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Challenges and Opportunities of an Ageing Population

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ABSTRACT

Across the world, people are living longer than ever before. Combined with declining birth rates worldwide, many countries face a dwindling working-age population and a sharply increasing older population. On a societal level, this dynamic exacerbates existing strains on state systems of pensions, social care, and healthcare. Advances in medicine that promote longevity do not always ensure quality of life – increasingly there is a stark differentiation between 'more years' and 'more healthy years.' The public policy goal identified is to find societally sustainable ways to ensure a country's population can age in health, comfort, and financial security.

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TIM BALIN, HALEY RICE

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EXECUTIVE SUMMARY

Outline

The following paper begins with an overview of ageing trends across the world and in the United Kingdom (UK) in particular, before moving on to an assessment of some of the main challenges associated with ageing populations. Part I covers financial health and wellbeing, Part II covers social care and social isolation, and Part III covers healthcare and end of life decisions. Each section assesses the challenges, reviews possible interventions, and makes recommendations based on this review.

Context

Across the globe, falling fertility rates and increasing longevity are leading to an accelerating increase in ageing populations in relation to dwindling numbers of the working-age cohort. These population trends are particularly pronounced in high-income countries, including the UK. The resultant strain on the welfare state and public services – pension, social care and healthcare systems – requires a substantial rethink of how to do more with less. Context is important: policy responses must take account of wider societal shifts happening concurrently, including changing family structures and population shifts from rural to urban settings.

Summary of Recommendations by Section

Part I: Financial Health

1. **Extending working lives:** Policy interventions, such as tax incentives and 'unretirement' support programs, should be explored as an avenue to facilitate the participation of non-vulnerable semi-elderly populations in returning to part-time or flexible work. Such programmes may help both to increase productivity and offset potential care burdens, and also help with loneliness abatement in ageing populations.
2. **Mitigating pension liabilities:** The UK Government should investigate the suitability of financial instruments such as longevity swaps as a mechanism to spread financial system risk and future ongoing pension liabilities. Other financial products which increase liquidity and flexibility for ageing populations, such as reverse mortgages, should be carefully examined as an option for ageing populations. This examination should consider the appropriate regulatory, financial and consumer support required to support ageing populations to make informed and prudent financial decisions for the long term.

3. **Combatting financial scams and abuse:** Building on the successes of the Banking Protocol of 2016, the UK Government should encourage the banking sector to offer additional 'age-friendly' opt-in account access and security features which reduce the possibility of scamming, and consider instituting a blanket ban on cold-calling.

Part II: Social Care and Social Isolation

1. **Intergenerational living and co-housing:** Local authorities and councils should carefully consider a range of policy interventions to further the adoption of living arrangements that support ageing in place and mitigate against loneliness, including options such as 'granny flats,' home-sharing, and co-housing. The UK Government could support this through consideration of policies such as tax concessions for co-locating 'granny flats', land sales tax concessions and land release options for co-housing, and appropriate consumer protection and support for home-sharing.
2. **Mitigating the scourge of loneliness:** In line with the UK Government's 'loneliness strategy', the UK Government should consider more targeted policy interventions to embed proactive conversations about growing old and the challenges and opportunities it presents. It is suggested that policy includes mandating GPs, who better understand their patients' histories and expectations, to have timely and targeted 'growing old' discussions as needed, including making referrals to appropriate social care services. Such interventions should be considered alongside more traditional local government action such as supporting local events like fairs and community 'mixers.'
3. **Harnessing technology:** Technology has the potential to support many aspects of eldercare, social interaction and ageing in place. The UK Government should consider funding competitive grants for frugal innovation to develop technological solutions such as apps and telemedicine, caregiver support and monitoring mechanisms, and better matching of elders with caregivers or volunteers (whether for one-off needs or ongoing relationships).

Part III: Healthcare

1. **Coordination between social care and healthcare:** Coordination should be increased to bridge the divide between social care and healthcare via the use of disability care and coordination mechanisms (DCCOs). In the UK, the National Health Service (NHS) should work to develop and strengthen its existing mechanisms for Integrated Care Systems, such as mechanisms that support positive reinforcement and reward the incubation of effective, locally-oriented interventions.
2. **Shifting to patient-centred care:** Healthcare providers should explicitly discuss end-of-life options with patients, using decision aids to ensure the patient is aware of the harms and benefits of treatment options, and can choose interventions aligned with their values and desired health outcomes; this approach promotes the dignity and agency of patients, and reduces wasteful healthcare spending.

GLOSSARY OF TERMS

ADRT – Advance Decision to Refuse Treatment

CCO – Care Coordination Organisation

CMMI – U.S. Centers for Medicare & Medicaid Innovation

CMS – U.S. Centers for Medicare and Medicaid Services

DCCO – Disability Care and Coordination Organisations

DFLE – Disability-Free Life Expectancy

FCA – Financial Conduct Authority

HM – Her Majesty's

HLE – Healthy Life Expectancy

ICS – Integrated Care System

LE – Life Expectancy

LSE – London School of Economics

OECD – Organisation for Economic Co-operation and Development

ONS – Office of National Statistics

NHS – UK National Health Service

PACE – U.S. Program of All-Inclusive Care for the Elderly

STP – Sustainability and Transformation Partnership

WHO – World Health Organization

UN – United Nations

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INTRODUCTION

Two demographic trends are clear: both the world and the UK have an increasingly ageing population in relation to younger demographics, and gains in life expectancy have not translated into longer healthy years for current older populations. One of the more important implications of this dynamic is that there is a dwindling working-age population available to 'pay taxes, work, and provide care for those who need it'.[1] As such, 'growing old in a society which is itself growing old is fundamentally different to growing old in a population where most people are young'.[2]

In the UK, this combination of demographic trends is placing a clear strain on government pension, social care, and healthcare systems; these issues (and possible solutions) will be reviewed individually over Parts I, II, and III of this paper. The following introductory sections explore these two demographic trends in more detail, and finish with a review of some of the challenges inherent in creating policy to respond to these demographic trends.

Population Ageing and Dependency Ratios

Global demographic analyses show that population ageing around the world has accelerated dramatically.[3] Projections show this trend is set to continue, as the population of people aged 60 and above is growing faster in comparison with younger age groups.[4] The UK, however, has experienced marked slowdowns in improvements in life expectancy at birth and at age 65 since 2011 for both females and males; this is larger than similar slowdowns observed across Europe, North America, and Australia.[5] Possible reasons for this trend could include post-2008 austerity measures taken by the government on health, social care and associated public spending.[6]

In 2017, Europe's population aged 60 and above was estimated at 25%, with the worldwide rate closer to 13%. However, with worldwide increases of 3% per year other regions will soon match

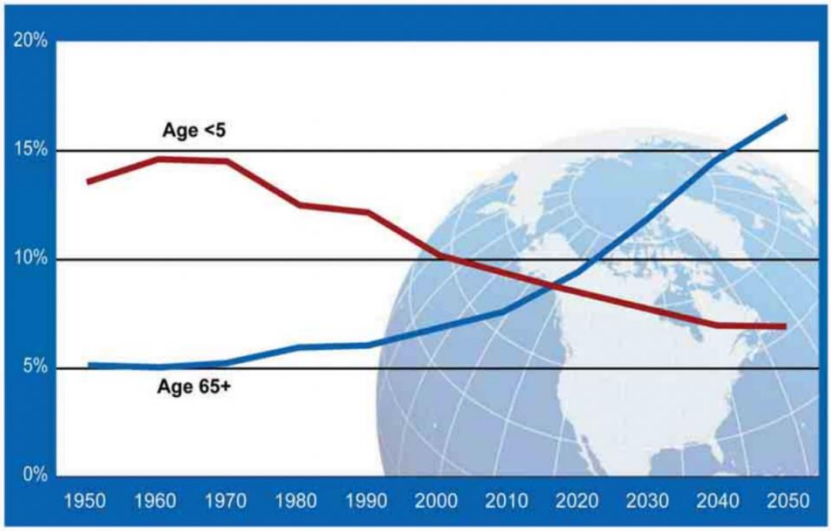
[1]Government Office for Science, 'Future of an Ageing Population' (2016) <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/816458/future-of-an-ageing-population.pdf>.
[2] ibid.
[3] World Health Organization, 'Ageing and Health' (2018) <https://www.who.int/news-room/fact-sheets/detail/ageing-and-health>.
[4] United Nations Department of Economic and Social Affairs (Population Division), 'World Population Prospects: The 2017 Revision' (2017) <https://www.un.org/development/desa/publications/world-population-prospects-the-2017-revision.html>.
[5] ONS, 'Changing Trends in Mortality: An International Comparison - Office for National Statistics' (2018).
[6] 'Stalling Life Expectancy in the UK' (*The King's Fund*, September 2018).

Europe, with all regions of the world outside Africa expected to have nearly a quarter of their population aged 60 or above by year 2050, by which time Europe will clock in at 35%.[7]

Importantly, by 2050 the number of people aged 60 or above is set to equal the number of people aged 15 and below.[8] This is following another 'demographic milestone' – the World Health Organization (WHO) notes that 'since the dawn of human history, young children have outnumbered their elders,' but now it is estimated that those aged 65 and above outnumber those aged 5 and below (Fig. 1).[9] In the UK, the Office of National Statistics (ONS) estimates that by 2030, 21.8% of the people (about one in five people) in the UK will of the age 65 and above (of which 6.8% will be 75+ and 3.2% will be 85+).[10]

Fig. 1

Young Children and Older People as a Percentage of Global Population: 1950-2050



Source: United Nations. *World Population Prospects: The 2010 Revision.* Available at: http://esa.un.org/unpd/wpp.

The World Health Organisation (WHO) notes that while the shift in the distribution national populations towards older ages begin in high-income countries, it is now low- and middle-income countries seeing the largest shifts, and they are seeing these shifts much faster: for example,

[7] United Nations Department of Economic and Social Affairs (Population Division).
[8] ibid.
[9] World Health Organization, National Institute for Aging, National Institute for Health, & U.S. Department of Health and Human Services. (2011). <https://www.who.int/ageing/publications/global_health.pdf>
[10] Age UK, 'Later Life in the United Kingdom 2019' (2019) <https://www.ageuk.org.uk/globalassets/age-uk/documents/reports-and-publications/later_life_uk_factsheet.pdf>.

'France had almost 150 years to adapt to a change from 10% to 20% in the proportion of the population that was older than 60 years. However, places such as Brazil, China and India will have slightly more than 20 years to make the same adaptation'.[11]

One useful indicator for thinking about ageing trends is the old age dependency ratio. This ratio reflects people over the age of 65 divided by those aged 20 to 64. Per the UK ONS, in 1997 one in every six people were aged 65 years and over, increasing to one in every five people in 2017 and is projected to reach around one in every four people by 2037.[12] The UK's old age dependency ratio as tracked by the ONS also indicates a declining working-age population to support those aged 65 and above.[13]

The most notable underlying drivers of demographic trends of a population are fertility, mortality, and migration. While the global trends toward falling fertility and increasing longevity are major factors behind the trend toward populating ageing around the world, migration plays less of a role than many assume. While international migration can exacerbate population decline and population ageing for origin countries, the Program on the Global Demography of Aging at Harvard University has found that 'overall evidence suggests that migration has not been a major driver of population ageing, nor it is a sufficient "cure" for revitalising ageing societies with low fertility rates. Although international migration has generally contributed to reducing population ageing in host countries, the effect is small even when migration flows are large, and the estimated net migration flows needed to sustain current support ratios are unrealistically large'.[14]

That being said, migration within countries – particularly rural to urban areas – can have a significant impact on population ageing demographics within a region.[15] In the UK, rural areas

[11]World Health Organization.
[12] ONS, 'Health State Life Expectancies, UK: 2015 to 2017' (2018) <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/bulletins/healthstatelifeexpectanciesuk/2015to2017/pdf>.
[13] ONS, 'Overview of the UK Population: July 2017' (2017) <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/articles/overviewoftheukpopulation/july2017#the-uks-population-is-getting-older-but-its-not-the-same-in-all-areas-of-the-uk>.
[14]David Bloom and Dara Luca, 'Working Paper Series The Global Demography of Aging: Facts, Explanations, Future' (2016) <http://www.hsph.harvard.edu/pgda/working/>.
[15] ibid.

have a higher proportion of older people than urban areas.[16] From a policymaker perspective, there are already distinctive challenges associated in meeting the needs of older populations in a rural vs. an urban context. Out-migration from rural to urban places, however, complicates the picture by disrupting usual networks of family 'informal' caregivers, as younger generations move to cities for work, and may or may not return to their rural areas of origin.

Longevity vs. Healthy Life Expectancy

Now, for the first time ever, the majority of the world's population can expect to live to age sixty and beyond.[17] However, more years of life do not necessarily equate to more healthy years of life. What can be done with extra years of life, and how enjoyable they are, depends significantly on health. Likewise, on a societal level, the extent to which these extra years of life yield net benefits or costs to society depends largely on health.

