

United Kingdom

*Global Science Hub, Industrial Strategy for
Ageing Society, Joint Geroscience
Research Initiative with Israel*

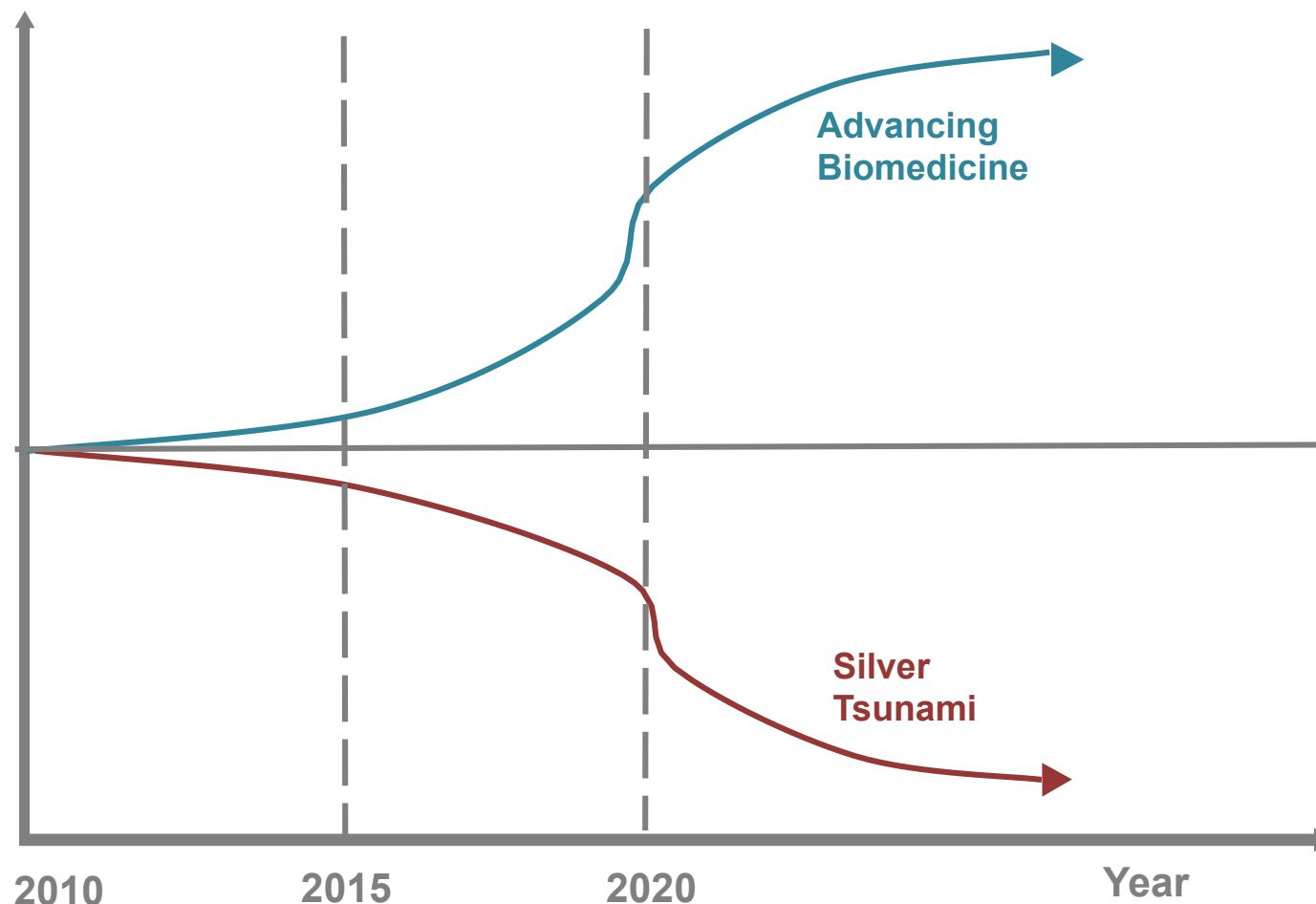


General Overview

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Silver Tsunami

The present moment in history is marked by the impending collision of two opposed megatrends: 1) **advances in biomedicine** with the potential to target the fundamental mechanisms of ageing at their source, with the potential to increase Healthy Longevity, and 2) a rapid global population aging, also known as the “**Silver Tsunami**”, which threatens to impose a massive economic burden through increased healthcare costs combined with a shrinking workforce.



