 2018; Skelton & Mavroeidi, 2018).

Adaptation to preserve functional ability
Where someone's health condition has led to a significant loss of capacity, the focus should be on providing environments, services and products that minimise the impact of this loss on their wellbeing and daily lives. For example, this may include adapting an individual's home to enable them to remain independent for longer and reduce their need for social care.

Figure 2: Interventions to improve functional ability over the life course



Functional ability can be maintained both by limiting declines in health and intrinsic capacity and by adapting the environment to reduce barriers and mitigate declining capacity.

Adapted from WHO World Report on Ageing and Health (2015)

4. Approach to the 'healthy ageing' challenge

The Healthy Ageing Challenge Fund is seeking impact on three main fronts:

- **Social impact** – achieving better outcomes for individuals, families and communities
- **Economic impact** – development of new products and markets
- **Fiscal impact** – reducing the rise in costs of public services (especially health, care and welfare)

Innovations should therefore have a positive impact on people's lives; be commercially viable; and have the potential to contribute at scale to healthy ageing and supporting people to maintain their functional ability for longer. Innovations should satisfy all these criteria to be considered a success.

Based on these definitions of success, and recognising the key demographic factors driving this Challenge (a rapid increase in the number of people aged 65 and above and significant, potentially growing inequalities in healthy life expectancy), the Challenge should focus on:

- **Prevention** and delay of the factors leading to poor health as we age and capacity declines, not just on treating the issues faced by those with high needs
- **Maintaining functional ability** by making adaptations to people's environments and developing better, supportive products and services that allow people to enjoy active and independent lives for longer, and reducing demand on health and care systems
- **Inclusion and affordability** to ensure that innovations address health inequalities and can reach people with limited incomes. Innovations with the greatest social impact also tend to be those with mass-market appeal, while more expensive innovations have struggled to achieve wider reach or replication
- **The future**, delivering solutions for those approaching later life as well as today's older people. The greatest opportunity to increase healthy life expectancy and reduce health and care needs is to enable tomorrow's older people to enjoy greater health and wellbeing for longer

5. Approach to innovation

In summary, the Healthy Ageing Challenge Fund should seek to:

- Stimulate **markets where there is currently market failure**
- **Promote a positive vision of healthy ageing** and people in later life as consumers and active participants
- Stimulate **innovation in products and services**, and also in **systems** and **business models**
- **Harness technology**, but not focus only on tech-driven solutions
- Focus on innovations that are **designed for scale**
- **Support partnerships and collaborations** across a range of sectors, including industry, designers, public services, social and voluntary sector actors, academia and people with lived experience

There are significant opportunities for innovation across the whole spectrum of prevention, management, mitigation and adaptation. However, the private sector has been slow to respond. Despite people aged 50 and over holding an estimated 77% of the UK's financial wealth in 2014 (Centre for Economics & Business Research, 2015), there is a dearth of products and services in the market that meet the desires and aspirations, as well as the needs, of an older population.

Several issues need to be addressed to overcome this market failure and to unlock the economic opportunities of our ageing population:

- **Age-related stereotyping and the association of 'ageing' with decline and frailty needs to be overcome**. Marketing and branding is oriented towards younger age groups. The 'older consumer' market tends to narrowly focus on products to treat or manage declining health. Attitudes towards ageing and older consumers need to shift dramatically
- **Repurposing existing technology and products to promote healthy ageing**, or simplifying specialist products for mass market penetration. Many promising innovations already exist but are not fully being drawn upon to support our longer lives. Mainstream innovations in areas such as smart homes, fintech and mobility need to consider how to capitalise on and support the opportunity of our longer lives

- **More aspirational, inclusive design** in the development of new (or repurposing of existing) products and services is needed. We need to design products and services that are mainstream, and desirable and functional for everyone, irrespective of age or ability

- **Service and systems innovation** must sit alongside product innovation. Supporting healthy ageing requires a systemic response – no single product or service can provide the answer alone. New systems and service models are needed to create and unlock market opportunities

Whether through stronger consumer orientation, development of new business models, lower cost versions of existing solutions or stimulating and supporting system-wide change, there is a clear need for **innovations that can support new approaches at scale**.