The huge gains in life expectancy seen over the past decades come largely from a shift in the types of diseases driving mortality rates, away from the infectious and parasitic diseases of the 20th century that drove high infant and child mortality, and toward diseases more associated with lifestyle and age, such as heart disease, cancer, and diabetes.[18] As these diseases are associated with lifestyle, diet, and age, the more developed countries become and the greater the proportion of their ageing population, the higher the societal and economic costs imposed by these disease burdens.[19]

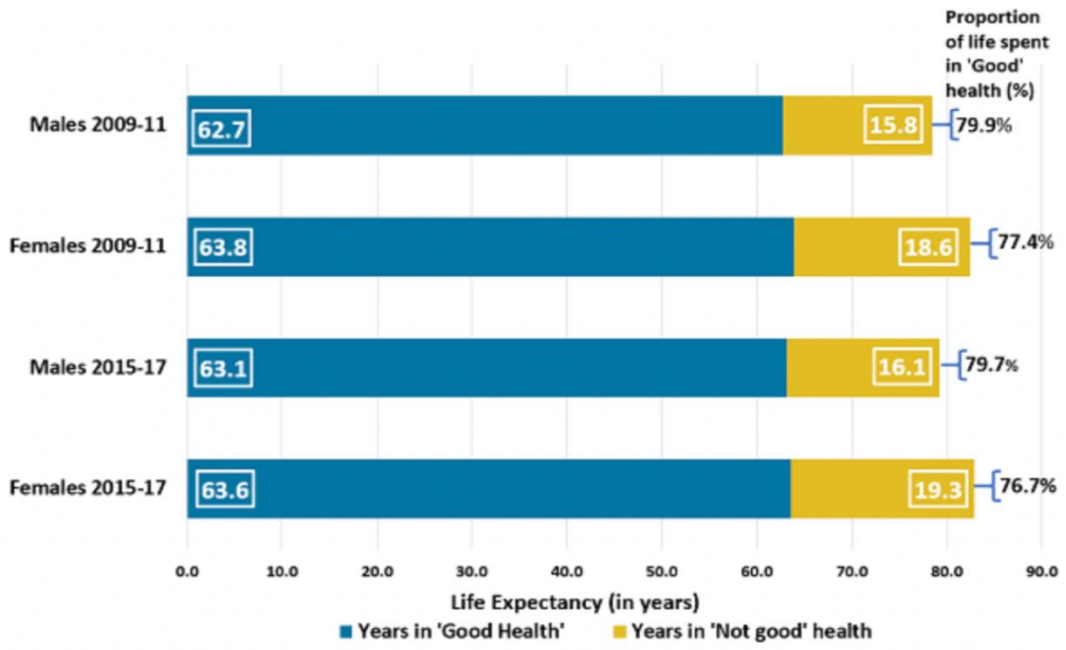
Though people worldwide are living longer today, they may not spend their older years in much better health than their parents' generation: while severe disability in old age has fallen in high-income countries over the past three decades, there has been no substantial change in 'mild to moderate disability' over the same period.[20]

Mirroring global demographic trends, life expectancy increases in the UK have not led to increases in healthy years. To better quantify these differences between longevity and healthy years, the UK's ONS tracks life expectancy (LE), healthy life expectancy (HLE), and disability-

[16] GOV.UK, 'Official Statistics: Rural Population 2014/15' (*GOV.UK*) <https://www.gov.uk/government/publications/rural-population-and-migration/rural-population-201415>.
[17] World Health Organization, 'Ageing and health' (2018).
[18] World Health Organization, National Institute for Aging, National Institute for Health, & U.S. Department of Health and Human Services. (2011).
[19] Ibid.
[20] ibid.

free life expectancy (DFLE) across years by gender and region; ONS findings show that healthy life expectancy is failing to keep pace with life expectancy for both males and females.[21] Fig. 2 below shows proportion of life spent healthy, by gender, for two different age cohorts in the UK:

Fig. 2



Source: UK Office for National Statistics, *Annual Population Survey*
Available at: https://www.ons.gov.uk/

In its analysis, the ONS points out that 'for each sex, the years lived in 'Not Good' health has increased both in relative and in absolute terms, because life expectancy has risen more quickly than healthy life expectancy'.[22]

Challenges in Responding to Population Ageing

The WHO identifies a number of key challenges to crafting policy for ageing populations, including the following:[23]

1. **Diversity in older age:** There is huge variety in the rate of decline in physical and mental capacity among older populations. The WHO points out that some 80-year olds may have the physical and mental capacities of a much younger person, while others may need help with basic daily activities by age 60 or 70.

[21] ONS, 'Health State Life Expectancies, UK: 2015 to 2017'.
[22] ibid.
[23] WHO, *World Report on Ageing and Health* (WHO 2015) <https://apps.who.int/iris/bitstream/handle/10665/186463/9789240694811_eng.pdf>.

2. **Health iniquities:** Genetics aside, many health outcomes in older age are the result of cumulative advantages or disadvantages that have impacted a person throughout their life. While choice plays a role, 'much is driven by influences that are often beyond an individual's control or outside the options available to them'.[24]
3. **Outdated stereotypes:** Misconceptions, assumptions, and attitudes toward older persons can have an outsize influence on public policymaking, affecting the way policymakers frame the issue, their creativity in addressing it, and the ability to spot opportunities arising from shifting demographic trends. Stereotypes and assumptions can prove limiting, to the extent that they paint a large and varied population with a broad brush.
4. **A changing world:** Many aspects of the way the world is changing – including rapid changes in technology, largescale shifts from rural to urban living, and shifts in family structure and traditional living arrangements – mean that solutions to support ageing populations now look different than they might have even a decade ago. Public policymaking – both in framing the problem and seeking solutions – should account for these trends, and must be made with an eye to the future.

[24] ibid.

I. FINANCIAL HEALTH

I.I. AGEING AND FINANCES

i. Problem

As the population ages, it produces a concomitant decrease in workforce participation, with attendant consequences both for the financial health of older persons as a population, and the economy as a whole. This effect is magnified by increased pressure on the pension system due to increased longevity risk coupled with longer average lifespans. However, it is simplistic to assert that longer lives, and a greater proportion of older people in a population, are uncomplicated inhibitors for a society's economic and social wellbeing. Rather, they present opportunities for older people to redefine their relationships with work and the economy, and call for a new framing of ageing and human capital.

Relatedly, as older people continue to participate in the economy at greater rates than they did in previous generations, the need to protect this population against financial crime presents a complex and growing challenge. Pension scams, which target retirees and older victims in particular, take a particularly devastating toll: there was an estimated £200 million in pension scam losses in the UK in 2018 alone, with victims losing an average of £91,000 in savings.[25]

The following sections explore policy options for creating opportunities to keep older persons engaged in the work force after traditional retirement, and policy options to help safeguard older individuals from financial fraud and scams.

ii. Possible Interventions

Older Persons and Extended Work

Across the Western world, there is a growing trend towards the phenomenon of 'unretirement,' defined as 'reporting being retired and subsequently recommencing paid employment, or beginning full-time work following partial retirement'.[26] Specifically, in the UK, a quarter of retirees return to work – half of them within five years of retirement.[27] The share of 50 to 64-

[25] Josephine Cumbo, 'What Price Pension Freedoms?' *Financial Times* (2019) <https://www.ft.com/content/b5151486-3395-11e9-bd3a-8b2a211d90d5>; Kate Hughes, 'Pension Fraud: Adverts Aren't Enough to Tackle the Problem' *The Independent* (18 August 2018) <https://www.independent.co.uk/money/spend-save/pension-fraud-tv-adverts-cold-callers-retirement-elderly-a8493031.html>.
[26] Emma Jacobs, 'The "Unretired": Coming Back to Work in Droves' (*Financial Times*, 2017).
[27] ibid.

year-olds in work has increased to around 71% from 60% since 2000, while the number of people working beyond 65 has doubled to about 10%.[28]

Countries like Germany are increasingly looking to their ageing workforce 'to grow the economy, and to keep innovating'.[29] German engineering group Bilfinger introduced a unique form of internal knowledge transfer wherein older workers create educational videos to preserve what they know and transfer their skills to others.[30] Companies like Bosch are bringing back retired workers as consultants; a programme that began in 1999 with 30 senior experts has grown to 1,700 retirees consulting twice a week.[31]

While extending the working lives of older persons carries with it the dual benefits of increasing economic output[32] and helping to decrease health problems associated with loneliness or a 'loss of purpose' post-retirement, a return to work must be managed carefully to avoid creating a situation in which older persons are obliged to either return to work or face financial duress.[33] In addition to internal knowledge transfer schemes such as the German example cited above, labour policies aimed at including older workers must take into account shifting competencies across workers' lifespans, and potential physical limitations among ageing workers who may otherwise be willing and able to continue work.[34] However, it is important to note that trends in ageing are projected to differ across cohorts. Immediate solutions which address the needs of 'baby boomers' – those born between the years of 1946 and 1964 – may not be appropriate for following generations, for whom financial profiles, health, life expectancy and technological understanding will differ.[35] For this reason, policies to address the wellbeing of ageing populations should be dynamic, taking into account evolving needs and competencies of the population cohort they are intended to serve.

[28] ibid.
[29] Patrick McGee, 'Germany Invests to Prolong Employees' Working Lives' *Financial Times* (2019).
[30] ibid.
[31] ibid.
[32] OECD, 'Flexible Retirement in OECD Countries', *Pensions at a Glance 2017: OECD and G20 Indicators* (OECD Publishing 2017) <https://www.oecd-ilibrary.org/docserver/pension_glance-2017-en.pdf?expires=1564261265&id=id&accname=guest&checksum=67CBBD0CBC01954186D6BC1EDF05CD1C>.
[33] Martha Ozawa, 'The Economic Well-Being of Elderly People and Children in a Changing Society' (1999) 44 Social Work 9 <https://academic.oup.com/sw/article-lookup/doi/10.1093/sw/44.1.9>.
[34] OECD, 'Flexible Retirement in OECD Countries' (OECD, 2017a).
[35] ibid.

For the current cohort of older persons, programmes aimed at helping older workers become more adept at using modern technology, or to develop sets of skills outside of their original sectors, could allow for a greater share of workers to integrate into so-called 'elderly-friendly industries'. Such a designation, if achieved, would need to include carefully managed safety and welfare provisions for its participants, which could be paired with a tax break or subsidy for hiring older workers. Other possible adaptations to ease this transition and encourage the hiring of older workers include ergonomically designed workplaces[36] planned especially with the older worker in mind, or the increased use of work-from-home and flexible working arrangements (flexi-time).[37] A renewed emphasis on adult education or lifetime learning opportunities would also be beneficial – though these are known to benefit individuals, employers, and society, participation rates in adult education in the UK have nevertheless declined in recent years.[38] Updating labour laws to understand and address ageism in the workplace will be key to the success of any such scheme, as will a commitment to ensure that policies are made compatible with pension schemes such that older people who choose to take part-time work in retirement are not disadvantaged with regard to their pension rights.

On the other hand, not all individuals will be able to work longer, even if they live longer.[39] Often, people involved in labour-intensive jobs may be unable to continue in employment. In the U.S. for example, 'health problems are increasingly concentrated among less educated workers and they're falling further and further behind economically'.[40]

This reality underscores the need for policies around longer working lives to be formulated with sensitivity and flexibility in mind, and also calls for a new examination of how we define 'older persons'. In the UK, as in most countries, those over the age of 65 fit this definition. However, the average healthy 65-year-old can expect to live for 22.8 years after retirement, approximately one-third of their adult lives. In keeping with the trend of longer ageing – and the incredibly diverse ageing process, wherein some over the age of 64 are as fit and sharp as their younger peers – a definitional shift delineating 'older' adults (65 - 75) and 'elderly' adults (75 - 80+) could

[36] McGee (2019).
[37] Jacobs (2017).
[38] Government Office for Science (2016).
[39] Paula Span, 'Social Security Runs Short of Money, and Ideas Fly on How to Repair It' *The New York Times* (New York City, 26 November 2018) <https://www.nytimes.com/2018/11/26/health/social-security.html>.
[40] ibid.

allow for more flexible, responsive policymaking around retirement and dependency, as opposed to viewing this group as a monolith.[41] Similarly, understanding demographic trends and incorporating them as today's adults plan their working lives may help to facilitate a smoother transition and lessen care burdens in coming years.