Globally, the number of over 65s is projected to almost double over the next 20 years, from around 600 million to more than 1 billion. This is basically the result of a combination of increasing life expectancy and decreasing fertility rates. Most consequences tend to be bleak - a growing proportion of dependents rely on a shrinking working population.

This leads to slower growth, exorbitant pension costs, and, ultimately, an economy buckling under the weight of growing social and health care demands. This global demographic shift is known colloquially as the ‘silver tsunami.’



Scope and Diversity of Government Initiatives

In recent years we have been seeing increasingly frequent references to the 'ageing society' in official government initiatives around the world. At every layer of government planning, ranging from ad hoc projects such as municipal plans to grand industrial strategies, the ageing society is cited as a challenge to be overcome.

Different governments offer a myriad of ad hoc solutions for adapting to the demographic crisis.

We have seen **Lifestyle and Fitness Programs** such as Japan's plans for an Ageless Society, whereby people aged 65 or older will not be automatically regarded as seniors but will be encouraged to stay healthy and work, remaining economically active.

We have seen **AgeTech** programs, such as the Singapore Government's initiatives focused on smart-homes to improve elderly quality of life and wellbeing, and increasing their digital literacy.

We have seen **residential master plans**, such as the Seoul metropolitan government's "2020 Master Plan for the Aged Society" embracing the vision of Seoul as "a city whose citizens enjoy healthy and active lives of up to 100 years" under the banner of an "age-friendly city".

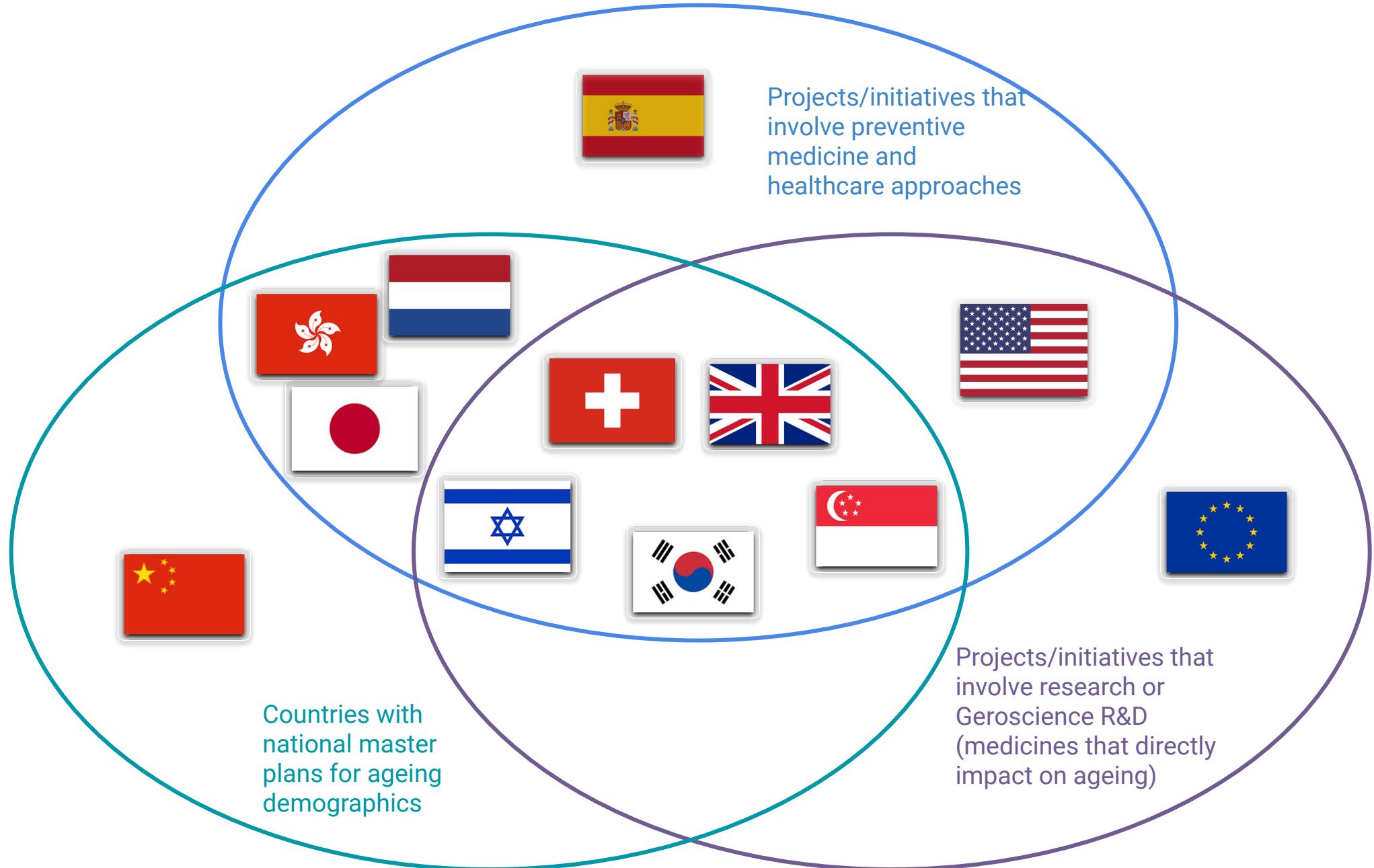
We have seen initiatives for a **preventive medicine** approaches to ageing, such as the UK's genomic medicine service and Swiss Personalised Health Network.