In certain areas where there is a lack of innovation or service provision it will be important to support the development of new products and services. However, to achieve the greatest and most immediate impact, the Healthy Ageing Challenge Fund could focus on **near-to-market innovation**.

Where innovative products or services already exist, the focus could be on promoting wider uptake – through engaging potential purchasers/consumers, demonstrating and evaluating delivery of a stable model, or developing routes to scale.

Innovation partnerships

For innovations to achieve scale, it is critical to **involve industry from the outset**. Any industry sector may have relevant knowledge and solutions to contribute. In each theme, the key will be to ensure strong collaborations and **diverse partnerships across a range of sectors and perspectives**. It will also be important to engage with those responsible for financing innovations particularly where the purchaser is not the end consumer – for example in statutory or intermediate markets – in order to design sustainable business models.

It will be essential for innovators to open up thinking on the products and services needed to support healthy, longer lives. This can only happen if we understand what older consumers want and need. We there need innovations to be developed in **partnership with people with lived experience**. This will require meaningful investment in **shared problem definition, co-design and co-production** throughout the innovation process.

Innovation partnerships could include representatives of:

- **Relevant industries, including retail** – as important routes to achieving scale and impact, particularly in mainstream markets

- **Design and marketing** – to ensure the development and marketing of inclusive, attractive, affordable products

- **Financial services** – as drivers and enablers of innovation in funding and business models

- **People with lived experience** – including people in later life from excluded/ disadvantaged groups

- **Public and statutory services** – as potential sources and recipients/customers of innovations

- **Voluntary, community and social enterprise sector** – as an important source of innovation and a route to engaging more excluded groups

- **Academia, applied researchers and expert practitioners** – to ensure that innovation draws on established evidence and that they are well-evaluated

6. Themes for innovation

In this section, we set out seven themes for the challenge as detailed in the executive summary.

These themes are focused on key gaps and market failures that present clear opportunities to stimulate innovation and encourage market development and private sector entry. They are not mutually exclusive and there are strong interconnections between themes where innovation is needed.

Theme 1: Sustaining physical activity

Aim: To help people in mid-life and later life to increase and sustain their levels of physical activity

Rationale

There is a huge body of evidence that maintaining physical activity helps prevent a wide range of health conditions in later life, as well as sustaining intrinsic capacity even when people do develop potentially limiting conditions (Lee et al, 2012; Hamer et al, 2014). As well as general activity, the Chief Medical Officer recommends that adults should avoid sedentary behaviour and maintain muscle strength and balance. In 2016, just 15% of adults met both the aerobic and muscle strengthening CMO guidelines (Health Survey for England, 2016).

Focus areas and opportunities

Physical activity is not confined to traditional forms of exercise. While exercise can be an important component of physical activity, daily activities such as walking, gardening or housework are far more significant for most people, especially in later life. Other forms of physical activity such as dancing can be equally beneficial.

There is an enormous number of health, wellbeing and fitness products and services on the market, from gyms to apps. However, **few target older consumers**, especially not those on lower incomes who are generally less likely to be physically active (NICE, 2019). A focus on outreach could be helpful in overcoming these barriers.

Once people have developed a health condition or become significantly overweight, it becomes much harder for them to take up physical activity again. There is also some evidence that people with fewer social connections are less likely to be active (Lübs et al,

2018). Innovations that have specifically sought to tackle these kinds of **barriers to activity** in the past have included:

- 'Escalators' that enable people to increase activity from very low levels (like the NHS 'Couch to 5K' programme)

- Activating more than one enabling factor (e.g. connecting physical activity with social activity, healthy eating/nutrition or reducing alcohol/tobacco consumption, or addressing common complaints of ageing that limit activity – see Theme 4)

- Assistive technologies, from e-bikes to exoskeletons, that encourage people with limiting health conditions to become more active

While even relatively short periods of increased activity can have a significant positive impact on health, the biggest individual and societal gains will come from long-term behaviour change. Supporting people to **sustain activity** and to form new **habits** include:

- Building activities into daily life (e.g. active travel)

- Making activities shared/social

- Gamification or other ways to make activity fun (e.g. nightclubs for older people)

- Applying User Experience design principles to make activity more rewarding and 'sticky'

Innovation partners

Innovation partners in this theme could include:

- The health and fitness sector

- The wider leisure and entertainment sector (from the cultural industries to gardening and outdoor activities)

- Academic involvement

- Health and/or social housing stakeholders

Theme 2: Maintaining health at work

Aim: To promote and maintain older workers' health and wellbeing

Rationale

In mid-life, people spend much of their time at work – often more than half of total waking hours. Poor workplaces can also contribute to ill health (both physical and mental). This makes the workplace an important and under-exploited site to help individuals manage their health and enable healthy ageing. Health is also one of the main contributors to people stopping work before State Pension age (Marvell & Cox, 2017; Eurofound, 2012). Helping people remain healthy at work has significant economic as well as personal and societal benefits.

Focus areas and opportunities

There is a significant opportunity for innovations to **promote and sustain health in the workplace**. There is here some overlap with Theme 1. For example, recent evidence suggests that for employed adults in good health, having access to showers and fitness programmes at or near work is associated with increased physical activity **outside** work (Biswas et al, 2018).

In addition, there are significant opportunities to improve **workplace-based health services**, in particular focusing on improving management of long-term conditions at work. Ageing Better's research suggests that older workers with health conditions do not always receive the sustained support and empathy they need to remain at work (Centre for Ageing Better, 2018b).

There is a need for **new products and services** to improve each step in the support process:

- **Assessments** based on functional capability and what people can do (drawing on international models such as WorkAbility), and taking a more holistic approach that incorporates mental as well as physical health

- **Design of workplace adjustments** to enable people with health conditions or other disabilities to remain in work (e.g. tools for job redesign or physical/sensory assessment and redesign of work environments)

- Systems to **sustain support** (e.g. repeat assessments/check-ins/feedback; HR/MIS systems that record and reinforce individual agreements for working patterns and other support, rather than enforcing standard conditions; access to peer support; more effective management of flexible working arrangements)

- Better **intermediation** between staff with health conditions and their employers (e.g. virtual/augmented reality to build empathy; independent third-party services for disclosure, assessment design of adjustments and/or ongoing support)

Although there are large **occupational health and workplace wellbeing** sectors, these have limited reach to either **SMEs or self-employed people**, which account for the fastest growing shares of employment over the last decade (ONS, 2018). There is a need for **new business models** to enable wider uptake both of existing support and of innovative approaches, for example:

- **Digital solutions** to deliver effective support at lower cost (e.g. virtual assessments/ check-ins, risk stratification, access to online support for employees or managers)

- New business models that better **align incentives** between providers of occupational health support, employers and employees (e.g. insurance-based products, co-financing or risk pooling models)

Finally, there is significant scope for innovation in **adaptive/assistive workplace technology, products and services** to help people to manage the demands of work despite limitations on intrinsic capacity, for example:

- Application of connected devices to manage the workplace environment (temperature, noise, light etc) and/or enable different, less demanding working practices

- Physical or sensory adjustments to the workplace (such as the rubber flooring to reduce impact damage to hips and knees)

- Development of new assistive tech (e.g. exoskeletons)

- Automation of physically demanding or repetitive tasks as part of a package of job redesign

Innovation partners

Innovation partners for this theme could include:

- The occupational health and workplace wellbeing sectors including **both** their customer and user groups

- Employers

- Older workers with long-term physical or mental health conditions

- NHS organisations

- The financial services sector – in particular insurance and employer benefits programmes

- Academic and practitioner involvement from the applied health disciplines, including but not limited to occupational medicine

Theme 3: Designing for age-friendly homes

Aim: To enable people to live independently and safely at home for longer with inclusive and innovative products and services

Rationale

Good quality housing helps people to stay warm, safe and healthy and is an essential base to allow them to do the things that are important to them. Unsuitable housing is estimated to cost the NHS £624 million per annum for first year treatment costs, largely due to excess cold and the risk of falls (Garret & Burris, 2015). While there is significant potential to ensure that new housing is of good quality and meets lifetime home standards, the majority of homes that will exist in 2050 have already been built (Boardman et. al, 2015). Unlike new homes, this is a relatively neglected and under-invested market space.