Correspondingly to these re-classifications, it is recommended that additional 'unretirement' support programmes – job training, knowledge transfer, and flexi-time provisions – be integrated into economic policy, with the provision that such options are underpinned with holistic labour reform to address ageism in the workforce, potentially combined with tax incentives to encourage hiring of healthy and willing older people, to encourage employers to tap into an underrepresented labour pool and increase labour supply, a policy which has proven successful in other European countries.[42]

Pensions and Financial Models

The IMF estimates that an additional year in the average lifespan increases the world's pension bill by around $1 trillion.[43] In fact, private defined-benefit schemes (those funded exclusively by employer contributions) already face worldwide liabilities worth $23 trillion.[44]

As such, it is clear that the phenomenon of 'longevity risk', or the 'chance that people will live longer than expected', necessitates a remodelling of pensions.[45] In Britain, 40% of previous earnings are replaced by public provision, with private schemes complementing this.[46] In a telling sign, private pension schemes have begun to shift from 'defined benefit' schemes (those which produce a specific benefit outcome) to those with 'defined contribution' (those which depend on worker contributions), essentially shifting risk to the workers.[47]

[41] Yasuyoshi Ouchi and others, 'Redefining the Elderly as Aged 75 Years and Older: Proposal from the Joint Committee of Japan Gerontological Society and the Japan Geriatrics Society' (2017) 17 Geriatrics & Gerontology International 1045 <http://www.ncbi.nlm.nih.gov/pubmed/28670849> accessed 27 July 2019.
[42] OECD, 'OECD Thematic Follow-Up Review of Policies To Improve Labour Market Prospects for Older Workers' (2012) <https://www.oecd.org/els/emp/Older Workers Sweden-MOD.pdf>.
[43] The Economist, 'My Money or Your Life' *The Economist* (23 August 2014) <https://www.economist.com/finance-and-economics/2014/08/23/my-money-or-your-life>.
[44] ibid.
[45] ibid.
[46] The Economist, 'Financing Longevity' *The Economist* (8 July 2017) <https://www.economist.com/special-report/2017/07/08/financing-longevity>.
[47] ibid.

One possible solution is 'longevity swaps, which pension schemes can use to insure against the risk that their members will live longer than expected'.[48] This 'swap' basically involves passing on the firm's liabilities to a new investor. For instance, former telecoms monopoly BT transferred over 25% of its liabilities due to longevity risk on to an American insurer.[49] BT will pay the insurer a monthly sum, while the insurer in turn takes on the extra pension costs for those who live longer than expected.[50]

These longevity bonds need to be tested over long periods of time, which makes it difficult to bring investors on board. Currently, only a small portion of the private defined-benefit liabilities have been covered.[51] Furthermore, new financial models specifically need to address the problem of 'undersaving during working life and oversaving during retirement' to prevent overuse of public funds and future underconsumption.[52]

Some suggest that older home-owners could give up part of their house's equity for a type of monetary arrangement, such as a reverse mortgage or by letting out their homes as homestays or Airbnbs; while some might be wary of the former, the latter could prove to be good middle-ground[53] – at least, for a generational cohort whose members are more likely to be homeowners than their younger counterparts. Either way, financial entities need to realise that life-cycles are becoming more varied as people live longer.[54] While adaptable financial systems may continue to innovate and reform in any number of ways to adapt to the changing needs of an older population, they must also ensure that the most vulnerable older persons are not left to fend for themselves.

Finally, it has been proposed that the UK Government could consider changes to 'who is taxed and when'.[55] To raise sufficient funds to meet shortfalls in welfare systems like pensions, healthcare and social care, raising taxes on the general population would hit the working-age cohort hardest, which is already the most squeezed in terms of financial and caring

[48] The Economist, 'My Money or Your Life' (2014).
[49] ibid.
[50] ibid.
[51] ibid.
[52] The Economist, 'Financing Longevity' (2017b).
[53] ibid.
[54] ibid.
[55] Jesus College Intellectual Forum, 'Report: Rustat Conference on Ageing Well' (2017) <https://www.jesus.cam.ac.uk/articles/ageing-well-rustat-conference-report-and-infographic-released>.

responsibilities toward older and younger generations. However, cutting certain benefits and raising taxes by a corresponding amount would not affect the take home pay of the working-age cohort, but would essentially raise taxes on pensioners only, who already pay less in taxes on the same income than someone of the working-age cohort. Under such a scheme, 'money generated could be earmarked for specific service provision for older people'.[56]

Financial Crime and Special Vulnerabilities

Digitised money systems coupled with a generationally poor understanding of technology can increase the probability that older persons will be targeted for identity theft, undue influence, misuse of powers of attorney, forgery, or other forms of fraud.[57] In regard to the £197 million in scamming losses in 2018, the Financial Conduct Authority (FCA) reports that 'Fraudsters are now contacting people through emails, professional looking websites and social media channels, such as Facebook and Instagram,'[58] mediums in which older generations may be less well-placed to spot scams than their younger counterparts.

Crimes of this nature, while difficult to quantify and detect, are estimated to affect 1 – 5% of Britain's older persons each year.[59] Older people living alone (as over half of those aged 75 and above in the UK do) are particularly exposed, as they are more likely to be befriended by scammers.[60] A particularly large window for fraud was opened after rules governing how pensions can be taken out were relaxed in 2015, with the idea of giving pensioners more freedom in how and when to spend; this was immediately followed by a spike in scams targeting older persons,[61] pursued primarily by cold-calling (direct marketing calls).

While flexible retirement and increased working lifespans may help to reduce the scope for certain types of financial abuse through allowing some older people to reduce their dependency on family members, the wider problem of financial abuse, scamming and fraud will require specialised and integrated solutions of its own. Attempts to safeguard vulnerable adults through

[56] ibid.
[57] Gillian Dalley and others, 'Researching the Financial Abuse of Individuals Lacking Mental Capacity' (2017) 19 The Journal of Adult Protection 394 <http://www.emeraldinsight.com/doi/10.1108/JAP-05-2017-0022>.
[58] Financial Conduct Authority, 'FCA Warns Public of Investment Scams as over £197 Million Reported Losses in 2018' (2019) <https://www.fca.org.uk/news/press-releases/fca-warns-public-investment-scams-over-197-million-reported-losses-2018> accessed 12 March 2019.
[59] Gillian Crosby, Angela Clark and Ruth Hayes, 'The Financial Abuse of Older People' (Centre for Policy on Ageing 2007).
[60] The Economist, 'Not Losing It - The Elderly, Cognitive Decline and Banking' *The Economist* (11 February 2017) <https://www.economist.com/finance-and-economics/2017/02/11/the-elderly-cognitive-decline-and-banking>.
[61] Cumbo (2019).

legislation (the Care Act and the Mental Capacity Act) have been implemented, but further efforts should increase education among health and social care workers, financial institutions, and others who come into contact with older, at risk populations,[62] through both increased signposting and a mandated duty to report warning signs of fraud or financial abuse aimed at older adults.

In particular, banks are well-placed to play a front-line role in early detection of financial fraud and abuse. While some banks were initially slow to see fraud as anything other than a 'customer matter,' other banks have begun to take more proactive and 'age-friendly' approaches to looking out for their customers; in one such example, Barclays UK 'used data from old cases to pinpoint 20,000 high-risk customers, whom it monitors and advises.'[63] These efforts were bolstered by the Banking Protocol of 2016, 'a joint operation between banks, police and trading standards, [which] trains bank staff to spot the signs and intervene when they believe customers are about to withdraw cash to give to a fraudster' and wherein 'staff can then request an immediate police response to the branch to investigate the suspected fraud.'[64] Since its introduction in 2016, the Banking Protocol has 'prevented £48m of fraud and led to 408 arrests' – as the average age of bank customers targeted for fraud is 71, this is a major victory for safeguarding older persons.[65]

However, there are more that banks can, and should be encouraged, to do. This could include standardising additional opt-in account features, such as the possibility to give 'read-only' account permissions to a friend or relative (to monitor financial transactions without being allowed to instigate new financial transactions), or to delay any large or suspicious-looking transactions.[66]

The UK Government, for its part, has done well to ban pensions cold-calling, or direct to consumer marketing calls, as of January 2019,[67] but should extend the cold-calling ban beyond pensions, as older persons (and the rest of the population) lose millions to other forms of fraud

[62] Ozawa (1999).
[63] The Economist, 'Not Losing It - The Elderly, Cognitive Decline and Banking' (11 February 2017a)
[64] Nikou Asgari, 'Bank Branch Staff Prevent £38m of Fraud' *Financial Times* (6 February 2019) <https://www.ft.com/content/fe42ae1c-29fd-11e9-88a4-c32129756dd8> accessed 12 March 2019.
[65] ibid.
[66] The Economist, 'Not Losing It - The Elderly, Cognitive Decline and Banking' (2017a)
[67] GOV.UK, 'Pensions Cold-Calling Banned' (*GOV.UK*, 2019) <https://www.gov.uk/government/news/pensions-cold-calling-banned> accessed 12 March 2019.

(e.g. investment scams, 'romance' fraud, tax scams, or scams requesting money for a 'friend's' hospital bill, bail, etc.) to which older persons are also prone.[68]

iii. Recommendations

Older persons and Extended Work

With a growing dependency ratio and increases to life expectancy, there is an ever more pressing need to engage the UK's ageing population in work in smarter and more flexible ways. The examples of German companies Bosch and Bilfinger demonstrate that, under the right circumstances, many older people have the willingness, capability and capacity to add significant value to an organisation's business and to society more broadly. However, arguably, a major shift in cultural, societal and organisational norms and practices is needed to ensure older people are both suitably utilised and adequately protected in an era of increasing scarcity in human capital.

To support this shift from an economic standpoint, the UK Government should, in collaboration with members of the ageing population and employers, investigate mechanisms such as tax incentives for employers and employees and 'unretirement' support programmes such job training, knowledge transfer and flexi-time provisions. It is possible that the costs of such programmes and tax incentives could be prohibitive. However, a full cost analysis should be performed to understand whether and to what extent these costs would be offset by mitigating factors such as: reduced strain on the welfare and benefits system (pensions), mitigating the threats of social isolation and loss of purpose (more on this in the next section), and economic benefits deriving from greater utilisation of human capital, including knowledge transfer and efficiency gains. Such benefits are likely to pay significant and ongoing dividends, particularly in light of the demographic challenges the UK is set to face in years to come. As such, a careful analysis of costs and benefits for these types of tax incentives for employers is warranted.

Any such government targeting of incentives and programmes should include appropriate skills planning for in-demand industries and a minimisation of human capital friction, such as young entrants being unduly excluded. Additionally, any government policy or programme response should be coupled with a careful examination of existing labour law provisions, with adjustments

[68] Financial Conduct Authority (2019); Lindsay Cook, 'What More Can Banks and Their Customers Do to Fight Fraud?' *Financial Times* (5 March 2018) <https://www.ft.com/content/fc0bcc36-2068-11e8-8d6c-a1920d9e946f> accessed 12 March 2019.

as necessary to protect and accommodate an ageing workforce, including in the areas of reasonable workplace adjustments, sick leave provisions and flexible working arrangements.

Pensions and Financial Models

Growth in ageing populations produces corresponding structural shifts in the financial system, and particular strains on pension and other welfare spending. As the UK's older person population grows in both real numbers and as a proportion of its population, the UK Government can support the financial system to bridge the gap in the availability of financial instruments accessible to ageing populations to invest in and for pension funds, insurers and simple institutions to manage the underlying assets and associated portfolio risks.

Specifically, the UK Government should investigate the suitability of financial instruments such as longevity swaps, particularly for the existing stock of defined-benefit schemes including the for UK Civil Service, which is a large ongoing liability for the public purse. Secondly, the UK Government should investigate existing reverse mortgage schemes in the marketplace. Reverse mortgages may be a suitable option for some ageing individuals to access equity and enjoy their later years; however, such schemes require safeguards for both the consumer and the state. There needs to be adequate controls, regulation and financial support provided to minimise unmanageable mortgage fees and ensure individuals understand and fully consider the seriousness and impact of such financial decisions. Such safeguards would need to be designed to protect the state from future unnecessary pension liabilities, and safeguard individuals from predatory behaviour.

Financial Crime and Special Vulnerabilities

Building on the Banking Protocol of 2016, banks should continue to add 'age-friendly' opt-in possibilities for customers regarding account access and security notifications to reduce the possibility for scamming. The UK Government should expand the recent pension cold-calling ban to be a blanket ban on cold-calling.