We have seen initiatives for intervening even further upstream, in the biology of ageing itself, with **geroscience** initiatives such as the Netherlands' Deltaplan for Dementia and Switzerland's Masterplan for the Promotion of Biomedical Research, and BIRAX Ageing, the joint UK-Israeli geroscience research initiative.

We have even seen **financial innovations** such as the Swiss City of St Gallen's elderly bank, where retired volunteers "deposit" hours worked looking after elderly people (and in return can use any time saved up for their own care provision later in life).

Longevity Initiatives Classification Framework

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We can see these diverse instances of government initiatives cropping up around the world in response to the looming tsunami. Each such initiative covered in this document involves at least one of the four key technological components which Aging Analytics Agency has identified in previous reports as comprising a Longevity Industry: **Geroscience Research and Development, Preventive Medicine, AgeTech, and Novel Financial Systems.**

Only through a dedicated, synergetic focus on all four of these domains at once can the global population be escorted to a longer and healthier life, and Healthy Longevity made into an asset. In other words, withstanding the global silver tsunami requires a coordinated strategy for advancing all four technological strands in synergy, with a heavy focus on novel financial reform to combat the economic burden of ageing population, and on furthering progress in advanced biomedicine to maximize Healthy Longevity. Unfortunately, no such nation-level Longevity development strategy exists. But we see the rudiments of it in the UK's existing initiatives, which lay a good foundation for the development of such a plan, having taken several crucial early steps:

- The UK has recognized an "ageing society" as one of its 4 core industrial grand challenges, and allocated £300 million to overcome this challenge, out of which goes £98 towards "Healthy Ageing Industrial Strategy Challenge Fund."
- This £98 million will drive the development of new products and services which will help people to live in their homes for longer, tackle loneliness, and increase independence and wellbeing.
- The UK has allocated £210 million towards "Data to early diagnosis and precision medicine programme."
- The Centers of Excellence in Genomic Science (CEGS) program, which aims to develop novel and innovative genomic research projects using the data sets and technologies developed by the Human Genome Project.
- Innovate UK's Digitalisation of Medicines Manufacturing Challenge Fund.
- In June 2018 Theresa May announced a commitment to harness AI to provide five more years of healthy independent lives by 2035.

Reviewing these initiatives, we can see that The United Kingdom has already turned its attention to cross-sector collaboration, particularly between artificial intelligence and healthcare. There has also been a general recognition of the central role of technology, and financial technology in particular, in improving the lives of the elderly.

However, there is no explicit intention of directing these agendas toward improving Healthy Longevity as a metric in itself yet. If the UK Government wants to optimise its existing initiatives for solving the ageing population problem, it must create a veritable Industry of Healthy Longevity itself, which in turn requires:

- A greater focus on promoting biomedical innovations focused on extending Healthy Longevity, and on financial reform to neutralize economic risks posed by an ageing society.
- A greater focus on combining these technologies in order to meet strategic goals. For example, it is not clear how much the UK government knows about the impact of its own biomedical initiatives on the 'ageing society' grand challenge.