Improving and adapting existing homes can also make a major contribution to healthy ageing. A recent study found that improved council housing is associated with a significant reduction in hospital admissions among tenants aged 60 and over (Rodgers et al, 2018). Innovations in this area would contribute both to maintaining functional ability and (with falls a significant driver of health demand in later life) to preventing declines in capacity. There remains a particular need for inclusive/affordable solutions.

Focus areas and specific opportunities

There is a particular need for **inclusive design in mainstream home products**:

- Designing major fixtures, fittings and everyday products for the home so that they remain usable as intrinsic capacity declines (e.g. eye-level ovens, lever handles rather than doorknobs)

- Redesigning and rebranding more adaptive products (e.g. clearer labels on controls, walk-in baths) for a mainstream market to encourage people to purchase these before they are needed

- Developing 'smart home'/connected products, services and applications that enable activities of daily living, and marketing/branding these in age-friendly ways

The key principle of inclusive design is to work with people with reduced intrinsic capacity, start with their wants and needs, and understand the user experience from their perspective, to design and sell products and services that help them maintain functional ability while also being attractive to mainstream consumers. The Ford Focus, designed for older people, and at one point the world's bestselling car, shows that great inclusive design can create products that are better for everyone.

Many existing homes require **significant adaptation and improvement** so that they are warm, dry and safe enough for people to enjoy good later lives. There is also a need for smaller adaptations as well as ongoing maintenance, repairs, decluttering and other forms of assistance.

Cost is currently a significant barrier for people on lower incomes, who are most at risk, and whose homes are not major assets. There is scope for stimulating disruption in this area, for example:

- Innovative, flexible, age-friendly financial products and services for significant home adaptations (e.g. risk pooling across multiple borrowers, new approaches to equity release)

- Development of new services/business models for lower cost home adaptations/ improvement

- New models of cost sharing for landlords and tenants

Innovation partners

Innovation partners for this theme could include:

- The home retail sector

- Designers and manufacturers

- Retirement community developers and operators

- People in later life, especially those with health conditions/limitations on capacity

- Academic and practitioner involvement from occupational therapy and other applied health disciplines

- Incumbents and/or entrants in financial services

- Local authorities and social housing providers

- The NHS

Theme 4: Managing common complaints of ageing

Aim: To improve the quality of life of people in later life with a range of common health conditions

Rationale

Some of the most common health conditions associated with ageing do not pose a significant mortality risk, and are therefore seen as a relatively low priority for health and care services – for example, hearing or sight loss, arthritis, foot or dental health problems, and incontinence. Yet these conditions can place significant limitations on capacity and functional ability.

The impact of these conditions can be effectively managed and mitigated with simple interventions and modifications to the environment – enabling many more people in later life to maintain functional ability and live independently without recourse to health or care services. Yet while a wide range of competitive optical services and eyewear is available on every high street, the solutions for these other conditions are not part of the commercial mainstream.

Focus areas and specific opportunities

This theme could stimulate the development of mainstream 'high street' products to improve the quality of life of people with common health conditions associated with ageing, for example:

- **Hearing loss** – e.g. better hearing aids, or smart/inclusive tech to assist people to access information or communicate more easily

- **Foot health** – e.g. supportive shoes, or products and services for foot hygiene

- **Dental health** – e.g. adapted toothbrushes for people with reduced manual dexterity, dentures that don't catch food or are more easily cleaned

- **Arthritis** – e.g. grip supports, personal servo-assisted devices, assistive chairs, tools and utensils that require less grip strength or precision, or smart home/connected devices that reduce the need for manual handling

- **Incontinence** products and sanitary disposal services – e.g. improved product design and marketing to remove stigma

Potential innovations could include:

- Development of **new user-designed products and services** to improve quality of life – for example, physical or digital adaptations, or support for self-management

- Supporting wider uptake of **existing assistive products and services**, including mainstream ones that have been adapted/repurposed by users with health conditions

- Development of **lower cost versions of established solutions**

- Development of **new routes to market** – both for consumers to find out about these products and for designers to reach mainstream retailers

The NHS is currently both a customer and route to market for many of these products. There is scope for a more system-led approach to drive innovative approaches to **information, advice, referral/recommendation and/or funding** for people who could benefit from these products.