II. SOCIAL CARE & SOCIAL ISOLATION

II.I. SOCIAL CARE

i. Problem

'Social care' for older people is support for and protection of the ageing population through a variety of measures that include home healthcare, nursing homes and assisted living services. Social care provides essential services to a large and vulnerable section of society. In an ideal world, jobs in the social care sector would be recompensed in a way that attracts and retains talent. However, jobs in social care are often underpaid or considered a 'dead-end,' 'last resort,' or too 'demanding'.[69] Consequently, the sector suffers from a high turnover rate – in 2016, over 900 adult social carers quit their job in England daily – which can result in inconsistent and sub-par care.[70] In particular, people receiving care at home have reported sub-par care, including memorable cases such as having to go weeks without a shower due to insufficient time with social care providers.[71]

In the UK, healthcare is the purview of the NHS whilst social care falls under the responsibility of local authorities. Each country in the United Kingdom has an independent social care system, and healthcare and social care have separate budgets. Social care is financed by the local municipal taxes and the central government funding. However, central government funds to provide social care fell by 21% between fiscal years 2010 and 2016 in line with nationwide 'austerity measures'.[72]

The Nuffield Trust – an independent healthcare-focused think-tank in the UK – warns that the UK's social care system is on the verge of crisis and requires urgent reform, with estimates projecting a social care budget shortfall of £2.5 billion by 2019/20, and potential staffing shortfall

[69] David Rhodes, 'Social Care System "beginning to Collapse" as 900 Carers Quit Every Day' *BBC* (11 April 2017) <https://www.bbc.co.uk/news/uk-england-39507859>; Anna Leach, 'Why It's Difficult to Attract Younger People into the Social Care Sector' *The Guardian* (20 December 2017) <https://www.theguardian.com/careers/2017/dec/20/why-its-difficult-to-attract-younger-people-into-the-social-care-sector>.
[70] Rhodes (2017).
[71] George Sandeman, 'Report Highlights Failings of Home Care Services in England' *The Guardian* (24 August 2017) <https://www.theguardian.com/society/2017/aug/24/report-highlights-failings-of-home-care-services-in-england>; Healthwatch, 'Home Care: What People Told Healthwatch about Their Experiences' (2017) <https://www.healthwatch.co.uk/sites/healthwatch.co.uk/files/20171002-_home_care_-_what_people_told_local_healthwatch.pdf>.
[72] Human Rights Watch | 350 Fifth Avenue, 34th Floor | New York and NY 10118-3299 USA | t 1.212.290.4700, 'Unmet Needs | Improper Social Care Assessments for Older People in England' (*Human Rights Watch*, January 2019).

'of as many as 70,000 workers by 2025/26 if net migration from the European Union (EU)' is halted post-Brexit.[73] If migration from the EU falls, social care sector wages in the UK likely will have to be increased.[74] Similarly, a 2018 House of Commons report concludes that, in its current state, the social care sector is 'under very great and unsustainable strain,' is 'not fit to respond to the demographic trends of the future,' and supports only the very basic survival needs of its recipients, not the care required to lead full and independent lives.[75]

In order to meet social care needs, it is now expected that the UK, like most countries, will soon need to find a mixed public-private avenue to fund social care.[76] Due to philosophical reasons and economic need, the current care framework in the UK and other high-income countries is tilting increasingly toward 'ageing in place,' or supporting older people to remain in their own homes 'for as long as possible, with residential care being used as a last resort towards the end of life'; as such, the primary source of caregiving for older persons is family, friends and other 'informal' (unpaid) carers.[77] The growing costs and inadequacy of state-funded services creates greater financial and social strain on the families and friends whom older people may rely on to fill this care gap.[78] This exacerbates socio-economic divisions: not all older people are supported by friends or family in a position to provide free care-giving services, or such friends and family members may be compelled to forgo other economic opportunities in order to provide such care.

While lengthening people's working lives and redesigning financial models of pension and insurance can help, arguably one of the most pressing needs is a revision of the current social care model to ensure adequate levels of care and sufficient social care services. The remainder of this section examines possible avenues to remodel social care and concludes with substantive recommendations to address this pressing issue.

[73] Simon Bottery, 'A Fork in the Road: Next Steps for Social Care Funding Reform' (The Health Foundation 2018); '£4 Billion Needed next Year to Stop NHS Care Deteriorating' (*The King's Fund*, 2017b).
[74] Mark Dayan, 'Getting a Brexit Deal That Works for the NHS' (2017) <https://www.nuffieldtrust.org.uk/research/getting-a-brexit-deal-that-works-for-the-nhs>.
[75] 'Long Term Funding of Adult Social Care' (2018) First Join 83.
[76] The Economist, 'Financing Longevity' (2017b).
[77] Centre for Policy on Ageing, 'Rapid Review: The Care and Support of Older People - an International Perspective' (2014) <https://www.ageuk.org.uk/Documents/EN-GB/For-professionals/Research/CPA-International_care_and_support_of_older_people.pdf?dtrk=true>.
[78] The Economist, 'Sans Everything' (2016b).

ii. Possible Interventions

Use of Technology

One way to restructure social care is by embracing technology, which in certain circumstances may supplement or offer a viable alternative to traditional means of providing care. Technology can help support very basic needs – for instance, there already exist systems that can alert people when they fail to take medicines on time. It can also help address more difficult challenges. 'Full Circle America,' an eldercare support organisation in the U.S., has embraced technology to help provide social care services to older persons living at home, promoting 'ageing in place.' Through online conference calls it helps members and their families discuss delicate matters and explore solutions to ageing-well challenges, creating a space for all parties to bring their concerns to the table.[79] Similarly, in the UK, the Leeds City Council's telecare programme prolongs the amount of time older people can continue living in their own homes before moving to a live-in care home; this can be a boon to those wishing to remain longer in familiar surroundings or in the comfort of their own home. Reducing time in live-in care homes can also save funds: the council saves over £2,300 a year for every tele-care installation.[80] In such instances, technology can be a complimentary support tool and can reduce human capital costs when it comes to social care at home.

Going one step further, telemedicine can help bridge the divide between social care and healthcare (covered further in Part III), a chronic hurdle to more comprehensive older person care. Telemedicine, or the provision of medical services remotely through audio-visual technology, has the potential to expand healthcare access both geographically and socioeconomically, lowering barriers to care for patients in rural areas, or those unable to easily (or affordably) travel to the doctor – indeed, telemedicine is available in over 50% of U.S. hospitals due to these perceived advantages.[81] Beyond simply connecting with a doctor, telemedicine is moving towards leveraging the high smart-phone saturation in many countries – some companies now bundle hardware that can be clipped on to smart phones with apps to help you use it, and connectivity to a doctor to interpret results. For example, one company sells an

[79] Full Circle America, 'Full Circle America' <http://fullcircleamerica.com/geriatric> accessed 10 March 2019.
[80] Nick Triggle, 'Keeping People out of Care Homes' *BBC* (27 January 2015) <https://www.bbc.co.uk/news/health-30922483>.
[81] Jeremy Kahn, 'Virtual Visits - Confronting the Challenges of Telemedicine' (2015) 372 The New England Journal of Medicine 1684 <https://pdfs.semanticscholar.org/fa9a/d104c6013dea566f6164cd10b99e6b501bb7.pdf>.

otoscope that attaches to a smart phone, with an app providing instructions on how to use it to examine skin conditions or the inner ear; your phone then records what the otoscope picks up, and shares it with a doctor.[82] Such options for telemedicine could ease the transition between managing day-to-day care of older persons and seeking in-person healthcare when necessary.

A final way that technology could help support older populations is the near-term possibility of autonomous vehicles. This could help solve the oftentimes contentious problem of when an older individual should cease driving. While it is standard practice to require tests to drive a car when one is young, there are not cut-off dates or requirements for re-testing as one ages, despite decreases in perception and reflexes that may come with age. The UK's current Industrial Strategy includes meeting the needs of an ageing society as one of its main pillars, and explicitly notes that government investment in autonomous vehicles will benefit older people in particular, as they are more likely to have mobility difficulties or be unable to drive.[83] This is likely to benefit older persons in rural areas especially, where public transport may not be an option and mobility is more dependent on cars.

Optimising Human Capital

With rising human capital costs and a shortage of qualified nurses, smarter ways of optimising scarce resources to meet social care needs is another important avenue of reform. In the UK, the Local Government Association, which works to ensure local government is heard by the national government, estimates that an extra £1 billion will be required to pay all care workers the £9 minimum wage by 2020.[84] The situation is exacerbated by a national shortage of nurses, which means facilities are more reliant on agency nurses – contracted nurses, typically short term, hired through an employment agency – which cost the facility approximately double the amount of a regular nurse.[85] One potential response to this situation, as pursued by nursing-home operator HC-One, is to upskill existing carers instead of hiring more nurses, meaning no formal qualifications are required; this allows such carers to carry out tasks like bandaging wounds and supporting the management of medicines, jobs previously carried out by nurses.[86]

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[82] Cell Scope, 'Building Smart Mobile Tools for Better Family Health' <https://www.cellscope.com/> accessed 12 March 2019.
[83] Energy &Industrial Strategy UK Department for Business, *UK Industrial Strategy: Building a Britain Fit for the Future* (UK Department for Business, Energy and Industrial Strategy 2017) <www.gov.uk/government/publications>.
[84] The Economist, 'Frailer' [2015] The Economist <https://www.economist.com/britain/2015/08/01/frailer>.
[85] ibid.
[86] ibid.

Time Banking

Another innovative potential solution for the cash-strapped social care system is the 'time-banking' scheme launched by Brunel University: under the scheme, volunteers can log and 'bank' the hours of care that they provide to older people in exchange for care-hours for themselves or another relative later in life, with the time-credits being handled by the East of England Co-operative Society.[87] While novel, the initiative has some setbacks. Most importantly, people may be reluctant to accumulate voluntary hours on a scheme that could shut down before they have the chance to become a recipient of care services; additionally, the quality of social care in these cases can be variable and adequate monitoring and regulatory support is required to ensure social care standards are met.[88]

Leveraging Corporate Social Responsibility

An important avenue of ideas and funding for improved social care might stem from corporate social responsibility (CSR) initiatives. Businesses are often in a position to see first-hand the needs of their employees, making them well-suited to contribute solutions to the problem of ageing populations. In an international example of a wider scale, India has a robust CSR law that mandates 'CSR spend of 2% of average net profits ... during the three immediately preceding financial years' for companies that meet certain financial specifications.[89] The Indian government has considered making it compulsory for such companies to spend 10% of these funds on issues of ageing.[90] There are some instances of CSR with an ageing-well focus in the UK, including financial services provider JP Morgan's CSR work involving innovations for issues facing the ageing population.[91]

Similarly, with the pressure on state-provided care rising, many people already contribute financially toward their own care. To this end, financial literacy and better wealth management

[87] Brunel University London, 'Time-Banking Scheme Aims to Solve Elderly Care Crisis' (*Brunel University London*, 2017) <https://www.brunel.ac.uk/news-and-events/news/articles/Time-banking-scheme-aims-to-solve-elderly-care-crisis#>.
[88] The Economist, 'A Time-Banking Scheme Aims to Overcome Britain's Crisis in Care for the Elderly' [2016] *The Economist*.
[89] Ameeta Jain and Sandeep Gopalan, 'In India, a Legislative Reform Is Needed to Push Corporate Social Responsibility' *The Conversation* (30 June 2017) <http://theconversation.com/in-india-a-legislative-reform-is-needed-to-push-corporate-social-responsibility-80169>.
[90] Subodh Ghildiyal, 'Centre May Mandate 10% of CSR Funds for Elderly' *Times of India* (2013) <https://timesofindia.indiatimes.com/articleshow/26168253.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst>.
[91] JP Morgan, 'Corporate Responsibility in the United Kingdom' <https://www.jpmorgan.com/cm/ContentServer?pagename=Chase/Href&urlname=jpmorgan/emea/uk/about/csr>.

education can support people to budget better for their old age. Working closely with banks and reaching out to people well before they reach retirement age can help promote this type of advance planning. In fact, the Bank of England launched an app called econoME to teach 11-16 year-olds about the economy and its implications on people's lives.[92] Creating a similar app to enhance financial literacy among people of different age cohorts, aimed at financial literacy for each major life stage, may be a good step in this direction.

Earlier Discussions of End-of-Life Care Plans

The social care needs of older persons become more complex towards the end of life, and oftentimes difficult decisions are put off until physical or mental decline makes them difficult to have, leaving relatives, caretakers or the state in charge of tough decisions regarding care at a critical juncture. In response to this avoidance of the subject, 'death cafes' have sprung up in several countries around the world to normalise the discussion of this topic, and provide a space where individuals can gather to discuss end-of-life decisions and care options in a guided fashion, with other individuals or together with family and friends. A death cafe may be a permanent space or a temporary set-up, with customers encouraged to discuss things like funeral details or care arrangements,[93] sometimes guided by conversation cards found at each table. Originally proposed by Swiss sociologist Bernard Crettaz, there are over 60 death cafes around the world today that encourage conversations about death to help normalise the issue.[94]

ii. Recommendations

The extensive use of technology to provide social care can cut costs and response time. For instance, remote consultations with doctors may help spare older persons the time, money and effort required to reach the clinic. As highlighted in the 'Social Isolation' section below, tech-enabled homes may help maintain the privacy of the individual while allowing carers to more easily check up on them. Family, friends, and a wider informal support network already form a primary pillar of older person care support. With the continued strain on social care resources, family and friends are likely to take on more responsibility in caring for older family members

[92] Bank of England, 'Launch of Bank of England EconoME Educational Resource' <https://www.bankofengland.co.uk/news/2018/april/launch-of-bank-of-england-econome-educational-resource>.
[93] Deena Prichep, 'Death Cafes Breathe Life Into Conversations About Dying' <https://www.npr.org/2013/03/08/173808940/death-cafes-breathe-life-into-conversations-about-dying?t=1549806721908&t=1551117596539> accessed 25 February 2019.
[94] ibid.

over time; such informal and unpaid carers can benefit from such a system which allows them to remotely check in on loved ones.