Existing efforts must be extended to create a framework for **changing the deficit model of the 'Ageing Society' to an asset model around 'Longevity'**. And to be bold with a national strategy to harness the 'Longevity Dividend' to benefit all people in the society. In other words, we need a fully integrated **Longevity National Development Plan**. This requires intelligent coordination, which, in the British political tradition, means a governing body equivalent to the UK's recently created Office for AI.

Development of a Blueprint and Framework for a Government-led National Longevity Development Strategy is one of the core aims of the recently established All-Party Parliamentary Group on Longevity and its secretariat company, Longevity International UK.



In Longevity Landscape Vol II: The Business of Longevity we predicted the emergence of an **AgeTech sector** (consisting of non-biomedical technologies that can assist elderly people maintain quality of life), and the emergence of the corresponding financial sphere as a key aspect of the Longevity Industry.

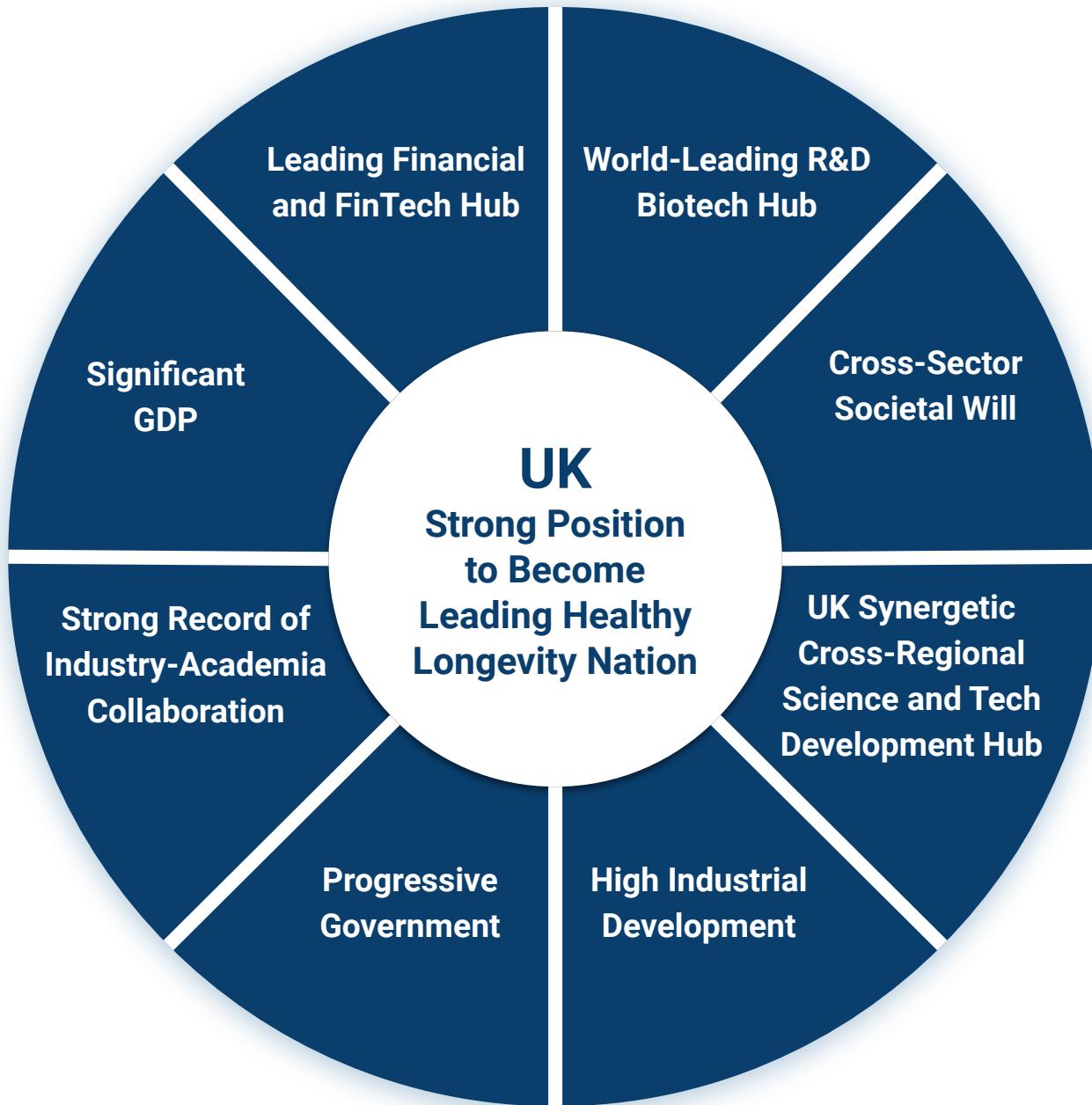
The BEIS policy paper released in May 2018 appears to be laying the groundwork for this sector.