Innovation partners

Could include:

- High street retailers (e.g. pharmacy or homes)

- Consumers with long-term conditions

- Relevant health practitioners and academics

- Designers and developers of physical and digital products and services

Theme 5: Living well with cognitive impairment

Aim: To improve quality of life for people living with cognitive impairment

Rationale

There are currently a significant number of people living with dementia who are yet to receive a diagnosis. As of January 2019, around 68% of over 65s estimated to have dementia had been diagnosed (NHS Digital, 2019). Even after diagnosis, people continue to live at home for a number of years, often with support from family carers. Maintaining functional ability during these years is critical in extending the period of time before people require intensive care and support. There is a particular requirement for inclusive and affordable solutions in this space.

Innovations to maintain or restore brain health are outside the scope of this wave of the challenge. As the evidence suggests that physical activity can help to maintain cognitive function, innovations in this area (under Theme 1) may have a preventive benefit.

Focus areas and opportunities

Typically off-the-shelf solutions, from sticky notes or sippy cups to help with everyday activities, to instant messaging services, online calendars or social networks to coordinate care can extend and support the range of coping mechanisms that those living with cognitive impairment already employ. People are highly creative in how they adapt anything from utensils and furniture to voice assistants. Innovations could focus on addressing gaps and/or promoting wider uptake of these solutions:

- **Workarounds** – developing new products or services based on the ways people adapt to or work around difficulties with daily living, or developing better alternatives that are easier to use

- **Plug-ins** – developing solutions that fill gaps, reduce friction or improve interoperability between the existing products and services that people already use

- **Mainstreaming** – integrating these workarounds and plug-ins into mainstream products or services, and redesigning/rebranding more adaptive products (e.g. clearer labels on controls and displays) for the mainstream market (e.g. desirable/aspirational design, lower price points)

- **Awareness** – developing accessible and sustainable ways to share information and advice on everyday solutions (e.g. peer-to-peer/social recommendations, kitemarking or other ways to market 'dementia-friendly' solutions, signposting from statutory services)

This theme could also support innovation in physical and digital **kitchen, bathroom or other**

home adaptations (Theme 3) that focus on people living with cognitive as well as physical impairments. Innovations under this theme could consider the need for 'adaptable adaptations' that can continue to support people as their intrinsic capacity declines.

Similarly, this theme could support innovations to improve the accessibility of the public realm for people living with cognitive impairments. This could include innovations to improve the '**legibility**' and ease of navigating the public realm – e.g. signage; buddying/guides/walking buses; better support by staff in businesses and shopping centres, transport facilities and public services; or digital guidance (such as the Salford Way app).

Innovations to improve the **inclusion and accessibility** of social and leisure activities (Theme 6) could also make a valuable contribution under this theme.

This theme could also seek to stimulate innovations that provide more effective **support for carers**. Any of the innovations outlined above to strengthen coping mechanisms, develop new home adaptations or improve mobility or the accessibility of places and activities will benefit carers as well as people living with cognitive impairment. In addition, there is scope for innovations in:

- **Peer support** – solutions to connect carers to peers, ideally with slightly more experience so that they can advise on what has helped and what might be coming next

- **Everyday help** – services and solutions that enable carers to take a break or get additional help with everyday tasks

Innovations in this area could consider:

- Taking an **inclusive, user-centred design** approach, working with carers throughout the innovation process

- Emphasising **sustainability and accessibility**

Finally, there is a significant body of evidence demonstrating a relationship between depression in later life and cognitive impairment (Weisenbach et al, 2012). There is also scope for innovations to improve **early access to mental health support** for people in later life at risk of depression:

- New **delivery/business models** that enable more people to access cognitive behavioural therapy, resilience/self-management support and other evidence-based interventions earlier (e.g. digital, social or workplace provision; different funding models)

- **Systems innovation** – e.g. to enable earlier referral; to ensure that older people, carers and people with physical health conditions are better supported with psychological

therapies; or to support people to develop and maintain positive mental habits over the long term

Innovation partners

Could include:

- People living with cognitive impairment and family carers
- Voluntary and community sector organisations
- Major retailers
- Designers and manufacturers
- Smaller technology innovators and larger tech actors
- Local authorities, NHS and social care providers
- Academic and practitioner involvement from occupational therapy and other applied health disciplines, as well as psychology

Theme 6: Supporting social connections

Aim: To enable people to sustain and broaden their social connections and relationships into later life

Rationale

There is strong international evidence that loneliness and social isolation are associated with worse cardiovascular and mental health outcomes (Leigh-Hunt et al, 2017).