Harnessing CSR to tackle ageing issues remains an underdeveloped area with significant potential. The UK Government should consider ways to encourage a CSR focus on ageing issues, or partner with businesses to produce products or services that promote healthy lifestyles, ageing well, or financial literacy at various stages of life. Examples of mandatory CSR spending, as highlighted in India, may warrant further investigation in the UK.

The UK Government should consider extending its 'loneliness strategy' to mandate discussions of age-related issues, including social care, between general practitioners (GPs) and patients over the age of 50. GPs and doctors are best placed to initiate calm, pragmatic conversations about difficult subjects such as reduced independence, mobility and end-of-life arrangements. Death cafes, and the conversations they facilitate, may complement more official efforts to spur end-of-life advance planning, and help normalise such discussions.

II.II. SOCIAL ISOLATION

i. Problem

People are 'socially isolated' when the number of individuals they are in contact with is negligible or non-existent; this is linked to the 'quantity and not quality of relationships' (and is therefore related to but distinct from 'loneliness,' which can occur even in people surrounded by others).[95] Loneliness is linked to increased incidences of afflictions such as heart disease, strokes, and Alzheimer's disease, with evidence that it can be as bad for your health as obesity or smoking.[96] According to estimates from the London School of Economics (LSE), socially-isolated older people are '1.8 times more likely to visit their GP, 1.6 times more likely to visit A&E [emergency health services] and 3.5 times more likely to enter local authority-funded residential care'.[97] It is

[95] Age UK and Care Connect, 'Loneliness and Isolation - Understanding the Difference and Why It Matters' (2018) <https://www.ageuk.org.uk/our-impact/policy-research/loneliness-research-and-resources/loneliness-isolation-understanding-the-difference-why-it-matters/>.
[96] GOV.UK, 'PM Launches Government's First Loneliness Strategy' <https://www.gov.uk/government/news/pm-launches-governments-first-loneliness-strategy> accessed 25 February 2019.
[97] Janet Morrison, 'Social Isolation Should Be a Public Health Priority' *The Guardian* (23 February 2018) <https://www.theguardian.com/social-care-network/2018/feb/23/social-isolation-public-health-priority>.

estimated that an older socially-isolated individual can cost health and social care services between £1700 to £6,000 over a 10 year period.[98]

In October 2018, the UK Government launched its first 'loneliness strategy,' recognising aspects of ageing like loneliness and isolation as among the 'greatest public health challenges of our time'.[99] The government's policy puts an emphasis on social wellbeing as a critical component of physical health and wellbeing. Among other things, the strategy allows GPs to 'socially prescribe' patients to community workers for customised support; includes an 'Employer Pledge' by a number of major businesses aimed at tackling loneliness in the workplace; and partners with the Royal Mail in some areas to allow postal workers to check in on lonely or isolated people as they make their rounds, and link them up with appropriate support where required.[100]

While these are all important steps, the strategy fails to adequately address societal attitudes and structures which often exclude or unduly prejudice older individuals leading to loneliness and isolation. Over a million older people often go more than a month without speaking to friends, neighbours or family members,[101] and the most commonly cited reason for not seeking help is the stigma associated with issues of loneliness and isolation.[102]

However, loneliness and social isolation are not inevitable facets of ageing. There is a range of policy interventions that can be put in place to help prevent or alleviate this problem. This section will focus on four possible interventions to tackle social isolation among older people: co-housing, inter-generational living, community and local government based-action and volunteering.

[98] David Mcdaid, Annette Bauer and A La Park, 'Making the Economic Case for Investing in Actions to Prevent and/or Tackle Loneliness: A Systematic Review A Briefing Paper' (2017) <http://www.lse.ac.uk/business-and-consultancy/consulting/assets/documents/making-the-economic-case-for-investing-in-actions-to-prevent-and-or-tackle-loneliness-a-systematic-review.pdf>; Morrison (2018).
[99] GOV.UK, 'PM Launches Government's First Loneliness Strategy' (*GOV.UK*, 2018).
[100] ibid.
[101] NHS, 'Loneliness in Older People' (*NHS*).
[102] Social Care Institute for Excellence, 'Tackling Loneliness and Social Isolation: The Role of Commissioners' (2018).

ii. Possible Interventions

Home-Sharing and Co-Housing

'Home-sharing' describes a social setup wherein an older person offers discounted accommodation to someone younger for help with basic tasks like shopping or gardening.[103] 'Co-housing,' on the other hand, refers to private households with shared facilities purposefully designed to invoke a sense of community, which can likewise be mixed-generation.[104]

Both arrangements can offer human connection and respite from isolation and loneliness. Home-sharing arrangements give younger people the benefit of affordable housing, especially in urban areas where rents can be unaffordable, and optimise the use of existing housing stock.[105] Rents in a home-share have the potential to significantly reduce financial strain on the younger member of the home-share – for instance, one such young person paid £50 a week, instead of the prevailing market rate of £400 a week, in return for approximately 10 hours a week spent supporting the older occupant and homeowner with routine tasks and chores.[106]

Similar to most household arrangements, home-shares would need to match individuals to help ensure appropriate and timely support can be provided by the younger tenant – for example, the older person may have a more rigid schedule that they want their flatmate to be able to accommodate.[107] More importantly, without a clear agreement and contingency planning it becomes easy for the lines to blur and the time commitment and nature of responsibilities of the younger flatmate to rise – for example, if the homeowner is sick and requires more support, this burden may fall to the younger tenant and see a rapid increase in their level of responsibilities or work that may not be commensurate with either their skill level or compensation.[108] Such

[103] Dylan Kneale and Sally-Marie Bamford, 'An Intergenerational Solution to the Housing Quagmire' *The Guardian* (10 May 2012) <https://www.theguardian.com/housing-network/2012/may/10/intergenerational-solution-housing-quagmire-uk>.
[104] ibid.
[105] ibid.
[106] Simon Murphy, 'Homeshare Scheme Brings Comfort to Young and Old' *The Guardian* (6 January 2012) <https://www.theguardian.com/money/2012/jan/06/homeshare-scheme-tackle-housing-crisis> accessed 8 March 2019.
[107] Nicola Slawson, 'I Lived with an Older Person in Return for Cheap Rent, but My Chores Quickly Grew' *The Guardian* (3 March 2015) <https://www.theguardian.com/society/2015/mar/03/young-person-live-older-person-cheap-rent-live-in-care> accessed 8 March 2019.
[108] ibid.

arrangements may lead older people to become overly reliant on their younger, unqualified and unpaid housemates for home care, or leave an outsized burden on the younger tenanat.[109]

Co-housing arrangements, on the other hand, involve the creation of residential communities for seniors that help ensure they retain their independence while also fostering human-to-human interaction. Phoenix Commons in the U.S. is one such example: a community for those over the age of 55, with architecture designed to foster a feeling of community, with apartment windows that face each other and large communal areas like a shared kitchen and gardens.[110] While co-housing is popular in northern Europe, it is still an emerging idea in the UK.[111] Currently, the UK has 21 co-housing communities, and an additional 40 are in development.[112] Interest in co-housing has increased in recently years, primarily because of increased financial and economic pressures following the financial crisis.[113] However, co-housing is not a 'one size fits all' solution. Senior co-housing communities can support individuals and reduce isolation, but they can also reduce an individual's personal space and come with expectations for community participation which may not align with an individual's needs or lifestyle.

Inter-Generational Family Living

Multi-generational or inter-generational living refers to older family members living with younger family members, often children and/or grandchildren. Presently in England, around 10% of people aged 70 and over live with their adult children, while around 2% reside in multi-generational households that include children and grandchildren.[114]

A novel take on multi-generational living is the concept of 'granny pods' or 'granny flats' – spaces independent of the main house but on the same premises.[115] What started as 'simple backyard homes' in 1970s Australia has transformed into small modern, tech-enabled spaces designed with

[109] ibid.
[110] Anna Leach, 'Happy Together: Lonely Baby Boomers Turn to Co-Housing' *The Guardian* (15 August 2018) <https://www.theguardian.com/world/2018/aug/15/happy-together-lonely-baby-boomers-turn-to-co-housing>.
[111] UK Cohousing Network, 'Commons Committee Supports Cohousing for a Good Later Life' <https://cohousing.org.uk/press-releases/commons-committee-supports-senior-cohousing/> accessed 7 March 2019.
[112] Leach (2018).
[113] ibid.
[114] Kneale and Bamford (2012).
[115] Brigitt Earley, 'Granny Pods Are Tiny Houses' Answer to Nursing Homes' (*Apartment Therapy*, 2018); Susan Seliger, 'In the Backyard, Grandma's New Apartment' *The New York Times* (1 May 2012) <https://newoldage.blogs.nytimes.com/2012/05/01/in-the-backyard-grandmas-new-apartment/?_r=1>.

older persons and their caregivers in mind.[116] An American company is now producing and selling a structure called 'MEDCottage' with the trappings of a traditional house (like a kitchen, bedroom and bathroom), combined with technology for medical monitoring of its residents.[117] For instance, these structures come fitted with cameras that sweep the floor area of the unit; while maintaining the resident's privacy, this can help monitor whether the resident has been inactive for long or irregular periods of time, and send important information directly to a caregiver's device; the MEDCottage also has systems that can track residents' blood pressure, glucose, heart rate, and share this information with their doctors.[118] Bathrooms in the structure, specifically, come fitted with a toilet that measures vitals like weight and urine content.[119] While a new MEDCottage may be cost prohibitive for some at a price point of $85,000, some distributors offer a buy-back scheme, and prices may drop as adoption increases and technology advances.[120] Even without elaborate structures like the one described above, people are becoming more aware of how they can modify and alter their homes to accommodate ageing relatives – for instance, by setting up a small apartment in their detached garage.[121]

One of the benefits of 'granny flats' and other similar structures is that they can help preserve the independence and privacy of older relatives (i.e. compared to living in the same house), while ensuring they live close enough to caregivers to seek help in cases of emergency. Megan Carolan, director of policy research at the Institute for Child Success, notes that 'children also benefit from having a grandparent nearby, as a friend, caregiver, and partner in play'.[122] 'Granny flats' can also enhance property value, since the idea of an independent living space might tempt buyers looking to rent out such spaces.[123] Furthermore, in the UK, such structures (known legally as Accessory Dwelling Units, or ADU) that house occupants who are over 65 are exempt from any additional council tax.[124]

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[116] Seliger (2012).
[117] ibid.
[118] ibid.
[119] Senior Women Web, 'MEDcottage; Care in the Backyard' <http://www.seniorwomen.com/news/index.php/medcottage-another-approach-to-care> accessed 7 March 2019.
[120] Seliger (2012).
[121] Earley (2018).
[122] ibid.
[123] ibid.
[124] Olivia Waring, 'What Is an ADU? Accessory Dwelling Units May Become All the Rage' *Metro News* (13 March 2018) <https://metro.co.uk/2018/03/13/adu-accessory-dwelling-units-may-become-rage-7384192/> accessed 7 March 2019.

However, there are also criticisms and limitations to consider. On an emotional level, one criticism of such structures is that they are akin to putting one's relatives 'in storage'.[125] Furthermore, such structures are not a substitute for appropriate professional medical care; the additional costs associated with hiring appropriate medical care if and when the need arises should be a critical factor in any housing decision as often such costs are prohibitive and unaffordable for families.[126] In other ways, the MEDCottage's constant monitoring of the resident can potentially contribute to loss of autonomy. Being continuously observed may draw attention to certain non-serious, non-threatening medical conditions, which can lead to interventions or overmedicalisation that are not conducive to maintenance of autonomy.