“Ageing populations will create new demands for technologies, products and services, including new care technologies, new housing models and innovative savings products for retirement.”

~ May 2018 policy paper, Department for Business Energy and Industrial Strategy

There is now a move toward AgeTech in the world of startup: In February 2018, London's *Innovation Warehouse*, originally founded in 2010 as a community for digital start-ups, established an AgeTech & Longevity Hub, providing mentoring and corporate finance services to early-stage FinTech enterprises, with the stated aim of “extending healthier lifespans and maintain quality of life for our growing, ageing population.”

UK in Leading Position to Become International Leader of Healthy Longevity



The UK is very well positioned to become a leader in Healthy Longevity, and was ranked #1 by this report's proprietary analysis for a number of reasons including its strong reputation as a BioTech R&D and Financial Hub, a strong history of industry-academia partnerships focusing on scientific and technological synergies, and its commitment of 300 million pounds to its Ageing Population Industrial Strategy Grand Challenge. The nation has all necessary compounds in place to leverage and channel its existing strengths into an efficient government-led campaign to make the promotion of Healthy Longevity and financial reform to neutralize the economic burden of an Ageing Population a key priority of its national strategic agenda.

The All-Party Parliamentary Group on Longevity

All Party Parliamentary Group for Longevity



Preventive Medicine
Innovations in Healthcare
Problem of Ageing Population
Financial Reform for Pension System



www.parliament.uk

LongevityXuk
www.longevityinternational.org

Supporting Partners



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**INNOVATION
WAREHOUSE**



APPG for Longevity Officers



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Sir Peter
Bottomley MP
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Jonathan Lord MP
Vice-Chair



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Foster MP
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Lord Andrew Stone
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Baroness Sally
Greengross
Treasurer



Lord Geoffrey Filkin

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Cooperation Division

Longevity Development Plans Global Landscape Overview Second Edition, and Cross-Sector Longevity in UK Special Case Study

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National Longevity Development Plans Global Landscape Overview **Second Edition**



- A greater number of countries in its analysis.
- A wider variety of metrics (including a precise formulation for sub-metrics, metric categorization and metric weighting).
- Detailed project and initiative budget data analysis.
- Upgraded overall breadth and depth of the proprietary analysis for ranking the strength, relevance and proactiveness of Government Longevity initiatives.

Longevity in UK Cross-Sector Comparative Analysis **Special Case Study**



- Enhanced comparative analysis of the UK Longevity sphere across many domains including Government initiatives, Longevity industry developments, science, academia, etc.
- Advanced analysis to determine precisely how the UK is positioned within the broader global Longevity sphere across many relevant sectors and domains.



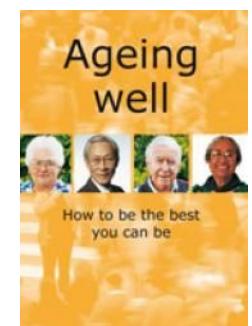
Summary of Relevant Government Led Longevity Initiatives in the United Kingdom

- The UK is at the forefront of Government-led Longevity Initiatives through the establishment of the £300 Ageing Societies Industrial Grand Challenge.
- But to achieve tangible results, the UK needs more than just an industrial strategy. It needs a Longevity Industry Strategy, and the first step is to combine advanced biomedicine, AgeTech, novel financial systems and progressive social policies in a manner that keeps seniors functioning healthily for longer.
- The UK still needs an explicit commitment to healthspan extension and tackling ageing itself rather than individual diseases.
- The UK still needs to create an ecosystem for cross-sector collaboration between industry, academia and non-profits -- a Longevity industry equivalent of the AI and FinTech industries' "London-Oxford-Cambridge Triangle".
- In short, the UK Government needs to focus on **transforming the deficit model of the 'Ageing Society' to an asset model around 'Longevity'** and be bold with a national strategy to reap the 'Longevity Dividend' for the benefit all people in society.