On the whole, older people are no more likely to feel lonely than younger people (DDCMS, 2019). However, some key risk factors for loneliness, such as bereavement or living with a long-term condition, become more common as we age. There is also some evidence that people who provide high levels of family care are more likely to be lonely (Carers UK, 2016).

Focus areas and specific opportunities

Innovations to prevent ill health or maintain functional ability are also likely to support people to sustain and strengthen their social connections. In particular:

- Sustaining **physical activity** (Theme 1)
- Maintaining **health at work** (Theme 2)
- Managing common complaints of ageing (Theme 4) – especially **hearing loss**

The challenge could also seek to stimulate innovations that support people to stay engaged in the social networks and activities that matter to them as they age. Much of this interaction takes place in everyday venues such as pubs, clubs, churches, supermarkets, high streets, parks, cinemas or community centres

Innovations under this theme could also specifically seek to improve the **inclusion and accessibility** of social and leisure activities, such as:

- Improving **information and signposting** to local groups and activities – on- or offline
- Making food, drink, leisure and entertainment **venues more welcoming and age-positive**, for example inclusive marketing or branding, staff training, differential pricing/ noise policies and so on
- **New accessible venues or public/social spaces** where people can bump into each other and mix across social and/or generational boundaries

Whether we are part of a couple or not is one of the most significant factors in whether

we feel lonely. From relationship guidance to dating services, there is already a huge volume of private sector activity aimed at helping people to successfully form or maintain **couple relationships**. Again, the scope for innovations is primarily to extend **reach and/or inclusiveness**:

- Developing lower-cost solutions for 'high touch' services such as relationship counselling or self- management training (e.g. digital or social solutions)

- Developing new routes for people to engage with these services (e.g. workplace provision)

- Making existing commercial services such as dating apps or night clubs more age-positive, safe and welcoming

Once people have become lonely or isolated, less is known about how to help them re-establish meaningful social connections. However, there is scope for innovation to support existing statutory/voluntary services that are seeking to **tackle loneliness**:

- **Identification and engagement** – support for services to identify lonely or isolated people and target interventions better (e.g. use of data to flag key risk markers, decision support tools and so on)

- **Systems innovation** – e.g. improvements in co-ordination or referral across services, recognising that lonely or isolated people are also likely to face a range of other health and social problems

There is an emerging 'family' of loneliness interventions (e.g. community connectors/navigators, social prescribing, village agents) where a facilitator engages with disconnected people, understands their personal interests and barriers, and links them to targeted support and personally relevant activities or social groups, especially informal, peer-led or reciprocal ones. The Challenge could seek to stimulate innovations to **scale asset and community-based approaches**:

- **Plug-ins** to improve efficiency/reach of existing services (e.g. signposting, referral, coordination, matching, low-cost marketing for groups/activities)

- Solutions that encourage people to turn up and **sustain new activities** (e.g. SMS prompts, route maps, peer accompaniment/buddying)

- Service solutions that enable **peer-to-peer delivery** and ongoing support

- **New business models** to both sustain the facilitator/connector function and to direct resources to groups/activities experiencing additional demand as a result of social

prescribing, for example

Finally, the Challenge could seek to stimulate innovations that can improve **access to mental health support** for people experiencing or at risk of loneliness and isolation:

- New **delivery/business models** that enable more people to access cognitive behavioural therapy, resilience/self-management support, and other evidence-based interventions earlier (e.g. digital, social or workplace provision; different funding models)

- **Systems innovation** – e.g. earlier referral; access to support at periods of transition; better support for older people, carers and people with physical health conditions with psychological therapies; support to develop and maintain positive mental habits over the long term

Innovation partners

Innovation partners for this theme could include:

- The hospitality, leisure, entertainment and cultural sectors

- People who are already lonely or isolated,

- Social care, physical and mental health stakeholders across the statutory, voluntary and community sectors