Community and Local Government-based Action

Arguably, loneliness is both a personal and structural issue which can be tackled more effectively at the local level.[127] It is often the local community and local government bodies that have greater reach among those living in a particular area, and can therefore better engage with them. Local bodies are often better aware of the needs of their constituents and can work in tandem with the NHS and other arms of the government to identify problems and develop appropriate solutions.[128] This access can be leveraged when tackling social isolation of older persons. For instance, the 'Social Finance Reconnections Project' in Worcestershire supports people over the age of 50 who are experiencing loneliness and isolation by co-developing an action plan for involvement with local support networks.[129]

When it comes to city-planning, the concept of 'age-friendly' cities centres around the idea of creating safer, friendlier places for older persons. The World Health Organisation (WHO) recommends relatively simple changes to city infrastructure and services, like wide and well-maintained pavements, priority parking spaces for older drivers, and affordable taxis; more specific examples could include ensuring that parks and green spaces have adequate park benches, public toilets, and a quiet area away from the sections of park used for more vigorous

[125] Christine Coppa, 'What Are Granny Pods? All About Prefab Backyard Elder Cottages' [2018] *Country Living Magazine* <https://www.countryliving.com/home-design/a37788/granny-pods/>.
[126] Seliger (2012).
[127] Isabel Young, 'Local Solutions to Loneliness and Social Isolation' <https://youngfoundation.org/health-wellbeing/local-solutions-to-loneliness-and-social-isolation/> accessed 25 February 2019.
[128] Social Care Institute for Excellence (2018).
[129] ibid.

activities like biking, skateboarding, or exercising a dog.[130] Moreover, there should be active deliberation of investment in public transportation, an important consideration for older people, especially those with mobility issues.[131]

The need for and impact of social interaction cannot be overstated in combatting loneliness. Even as local governments become more receptive to the needs of older people, organising the local community to support people feeling lonely can help grapple with physical, social and emotional isolation. Fostering a sense of community, by organising local events or even just by checking in on one's neighbour, can help effectively tackle isolation.[132] For instance, a village in Essex organizes 'Coffee Morning' for residents to socialise and just get to know each other.[133] Another novel approach is the one taken by Saffron Walden's 'Dig It Community Allotment' which uses horticulture to connect with those in danger of being isolated.[134]

Volunteering Supported by Technology

Given the importance of human contact and interaction in alleviating loneliness among older persons, encouraging people to volunteer their time can have powerful effects. Technology has the potential to help link the supply and demand for volunteers. One idea is to create a dedicated government mobile app that forms a centralised database of opportunities to volunteer with older people. Such an app could collate opportunities from all over the UK, advertise them, and connect volunteers with NGOs and older persons. Such opportunities could also be advertised through local government channels to increase reach. In 2016, the Mayor of London launched a free app that allows people to volunteer in a variety of ways, including by spending time with older people.[135] This type of 'speed volunteering' or 'micro-volunteering' is meant to positively impact society while being 'one-off' and available on short notice,[136] and is on the rise in the UK.[137] However, this kind of one-off volunteering may impede the creation of long-lasting human

[130] World Health Organization, 'Global Age-Friendly Cities: A Guide' (2007) <www.who.int/ageing/enFax:+41>.
[131] Social Care Institute for Excellence (n 103).
[132] Young (2018).
[133] ibid.
[134] ibid.
[135] London City Hall, 'New App Launched to Get More Londoners Volunteering' <https://www.london.gov.uk/press-releases/mayoral/app-launched-to-get-more-londoners-volunteering#> accessed 7 March 2019.
[136] Team London, 'Speed Volunteering: Give a Little Time and Make a Difference' (*Team London*).
[137] Charlotte Jones, 'Microvolunteering: What Is It and Why Should You Do It?' *The Guardian* (13 April 2017) <https://www.theguardian.com/voluntary-sector-network/2017/apr/13/microvolunteering-what-is-it-and-why-should-you-do-it>.

connections between the older person and the volunteer. Nonetheless, there are intriguing possibilities for immediate support, as with the example of the 'Be My Eyes' app that connects the visually impaired with a host of volunteers who can provide on-the-spot visual assistance through a live video call.[138] While technology can offer novel ways to volunteer one's time and resources, such apps have not yet been evaluated for effectiveness and impact, highlighting an area for further research.

Notably, volunteering can also encourage intergenerational connections and support. Given young people's knowledge of technology, they could be used to support and educate older people in the use of computers and mobile phones, particularly as these devices can be vitally important to help maintain human connections. Applications like WhatsApp, Skype and FaceTime can help facilitate voice- and video-calling friends and family members, and such apps are generally free to use; in the UK, some libraries and community centres already organise sessions to teach older persons such skills.[139] More generally, technology can help recruit and match younger volunteers from schools and universities with an older person simply to spend time together – engaging in conversation, playing card games, or reading together – in ways that can combat loneliness.

ii. Recommendations

Housing

Home-sharing: Home-sharing brings together an ageing home-owner and a younger renter to live together to meet the support needs of both, governed by an agreement that outlines the benefits and responsibilities of each party. For older people, this could provide additional help around the house and social interaction, while the younger party would benefit from reduced rent and affordable housing. While the theory is clearly mutually beneficial, to work in practice the rights of each party need to be carefully guarded. Local councils that encourage home-sharing should seek ways to ensure the protection of older homeowners from possible abuse and unqualified care, and of the younger housemate from abuse and overwork – this could include providing a code of conduct or guide to best practices, as well as sample agreement forms between homeowner and renter.

[138] Be My Eyes, 'Bringing Sight to Blind and Low-Vision People' <https://www.bemyeyes.com/> accessed 12 March 2019.
[139] NHS, 'Loneliness in Older People' (n.d.-a).

Co-housing: Co-housing brings together people with similar attributes or interests, providing them with a form of ready-made social community, and can be tailored to encourage inter-generational mixing as well. Arguably, for co-housing to take off in the UK, local governments will have to be brought on board; one of the hindrances in the rapid adoption of co-housing is the lack of development and financial support.[140] Local authorities could consider providing incentives in the form of land sales tax concessions or land release options for those looking to set up cohousing communities to encourage their development.[141] In 2018, the London government announced funding of almost £1 million for a community group in south London 'help it deliver social rented and other genuinely affordable homes for local residents and workers.'[142] While this initiative is not specific to older people, it is a good example of getting the local government involved in issues of housing.

Granny flats: 'Granny flats' and similar structures allow ageing individuals to live in a small, separate facility on the premises of another family member. Many such pre-fabricated structures come with technology that assists ageing in place, and can help caretakers monitor the inhabitant of the granny pod in an unobtrusive way. 'Granny flats' may provide a feasible option to support ageing individuals and reduce the prevalence of social isolation. Based on this, the UK Government should consider land tax and council tax concessions for 'granny flats' and similar structures.

Local Community Action and Digitally-Enabled Volunteering

Local government can play an important role in combatting social isolation of older persons not only by supporting the creation of different housing arrangements, but also by helping to organise the local community and volunteers around the older people in its jurisdiction. Within local communities, events that bring together people of all age demographics to socialise or participate in a regular activity at the town centre can have a positive impact on the health of older people. Local government should seek to promote inter-generational connections by organising local events like fairs, community 'mixers,' among others.

[140] Maria Brenton, 'Senior Cohousing Communities-an Alternative Approach for the UK?' (2013) <https://www.jrf.org.uk/sites/default/files/jrf/migrated/files/senior-cohousing-communities-full.pdf>.
[141] Melissa Fernández Arrigoitia, 'A Sense of Belonging: The Case for More Communal Living in the UK' *The Guardian* (30 June 2016) <https://www.theguardian.com/housing-network/2016/jun/30/communal-living-uk-cohousing-society>.
[142] London City Hall, 'Mayor Backs Community Plans for Self-Build Homes' <https://www.london.gov.uk/press-releases/mayoral/range-of-social-and-affordable-homes>.

Furthermore, technology can help match volunteers to the needs of the older person population, whether for specific one-off services (like the 'Be My Eyes' app for the visually impaired), or for other one-off or recurring eldercare needs (like picking up groceries, driving someone to a doctor's appointment, or simply socialising). On balance, the evidence suggests that providing a relatively small amount of investment in digital infrastructure and oversight can create an ecosystem of volunteers who can support intergenerational and intragenerational connections, and in turn reduce social isolation and promote social cohesion across and within generations. As such, the UK Government should consider providing competitive grants to suitable NGOs and other parties to develop the technology (apps), and help to provide appropriate oversight of such initiatives.

III. HEALTHCARE

III.I. HEALTHCARE & END OF LIFE DECISIONS

i. Problem

Older people have different healthcare needs, and although ageing does not necessarily destine illness or disability, the risk of both increases significantly with age. General health trends among ageing populations include an increase in the prevalence of disability.[143] Banks et al. (2010) in *The 2008 English Longitudinal Study of Ageing* found 40% of people aged 60 and above are affected by disability; this prevalence increases to 75% after the age of 80.[144] Additionally, health problems become more complex and a greater percentage of the population suffers from multiple chronic comorbidities (i.e. concurrent diseases). More than half the population in OECD countries over the age of 65 have one chronic condition, and after the age of 75, more than half the population has three or more chronic conditions.[145]

Given these considerations, the goals of healthcare for older people are different than those for younger or middle-aged adults. Rather than treatment of single diseases, healthcare for older patients entails consideration of multiple chronic illnesses and comorbidities. Maintenance of independence in the face of frailty or cognitive decline is an increasing concern, as well as facilitating autonomy in healthcare decisions – especially at the end of life. Most healthcare systems function using an 'episodic' model, in which services are distributed by individual diagnoses. This traditional archetype of health service delivery no longer makes sense with ageing populations, and healthcare systems must be transformed to accommodate for the changing needs of ageing populations.

Ageing populations also pose severe challenges for the traditional welfare state. As noted, growth in both the number and proportion of older people is a trend worldwide; the old age dependency ratio, which divides the number of people at retirement ages (65 years and above) by the number of people at working ages (15 to 64 years) is steadily increasing.[146] OECD data shows that per capita expenditure for people older than 65 is on average 3.7 times greater than those under 65,

[143] James Banks and others, 'Financial Circumstances, Health and Well-Being of the Older Population in England.' (Insitute for Fiscal Studies 2010).
[144] ibid.
[145] OECD, 'Tackling Wasteful Spending on Health' (OECD 2017).
[146] Kaare Christensen and others, 'Ageing Populations: The Challenges Ahead' (2009) 374 Lancet 1196.

and in general, the past few decades have seen a substantial increase in the percentage of GDP spent on healthcare across nations.[147] Although increased expenditures may not be directly linked to ageing populations, the mounting pressure of rising health costs combined with increased demand for healthcare among geriatric consumers is a significant challenge for health systems of ageing populations.

In order to meet the challenges imposed by ageing populations on healthcare systems, four domains of improvement must be addressed: (i) ending the divide between healthcare and social care; (ii) capacity to treat causes of morbidity[148] and mortality among older people; (iii) patient-centred care, especially at the end of life; and (iv) wasteful health expenditures. In the following sections, we outline these four domains followed by policy alternatives for how governments can incentivise healthcare systems to undertake the necessary reforms. We conclude with recommendations for a macro-level intervention which governments can adopt to facilitate efficient, coordinated, and sustainable changes so that healthcare systems can cater to current and future demographic trends.

ii. Possible Interventions

Domains for Improvement

(I) Ending the divide between healthcare and social care

The first domain of improvement is ending the divide between healthcare and social care. Discontinuity in acute and long-term care interferes with the delivery of appropriate clinical and social services for people of all ages, but especially older generations, because with age, healthcare must not only treat disease but also preserve independence in the face of frailty, cognitive decline, and disability.[149] Additionally, failure to develop a robust system integrating social care services with healthcare leads to problems such as 'bed blocking', wherein patients with nowhere to go after hospital discharge 'block' acute care beds.[150] This decreases quality of care by potentially limiting access to acute care beds for those most in need and leads to inefficient

[147] Meena Seshamani, 'The Impact of Ageing on Health Care Expenditures: Impending Crisis, or Misguided Concern?' (Office of Health Economics 2004).
[148] 'Causes of morbidity' refers to causes of disease or illness, while 'causes of mortality' refers to causes of death.
[149] Rechel Bernd and others, 'How Can Health Systems Respond to Population Ageing?' (World Health Organization 2009).
[150] Kirstein Rummery and Anna Coleman, 'Primary Health and Social Care Services in the UK: Progress towards Partnership?' (2003) 56 Social Science & Medicine 1773.

resource allocation, which results in wasteful use of in-patient resources and increased healthcare costs.

Traditionally, healthcare systems partition healthcare (e.g., primary care, hospital care, emergency centre care, etc.) and social care (e.g., home healthcare, nursing homes, assisted living services, etc.). Healthcare and social care are generally provided by distinct networks with different managerial and organisational infrastructure, and there is often limited communication among institutions and providers. Cross-national comparisons show this fragmentation between healthcare and social care is a shared feature among many healthcare systems in high-income countries, whether nationalised or market-based.[151] In the UK specifically, the divide between healthcare and social care became more pronounced after the 1990 NHS and Community Care Act determined healthcare to be free at the point of the delivery and social care to be largely means-tested.[152]

Ending the divide between healthcare and social care can take many forms. The most extreme form would be real integration of healthcare and social care, in which organisations merge their services. A single provider would deliver both healthcare and social care services, and there would be strong internal coordination of management. An alternative to integration is coordination, in which providers work together through networks and alliances. In coordination of care, there are still multiple providers; however, they are well-connected in order to provide services with continuity.[153]

One model that interventions may follow to end the divide between healthcare and social care for ageing populations is disability care and coordination organisations (DCCOs). DCCOs are a type of care coordination organisation (CCO) that combines attributes of the medical home model and community nursing. It involves a team of nurses and social workers who collaborate to arrange disability-oriented healthcare and social care services.[154] DCCOs are an ideal model for the coordinated care for older people, because they centre on functional capacity in a patient's

[151] A Mark Clarfield, Howard Bergman and Robert Kane, 'Fragmentation of Care for Frail Older People— an International Problem. Experience from Three Countries: Israel, Canada, and the United States' (2001) 49 Journal of the American Geriatrics Society 1714.
[152] Rummery and Coleman (2003).
[153] Chris Ham and Natasha Curry, 'Integrated Care: What Is It? Does It Work? What Does It Mean for the NHS?' (The King's Fund 2011).
[154] Susan E Palsbo, Margaret F Mastal and Lolita T O'Donnell, 'Disability Care Coordination Organizations: Improving Health and Function in People With Disabilities.' (2006) 11 Lippincott's Case Management 255.

environment, rather than CCOs with a medical model approach, which focus on management of one disease at a time rather than concurrently (e.g., treating only symptoms of depression when a patient suffers from depression, high blood pressure, and diabetes), or a case management programme approach, which provides individualised but episodic care focusing on medical and social needs only when a patient is ill. As opposed to these options, DCCOs provide individualised services to support patients across the health-wellness continuum. The scope of DCCOs extend beyond times of sickness and provide services which allow people with disabilities to live as independently as possible.