History of UK Government Involvement in Longevity

March 2005	<p>National Service Framework for Long Term Conditions.</p> <p>The NSF focuses on people with long-term neurological conditions, much of the guidance it offers can apply to anyone living with a long-term condition. It is designed to be a key tool for delivering the government's strategy to support people with long term conditions outlined in the NHS Improvement Plan: Putting People at the Heart of Public Service.</p>
October 2007	<p>The Partnerships for Older People Project (POPPs) programme.</p> <p>The POPPS programme was launched in March 2005 by the Department of Health. The aim of the programme is to deliver and evaluate (through 29 Local Authority led pilots), locally innovative approaches aimed at creating a sustainable shift in resources and culture away from institutional and hospital-based crisis care for older people towards earlier, targeted interventions.</p>
3 March 2008	<p>Tackle Poverty and Promote Greater Independence and Well-being in Later Life.</p> <p>Public Service Agreement (PSA) 17 issued by the Department for Work on Pensions in October 2007 seeks to ensure that the specific needs of the older population are given due priority. It sets out the outcomes the government seeks to achieve in the Comprehensive Spending Review period to promote improvements in independence and well-being in later life for the longer term.</p>
12 July 2010	<p>Independent Living Strategy.</p> <p>The Independent Living Strategy was launched by the Office for Disability Issues. The five-year strategy joins current and new policy initiatives to provide a coherent framework for making progress towards independent living for disabled people, including older disabled people. The strategy aims to give disabled people more choice and control over the support they need and greater access to employment, transport, health and housing opportunities. The strategy makes a series of new commitments involving six government departments.</p> <p>Ageing Well Programme Launched by DWP.</p> <p>Ageing Well is a new programme designed to support local authorities to improve their services for older people. The key aim of the programme is to provide a better quality of life for older people through local services that are designed to meet their needs and recognise the huge contribution that people in later life make to their local communities. It is a sector led programme which consolidates current best practice from local authorities, the findings of wider research and the lessons learned from earlier pilot activities. This combined body of evidence shows that strong leadership, working in partnership, joining up services and including older people in service design and delivery, leads to more cost effective services with better outcomes for older people.</p>





History of UK Government Involvement in Longevity

12 March
2018

Industrial Strategy Challenge Fund Allocated.

Innovate UK, the UK's technology strategy board (which reports directly to BEIS), allocate £300 million from their Industrial Strategy Challenge Fund, to develop methods to help the global ageing population, with opportunities for businesses and researchers to work together.

1 June
2018

BIRAX Ageing Created.

The British Council, the Pears Foundation and the British Embassy in Israel announce The Britain Israel Research and Academic Exchange Partnership (BIRAX), a multi-million pound initiative to advance innovative scientific research in ageing, big data and personalised medicine.



6 Sep
2018

NHS Healthcare Data Debate.

House of Lords sits to debate how NHS healthcare data could be used to improve the health of the nation.

10 Sep
2018

Digitalisation of Medicines Manufacturing Challenge Fund Opened.

Innovate UK, begin awarding the Digitalisation of Medicines Manufacturing Challenge Fund, an investment of up to £8 million in capital infrastructure, to projects which "enable existing medicines manufacturing operations to improve their scope, efficiency and effectiveness through the application of digitally-enabled technology".



1 Oct
2018

Genomic Medicine Service in England Launched.

Hospitals across England will be connected to specialist centres that read, analyse and interpret patient DNA to help diagnose rare diseases, match patients to the most effective treatments, and reduce adverse drug reactions.



March
2019

All-Party Parliamentary Group for Longevity.

Cross-disciplinary exchange on benefits of longevity (as opposed to 'problems' of ageing) within an ethical, citizen-centred framework to maximise the societal benefits of enabling healthier, more productive and purposeful lives. AI and data-driven solutions to increase healthspan and democratise access to the 'longevity dividend' for citizens will be a focus.

19 Mar
2019

Healthy Ageing Grand Challenge Conference.

While not officially affiliated with the UK Government, this conference focuses on the UK's 2nd Industrial Strategy Grand Challenge, Ageing Population. Topics to be discussed include the current health needs of the UK's older population and how demand is set to increase in the future, how to promote better health in later life and manage long-term conditions.