- Voluntary and community organisations

- The NHS, in particular social prescribing and new community link workers

- The investment community to scope new business models for services

- Academic psychologists and sociologists/gerontologists

- Urban planners, designers and architects

- Major regeneration and development corporations such as new towns

Theme 7: Creating healthy and active places

Aim: To develop places that encourage people in later life to sustain physical activity

Rationale

The evidence suggests that **environmental factors**, such as walkable streets and the availability of local green space, have a significant effect on levels of physical activity in older adults (McNeill et al, 2006). Research has suggested that individual behaviour change interventions tend to be most effective with people with higher incomes and educational attainment (White et. al, 2009). By contrast, changes in the built environment have the potential to influence people across the socioeconomic spectrum – stopping the escalators means **everyone** has to walk, for example. Furthermore, environmental changes do not rely on repeated individual choices and willpower, and may therefore be more likely to lead to sustained changes in activity over the long term.

Focus areas and specific opportunities

Under this theme, the Challenge could seek to stimulate the development of places that encourage physical activity, for example:

- **Walkable streets** (e.g. level kerbs, ramps, seats, pedestrian links to amenities, safe traffic crossings, lighting and safety)

- **Walkable neighbourhoods** where housing is connected with amenities and green spaces through accessible and walkable routes

- **Accessible green and blue space**

- **All weather places** where people can continue to get out and about in cold/wet weather

The value of these factors is widely understood. The key barrier to adoption is cost – both of construction and maintenance. Innovations in this area could therefore focus on:

- **Low cost designs** for walkable streets and neighbourhoods or local green and blue spaces

- **Innovative financing models** for construction and maintenance of active environments

- **Frugal models** for increasing the walkability and accessibility of existing streets and green space

As well as the built environment itself, there is scope to develop innovative models of

transport and services to connect people to active places, for example:

- **Accessible transport solutions**

- **Active travel** – building walking or cycling into commuting and leisure travel infrastructure

- **Innovations in accessibility** – e.g. garden-sharing to increase access to green space, walking buses to support people with mobility impairments

Innovation partners

Could include:

- People in later life

- Planners, landscape and urban designers, architects

- Local authorities

- Developers and the construction industry

- The financial services sector, the health service, local government and housing providers

- Transport providers and authorities

- The voluntary and community sectors

References

Beard, John & Officer, Alana & Araujo de Carvalho, Islene & Sadana, Ritu & Pot, Anne Margriet & Michel, jean-pierre & lloyd-sherlock, Peter & E Epping-Jordan, JoAnne & Peeters, Geeske & Retno Mahanani, Wahyu & Jotheeswaran, AT & Chatterji, Somnath. (2015). The World report on ageing and health: A policy framework for healthy ageing. Lancet (London, England)

Biswas, A, Smith, PM, Gignac, MAM (2018), Naturally occurring workplace facilities to increase the leisure time physical activity of workers: A propensity-score weighted population study, Preventive Medicine Reports, vol. 10, pp. 263-270.

Boardman B, and Darby S et al, (2005), Chapter 5: Building fabric and housing stock, in '40% house', Environmental Change Institute, University of Oxford: UK. Available at: https://www.eci.ox.ac.uk/research/energy/archive-40house.html

Carers UK, (2017), The world shrinks: Carer loneliness. Report for Jo Cox Loneliness Commission. Available at: https://www.carersuk.org/images/News__campaigns/The_world_Shrinks_Final.pdf

Centre for Ageing Better (2018a), A silver lining for the UK economy? The intergenerational case for supporting longer working lives. Available from: https://www.ageing- better.org.uk/publications/silver-lining-uk-economy

Centre for Ageing Better (2018b), Health warning for employers: Supporting older workers with health conditions. Available from: https://www.ageing-better.org.uk/publications/health-warning- employers

Centre for Economics and Business Research (2015), The wealth of the over 50s, SAGA. Available from: https://www.cebr.com/wp-content/uploads/2015/01/Wealth-report-FINAL.pdf

Charlesworth, A and Johnson, P (2018), Securing the future: funding health and social care to the 2030s, Institute for Fiscal Studies and Health Foundation. Available from: https://www.ifs.org.uk/uploads/R143.pdf

Department of Digital, Culture, Media and Sport, (2019), Community Life Survey: Focus on Loneliness, 2017/18 based. Available at: https://www.gov.uk/government/statistics/community-life-survey-focus-on-loneliness

Department for Work and Pensions, (2017), 'Fuller Working Lives: Evidence Base 2017'. Available at: https://www.gov.uk/government/publications/fuller-working-lives-evidence-base-2017

Eurofound (2012), Sustainable work and the ageing workforce, Publications Office of the European Union, Luxembourg.