In order to achieve efficient coordination of healthcare and social care, it is not enough simply to 'add in' home care services. A legacy of inter-organisational divide between healthcare and social care persists and is perpetuated by inter-professional boundaries separating social workers, physicians, and nurses.[155] Healthcare systems must fundamentally reform the relationship between healthcare and social care. The process for creating a partnership between healthcare and social care entails: (i) acknowledgement of the need for partnership; (ii) clarity and realism of the purpose of partnership; (iii) commitment and ownership of the partnership; (iv) development and maintenance of trust; (iv) establishment of clear and robust partnership arrangements; and (v) monitoring, review, and organizational learning to ensure quality.[156] There must be quality assurance of any long-term care programme which combines healthcare and social care. According to an OECD report on long-term care, the process typically involves 'standards for provider participation, monitoring and enforcement of compliance, and public reporting and other market-based approaches to improving quality'.[157]

(II) Health system capable of caring for the medical problems of ageing populations

The second domain for improvement is capacity to care for the medical problems of an ageing population. In order to care for the diseases and illness which burden older people most, health systems face several impediments. First, medical advances must be made in treatment, management, and prevention of leading causes of morbidity and mortality among older people. Most notably, medical options for leading causes of dementia, hearing loss, blindness, lung

[155] Rummery and Coleman (2003).
[156] B Hardy, B Hudson and E Waddington, *What Makes a Good Partnership? A Partnership Assessment Tool* (Nuffield Institute for Health/NHS Executive Trent 2000); Rummery and Coleman (2003).
[157] OECD/European Commission, *A Good Life in Old Age? Monitoring and Improving Quality in Long Term Care* (OECD Publishing 2013).

disease, and joint pain – which are all significant causes of disability among adults ages 65 and older – are extremely limited.[158] Progress in the understanding and ability to treat or prevent causes of morbidity and mortality among older people is essential for the care of ageing populations. Improving management of dementia, especially, is one of the greatest challenges for healthcare systems of ageing populations.[159] After the age of 65, risk for dementia approximately doubles every five years, and as of 2018, in the UK, an estimated 850,000 people live with dementia, and one in three people will care for a person with dementia at least once in their lifetime.[160] By 2030, an estimated 82 million people worldwide will be living with dementia.[161] Currently, no cure for dementia exists, and any breakthrough in treatment, management, or prevention of dementia will contribute significantly to relieving the pressure on healthcare systems from ageing populations.[162]

Second, geriatric care in medical practices must be improved. Central to geriatric care is management of multiple chronic conditions. The conventional approach to healthcare is predicated on two assumptions. First, healthcare is about the treatment of disease, and second, each diagnosis is within the domain a specific professional group. These are the assumptions upon which the conventional episodic model of healthcare was built, and unfortunately this model of care falls short in the face of patients with multiple complex comorbidities.[163] Furthermore, acute events may also occur, such as infection or acute kidney failure, and when acute illnesses do occur, they are superimposed on existing health concerns. Multiple factors are involved in the pathogenesis – the manner of development of the disease – of geriatric conditions, and in the treatment of one chronic or acute illness, providers may be influencing the management of other underlying conditions.[164] Functional ability and quality of life are critical outcomes for care of older people; therefore, policies must push geriatric providers to understand and consider a patient's social history and functional capacity in order to maximise

[158] Christensen and others (2009).
[159] The Lancet Neurology, 'Response to the Growing Dementia Burden Must Be Faster' (2018) 17 The Lancet Neurology 651.
[160] NHS, 'Dementia'.
[161] WHO, 'WHO | Infographic on Dementia' (*WHO*, September 2017).
[162] The Lancet, 'Dementia Burden Coming into Focus' (2017) 390 The Lancet 2606.
[163] Christine Vogeli and others, 'Multiple Chronic Conditions: Prevalence, Health Consequences, and Implications for Quality, Care Management, and Costs' (2007) 22 Journal of General Internal Medicine 391.
[164] Thierry H Le Jemtel, Margherita Padeletti and Sanja Jelic, 'Diagnostic and Therapeutic Challenges in Patients with Coexistent Chronic Obstructive Pulmonary Disease and Chronic Heart Failure' (2007) 49 Journal of the American College of Cardiology 171.

health outcomes.[165] Mental illness among geriatric patients is often misdiagnosed or dismissed. For example, depression in older people is often mistaken for dementia. A greater prioritisation of mental health services and understanding of geriatric mental health is an important part of preparing health systems for ageing populations.

Additionally, reversible and treatable geriatric conditions are often under-diagnosed and under-treated. Geriatric 'syndromes' include delirium, instability and falls, or urinary incontinence. These syndromes commonly go undiagnosed and therefore are not managed optimally.[166] Caregivers, health professionals, and older individuals themselves often mistake symptoms for normal ageing. Furthermore, because many providers do not have training in geriatric care, atypical presentation of some conditions in geriatric populations mean some diseases may remain undetected.[167] There also are many geriatric illnesses caused by medical examination or treatment itself. Iatrogenic illnesses – illness caused by medical examination or treatment – include polypharmacy, drug interactions, and adverse drug reactions. And during hospitalisations, complications such as deconditioning or injuries from falls can be serious and life-threatening.[168]

In order to increase the capacity of health systems to care for the medical needs of ageing populations, there must be investment in research and development, improvement in clinical care of geriatric patients, and enhanced translation of research into practice at institutional, local, and national levels. Several opportunities exist to improve medical care for ageing populations, but policies must overcome barriers to continuity from research and understanding to practice. Potential solutions include clinical guidelines, quality improvement initiatives, or education reform.[169]

[165] Cynthia M Boyd and others, 'Clinical Practice Guidelines and Quality of Care for Older Patients With Multiple Comorbid Diseases: Implications for Pay for Performance' (2005) 294 JAMA 716.
[166] Sharon K Inouye and others, 'Geriatric Syndromes: Clinical, Research and Policy Implications of a Core Geriatric Concept' (2007) 55 Journal of the American Geriatrics Society 780.
[167] LP Fried and others, 'Diagnosis of Illness Presentation in the Elderly' (1991) 39 Journal of the American Geriatrics Society 117.
[168] Sompol Permpongkosol, 'Iatrogenic Disease in the Elderly: Risk Factors, Consequences, and Prevention' (2011) 6 Clinical Interventions in Aging 77.
[169] Inouye and others (2007).

(III) Patient-centred care, especially at the end of life

The third domain of improvement is patient-centred care, especially at the end of life. Patient-centred care is care which caters to an individual's specific health needs and, more importantly, their desired health outcomes. In a patient-centred care model, patients are treated as partners in their healthcare decisions[170] and care focuses on not only physical health but also emotional, psychological, and social well-being. Integral to patient-centred care are shared decision making and holistic treatment.[171] It is a model of healthcare which treats the person rather than a disease. Benefits of patient-centred care include increased patient satisfaction, improved allocation of resources, and increased financial margins throughout the continuum of care.[172]

Patient-centred care is especially important for end-of-life care. In the months leading to death, people are more likely to receive extreme measures and undergo painful and expensive operations for the purposes of extending life. Because healthcare systems have traditionally focused on treating disease rather than caring for a person holistically, healthcare practices conventionally emphasise quantity of life rather than quality. Quality of care at the end of life involves helping people die with dignity and living as well as possible until death.[173] One solution to mediating patient-centred care at the end of life is advance care planning in the form of advance directives, also known as advance decision to refuse treatment (ADRT), or living wills. Intended to promote compassion in dying by ensuring decisions at the end of life reflect the patient's own desires for a dignified death, advance care planning has been used to prevent some ethical dilemmas in healthcare decisions in end-of-life care.[174] However, utilisation and compliance with advance directives remains low in several countries, including the UK.[175]

[170] NEJM Catalyst, 'What Is Patient-Centered Care?' (*NEJM Catalyst*, January 2017).
[171] Michael J Barry and Susan Edgman-Levitan, 'Shared Decision Making — The Pinnacle of Patient-Centered Care' (2012) 366 New England Journal of Medicine 780.
[172] Mary E Tinetti, Aanand D Naik and John A Dodson, 'Moving From Disease-Centered to Patient Goals–Directed Care for Patients With Multiple Chronic Conditions: Patient Value-Based Care' (2016) 1 JAMA Cardiology 9; Klea D Bertakis and Rahman Azari, 'Patient-Centered Care Is Associated with Decreased Health Care Utilization' (2011) 24 J Am Board Fam Med 229; Ronald M Epstein and others, 'Why The Nation Needs A Policy Push On Patient-Centered Health Care' (2010) 29 Health Affairs 1489.
[173] NHS, 'What End of Life Care Involves' (*nhs.uk*, May 2018).
[174] Joseph G Ouslander, Alexander J Tymchuk and Bita Rahbar, 'Health Care Decisions Among Elderly Long-Term Care Residents and Their Potential Proxies' (1989) 149 Archives of Internal Medicine 1367; Allison B Seckler, 'Substituted Judgment: How Accurate Are Proxy Predictions?' (1991) 115 Annals of Internal Medicine 92.
[175] Gary L Stein and Iris Cohen Fineberg, 'Advance Care Planning in the USA and UK: A Comparative Analysis of Policy, Implementation and the Social Work Role' (2013) 43 The British Journal of Social Work 233; D McD Taylor and others, 'Advance Directives and Emergency Department Patients: Ownership Rates and Perceptions of Use' (2003) 33 Internal

Another method of promoting patient-centred care is the use of decision aids. Decisions aids are interventions which support patients in decision-making in two ways: by providing information about options and their associated harms and benefits; and by clarifying how decisions align with personal values, including medical care that may be advised, but from which the patient wishes to abstain. A Cochrane review by Dawn Stacey et al. (2014) found strong evidence for the ability of decision aids to 'improve people's knowledge of options and reduce their decisional conflict related to feeling uninformed and unclear about their personal values'.[176]

For serious illness, where susceptibility regrettably increases with age, patient-centred care can take form in involvement of palliative care. Palliative care is a type of care focused on management of symptoms, psychosocial support, and informed decision making. It is widely used in oncological care and has been shown to improve the quality of care and life of patients while reducing wasteful utilisation of medical services.[177]

Arguably, the UK has made progress in supporting people with serious illness and end-of-life decisions. In 2016, 46.9% of deaths occurred in hospital as compared with 57.9% of deaths in 2004. Moreover, in 2016, 21.8% of deaths occurred in care homes.[178] However, greater adoption and acceptance of patient-centred care cannot be achieved with merely infrastructure improvements or technological support. In order to truly facilitate patient-centred care, policies must embolden healthcare communities to improve the quality of relationships and interactions between patients and providers. Additionally, regulatory bodies must set specific performance targets which will allow health systems to measure progress in achieving its goals.[179]

Medicine Journal 586; Natalie Evans and others, 'A Critical Review of Advance Directives in Germany: Attitudes, Use and Healthcare Professionals' Compliance' (2012) 87 Patient Education and Counseling 277; Eimantas Peicius, Aurelija Blazeviciene and Raimondas Kaminskas, 'Are Advance Directives Helpful for Good End of Life Decision Making: A Cross Sectional Survey of Health Professionals' (2017) 18 BMC Medical Ethics.

[176] Dawn Stacey and others, 'Decision Aids for People Facing Health Treatment or Screening Decisions' [2014] The Cochrane Database of Systematic Reviews CD001431.

[177] Michael H Levy and others, 'Palliative Care' (2009) 7 Journal of the National Comprehensive Cancer Network 436; Thomas J Smith and others, 'American Society of Clinical Oncology Provisional Clinical Opinion: The Integration of Palliative Care Into Standard Oncology Care' (2012) 30 Journal of Clinical Oncology 880 <http://www.ncbi.nlm.nih.gov/pubmed/22312101>.

[178] Public Health England, 'Statistical Commentary: End of Life Care Profiles, February 2018 Update' (*GOV.UK*, 2018) <https://www.gov.uk/government/publications/end-of-life-care-profiles-february-2018-update/statistical-commentary-end-of-life-care-profiles-february-2018-update>.

[179] Epstein and others (2010).