Garrett, H and Burris, S (2015), Homes and ageing in England, Building Research Establishment. Available from: https://www.bre.co.uk/filelibrary/Briefing%20papers/86749-BRE_briefing-paper- PHE-England-A4-v3.pdf

Hamer, M, Lavoie, KL, Bacon, SL (2014), 'Taking up physical activity in later life and healthy ageing: the English longitudinal study of ageing', British Journal of Sports Medicine, vol. 48, pp. 239-243.

Lean, MEJ, Leslie, W, Barnes, AC, Brosnahan, N et al (2018), 'Primary care-led weight management for remission of type 2 diabetes (DiRECT): an open-label, cluster-randomised trial', The Lancet, vol. 391, no. 10120, pp. 541–551.

Lee, IM, Shiroma, EJ, Lobelo, F, Puska, P, Blair, SN, Katzmarzyk, PT (2012) 'Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy', The Lancet, vol. 380, no. 9838, pp. 219–229.

Lübs, L, Peplies, J, Drell, C, Bammann, K (2018) 'Cross-sectional and longitudinal factors influencing physical activity of 65 to 75-year-olds: a pan European cohort study based on the survey of health, ageing and retirement in Europe (SHARE)', BMC Geriatrics, vol. 18 no. 94.

Leigh-Hunt, N, Bagguley, D, Bask, K, Turner, V, Turnbull, S, Valtorta, N, Caan, W (2017), An overview of systematic reviews on the public health consequences of social isolation and loneliness, Public Health, vol. 152, pp. 157-171.

Marvell, R & Cox, A (2017), Fulfilling work: What do older workers value about work and why?, Institute for Employment Studies and Centre for Ageing Better. Available from: https://www.ageing- better.org.uk/publications/fulfilling-work-what-do-older-workers-value-about-work-and-why

McNeill, LH, Kreuter, MW, Subramanian, SV (2006), 'Social environment and physical activity: a review of concepts and evidence', Journal of Social Sciences & Medicine, vol. 63, pp. 1011–1022.

NHS Digital, (2019), Dementia diagnosis rate and prescription of antipsychotic medication to people with dementia, January 2019. Data available at: https://digital.nhs.uk/data-and-information/publications/statistical/recorded-dementia-diagnoses/january-2019

NHS Digital, (2017), Health Survey for England: 2016.

NICE, (2019), Physical activity: encouraging activity in the general population, NICE quality standard: Draft for consultation. Available at: https://www.nice.org.uk/guidance/indevelopment/gid-qs10073

Office of National Statistics, (2018), Trends in Self-Employment in the UK. 2007-2016 data. Available at: https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles/trendsinselfemploymentintheuk/2018-02-07

Office for National Statistics (2017), Health state life expectancy at birth and at age 65 by local areas, UK. Available from: https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpect ancies/datasets/healthstatelifeexpectancyatbirthandatage65bylocalareasuk

Rodgers, SE, Bailey, R, Johnson, R, et al (2018), 'Emergency hospital admissions associated with a non-randomised housing intervention meeting national housing quality standards: a longitudinal data linkage study', Journal of Epidemiology and Community Health, published online 20 June 2018.

Skelton, D and Mavroeidi, A (2018), 'How do muscle and bone strengthening and balance activities (MBSBA) vary across the life course, and are there particular ages where MBSBA are most important?', Journal of Frailty, Sarcopenia & Falls, vol. 3, no. 2, pp. 74-84.

Weisenbach, S, Boore, L and Kales (2012), Depression and Cognitive Impairment in Older Adults, Current Psychiatry Reports, vol. 14, no. 4, pp. 280-288.

White M, Adams J, Heywood P. 'How and why do interventions that increase health overall widen inequalities within populations?' In Babones S (Ed.). Health, inequality and society. Bristol: Policy Press (2009).

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