(IV) Reduce wasteful spending on health

The last domain of improvement is to reduce wasteful spending in health. Overall, inefficient health expenditures can be divided into five categories: wasteful clinical care; excessive spending on pharmaceuticals; unnecessary hospital care; high administrative costs; and fraud, abuse, and corruption. Evidence suggests that among OECD countries, up to 20% of total health expenditures can be better utilised.[180] Many of the aforementioned domains of improvement will inevitably reduce waste in healthcare expenditures. For example, Australia, Belgium, Canada, France, Italy, and Portugal report that at least one-fifth of emergency department visits are inappropriate; ending the divide between healthcare and social care can mitigate this by providing more support for older people at home, thereby decreasing their need to use emergency care services unnecessarily.[181] Additionally, patient-centred care also can reduce inefficient spending, especially at the end of life, by focusing on a patient's desired health outcomes rather than simply treating disease for the sake of extending life.[182] Zang et al. (2009) found end of life discussions between patients and physicians to be correlated with lower healthcare costs in individuals with advanced cancer.[183]

Other areas of wasteful spending include administration. Among OECD countries, the average expenditure on administration is 3%; however, there is a range of 1% to 7% in the ratio of health administration expenditures across countries, with no obvious correlation with health outcomes or health system performance. Additionally, more than 6% of health expenditures are due to fraud or errors.[184] Several countries are already searching for effective and sustainable solutions for high administrative costs. One promising intervention is health information technology, especially in the effort to reduce billing and insurance related costs.[185]

Tackling wasteful expenditures requires cessation of spending on services that do not improve patient-desired health outcomes. This includes the phenomenon of 'over-medicalisation' in

[180] OECD, 'Tackling Wasteful Spending on Health' (2017b).
[181] Dawn E Alley and others, 'Accountable Health Communities — Addressing Social Needs through Medicare and Medicaid' (2016) 374 New England Journal of Medicine 8 <http://www.ncbi.nlm.nih.gov/pubmed/26731305>; Shana F Sandberg and others, 'Hennepin Health: A Safety-Net Accountable Care Organization for the Expanded Medicaid Population' (2014) 33 Health Affairs (Project Hope) 1975.
[182] Committee on Approaching Death: Addressing Key End of LifeIssues and Institute of Medicine, *The Delivery of Person-Centered, Family-Oriented End-of-Life Care* (National Academies Press (US) 2015).
[183] Baohui Zhang and others, 'Health Care Costs in the Last Week of Life: Associations with End of Life Conversations' (2009) 169 Archives of internal medicine 480.
[184] OECD, 'Tackling Wasteful Spending on Health' (2017b).
[185] Elsa Pearson and Austin Frakt, 'Administrative Costs and Health Information Technology' (2018) 320 JAMA 537.

which excessive monitoring leads to unnecessary or redundant diagnostic tests and clinical procedures, which are unwanted and provide no added value to patient outcomes. Additionally, economically efficient alternatives to expensive health services must be investigated and swapped. For example, patients who can be treated in primary care or at a long-term care facility rather than in hospitals should be triaged as such. Overall, the process of addressing wasteful spending in health demands: (i) recognition of the existence of the problem; (ii) development of tools to assess the scale of wasteful spending; and (iii) convincing and incentivising stakeholders to change their behaviours throughout the continuum of care.[186]

Policy Alternatives

As outlined in the previous sections, transforming health systems to accommodate for the needs of ageing populations is a complex process which requires a plethora of individual interventions. Here, we discuss macro-level policy alternatives for the UK government in order to facilitate the successful implementation and execution of the meso- and micro-level reforms required to fulfil the four domains of improvement.

Currently, the UK government has adopted a prescriptive approach to healthcare reform. In January of 2019, the National Health Service (NHS) established the 'Long-Term Plan'. A first for UK in terms of its magnitude and scope, the document aims to establish better long-term goals for English healthcare, with an emphasis on supporting people to age well. Several ageing-well care goals include creating a better system of integrated care, promoting independent living, and providing more autonomy for the care older people wish to receive.[187] These goals demonstrate a shift in NHS ideology away from solely increasing the length of life to including a more social care approach for older people. These trends also align with the NHS' recent emphasis on decentralisation, creating a new focus of supporting local resources for care.[188] These approaches are, however, still quite dictatorial. Many of the outcomes are particularly focused on hitting metrics like reduced incidence of pneumonia, more accurate diagnosis of dementia, and tools for tracking older patients at home to prevent hospitalisation.[189] Therefore,

[186] OECD, 'Tackling Wasteful Spending on Health' (2017b).
[187] NHS, 'The NHS Long Term Plan' (2019) <https://www.longtermplan.nhs.uk/wp-content/uploads/2019/01/nhs-long-term-plan-june-2019.pdf>.
[188] Costa-Font Joan and others, 'Can Regional Decentralisation Shift Health Care Preferences?' (2017) 11180 <http://ftp.iza.org/dp11180.pdf>.
[189] NHS, 'The NHS Long Term Plan' (2019)

although the NHS has taken steps to address social care issues, there is not necessarily an emphasis to ensure a high quality of life, especially in an individual's last years. Quality of life is an elusive measurement, difficult to directly implement as there are many subjective factors that affect it like well-being, autonomy, social structures, and cultural norms.[190]

An alternative to the current approach to older person care is decentralising healthcare reform by encouraging independent community-based solutions through government-provided monetary incentives (e.g., grants, tax breaks etc.). Community solutions offer the advantage of enabling local constituencies, who know their older residents best, to take the initiative to offer quality of life care older persons are more likely to appreciate. There are several ways a government can incentivise these sorts of care streams. One such approach would be to use financial incentives to incentivise unique, effective solutions to problems with older person care that national health institutions have trouble developing. These solutions comprise everything from culturally sensitive approaches to organic community-centric altruism. As the social care section highlighted, home sharing has become increasingly prominent in several high-income countries in which older individuals share a home to serve as social support, while also providing a way to look after each other.[191] The challenge of incentivising these community models remains. An approach currently pursued in the U.S. with the Center for Medicare and Medicaid Services (CMS) is the establishment of grant-based incentive systems to particularly community minded hospital systems, charity organisations, or individuals. These grants have resulted in the formation of community treatment teams to uniquely developed integrated care models.[192] Despite these benefits, to date the effectiveness of these programmes has been difficult to assess as their scope of services, mission and impact is not easily ring-fenced. This is an area where a longer-term view and further research to quantify the impact could be a valuable contribution in the future.

[190] Yaser Khaje-Bishak and others, 'Assessing the Quality of Life in Elderly People and Related Factors in Tabriz, Iran.' (2014) 3 Journal of caring sciences 257 <http://www.ncbi.nlm.nih.gov/pubmed/25717455>.
[191] TruSense, 'Want to Keep Living at Home? A Senior Homeshare May Be the Answer' (2018) <https://mytrusense.com/2018/07/17/want-to-keep-living-at-home-a-senior-homeshare-may-be-the-answer/>.
[192] Center for Medicare & Medicaid Innovation, 'Innovation Models' (*CMS.gov*) <https://innovation.cms.gov/initiatives/#views=models>.

ii. Recommendations

A blended approach to augment the benefits of both the current and alternative approaches while mitigating their drawbacks can better address challenges in the care of older persons. The NHS, the Department of Health and Social Care, and local stakeholders have taken steps to develop integrated systems – i.e. systems of care coordination the UK to improve collaboration between hospital, general practitioners, and local constituencies[193] - like Sustainability and Transformation Partnerships (STPs) and Integrated Care Systems (ICSs), but can better utilise these structures to further promote community-centred care. We recommend developing components within these structures that enable mechanisms for positive reinforcement and reward to incubate effective, locally-oriented interventions. The goal of this recommendation is to support current approaches to care by promoting a culture of innovation and individualisation.

There are notable case studies of systems that function in this capacity in the U.S. The mission of the U.S. Centers for Medicare & Medicaid Innovation (CMMI) is to act as an incubator for healthcare innovation by developing test models to continue care, lower costs, and better align payment schemes to support patient-centred practices.[194] Utilising the unique federal structure of the U.S., CMMI has the capacity to enable interested states and localities to create and develop targeted programmes to improve some aspect of care. For example, current programmes like the 'Next Generation ACO Model' allow for hospitals to achieve lucrative profit margins on insurance reimbursements conditional on adoption of a novel alternative payment model.[195] More closely related to eldercare, the CMS was responsible for establishing the Program of All-Inclusive Care for the Elderly (PACE) which was first funded for in the Balanced Budget Act of 1997.[196] PACE's goal is to integrate services and provide comprehensive coverage for frail older patients at risk of institutionalisation.[197] The programme has demonstrated success in managing costs of care while improving quality of life by incentivising non-governmental institutions to

[193]NHS England, 'Integrated Care Systems' (2019) <https://www.england.nhs.uk/integratedcare/integrated-care-systems/>.
[194] Center for Medicare & Medicaid Innovation (n.d.-a).
[195]Center for Medicare & Medicaid Innovation, 'Next Generation ACO Model' (*CMS.gov*) <https://innovation.cms.gov/initiatives/next-generation-aco-model/>.
[196] US Department of Health and Human Services, 'Report to Congress: The Centers for Medicare & Medicaid Services' Evaluation of For-Profit PACE Programs under Section 4804(b) of the Balanced Budget Act of 1997' (2015) <https://innovation.cms.gov/Files/reports/RTC_For-Profit_PACE_Report_to_Congress_051915_Clean.pdf>.
[197] ibid.

coordinate comprehensive health services.[198] What is most critical about its adoption is that it was originally a private model that worked in San Francisco's Chinatown area.[199] Its local success was instrumental in its wider adoption, demonstrating how community-specific approaches can lead to novel ways of treatment that can be applied elsewhere.

Several limitations exist with this reward-based approach. The primary drawback is the difficulty in assessing programme effectiveness. Since grant-based systems and reward incentives are often purposefully left vague in their mission to enable creative ideas to be implemented, it is often difficult to determine the impact they had on the community. Lack of assessment makes justifying funding for future iterations of the incentive scheme difficult. Additionally, there is no way to tell if any development would have occurred without the incentive in the first place. This, however, may be less of an issue since government subsidy can often lead to faster public acceptance and adoption of technologies.

A more obvious challenge is the potential cultural resistance to the novel approach in the industry. Supporting non-governmental organisations in healthcare has been received poorly in the past in the UK. The primary argument for preventing private companies to play a role in the NHS is that it undermines the service's core values of accessible care, a potentially dubious claim upon further evaluation. However, for example, a £1.2 billion contract to deliver cancer care and end-of-life care to Staffordshire faced criticism and fell apart in 2017 due to poor execution.[200]

Despite these limitations and challenges, there are a multitude of synergies and benefits that well-managed DCCOs can provide. DCCOs and similar Integrated Care Systems can ensure that patient-centred and locally-orientated interventions are the key drivers of healthcare decisions. Furthermore, they would help to eliminate silos which currently result in a tendency to manage illnesses discretely without full appreciation of the context in which an individual is being treated.

[198] David Jones and others, 'Study of Access and Quality of Care in For-Profit PACE Final Report' (2013) <https://innovation.cms.gov/Files/reports/pace-access-qualityreport.pdf>; Urszula Polska, 'The Program of All-Inclusive Care for the Elderly (PACE): The Innovative and Economically Viable Model of American Geriatric Care' (2017) 16 Pielegniarstwo XXI Wieku / Nursing in the 21st Century 51 <https://content.sciendo.com/view/journals/pielxxiw/16/1/article-p51.xml>.
[199] Polska (2017).
[200] The King's Fund, 'Is the NHS Being Privatised?' (2017a) <https://www.kingsfund.org.uk/publications/articles/big-election-questions-nhs-privatised>.

Finally, decision aids are a suitable tool to support clinical staff and patients navigate, in a values and desired health outcome manner, important decisions such as end-of-life options.

CONCLUSION

The UK, like the world, is facing a rapidly ageing population, leading to strains on government pension, social and healthcare systems. Current strains will be exacerbated in the coming years as these demographic shifts continue, requiring nimble and innovative policymaking to respond to these challenges. Policymakers must seek ways to do more with less; to challenge current practices and paradigms; and to use what we know about ageing in the UK to capitalise on the possibilities as well as guard against the pitfalls of an ageing society.

Like all policy, the solutions recommended in this paper all present opportunities and challenges of their own. Creative use of technology may help across financial, social care and healthcare sectors, with algorithms helping banks spot frauds and scams targeting older people, with the possibility of autonomous vehicles supporting those with mobility issues, or with the exciting possibilities of telemedicine; however, older persons are also susceptible to being left behind or taken advantage of via technology. Finding ways for those over 65 to remain active in the workforce may help with financial stability and social connectedness among older people, but must be managed so as not to open avenues for abuse. Changing family dynamics, rising housing costs, and population shifts from rural to urban spaces open up the possibility for mutually beneficial models of co-housing and intergenerational living that could benefit both older and younger generations, though the relationship must be carefully managed to protect both parties. New models of integrated healthcare and patient-centred care may challenge notions of prolonging life at any cost, but give agency and dignity back to patients while cutting down on wasteful health spending. All interventions recommended here seek to enable older persons to live healthy, financially comfortable and socially connected over the years, in a sustainable way that will be available to future generations as well.

The challenges faced by a rapidly ageing population are multifaceted, complex and touch on the economic, social and cultural bedrock of society. Ageing populations, as well as society more broadly, can benefit from reimagining what ageing should and could look like within the contexts of a changing society.

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