General metrics

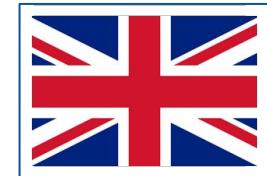
Life Expectancy	Both sexes life expectancy (2019)	81 years
	Male life expectancy (2018)	79.7 years
	Female life expectancy (2018)	83.2 years
GDP	GDP per capita, current prices (2018)	42.31 thousand (\$)
	GDP per capita, PPP (2018)	46.78 thousand (\$)
	GDP, current prices (2018)	2,830 billion (\$)
Population Ageing	Rate of population ageing	2.2 (2007-2017)
	Aged over 65 (2018)	18.5%
	Age dependency ratio (2017)	29%
Healthcare Efficiency	Health expenditure (2017)	9.6% of GDP
	Health expenditure per capita (2017)	4.246 thousand (\$)
	Healthcare efficiency score (2018)	58.9
Retirement	Total # retired	12,225,489
	Retired people proportion	19%
	Retirement age (Early/Normal)	65 years/68 years

Longevity Initiatives

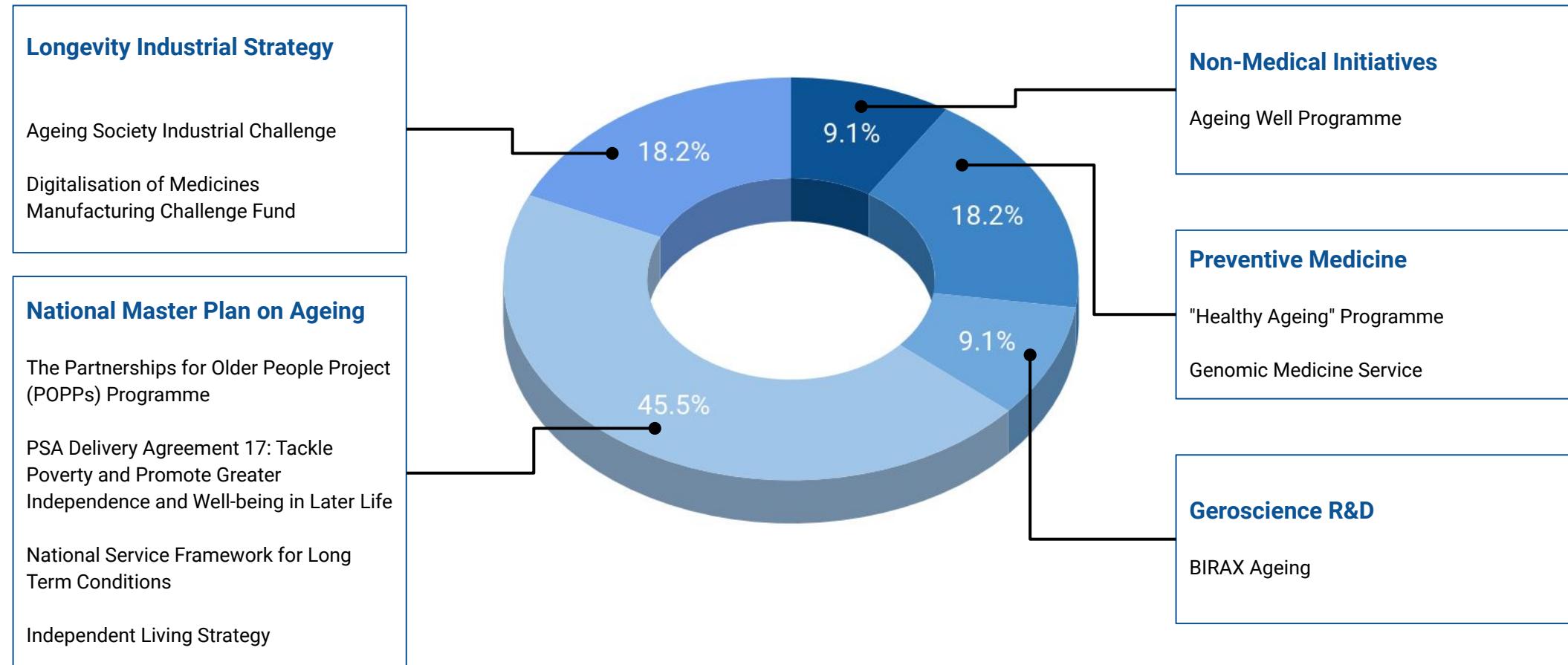


- Age of relevant initiatives: **14 years**
- **23** of WHO age-friendly cities and communities
- £300 million **National Longevity Industrial Strategy**
- **8** initiatives focused on non-medical improvement of quality of life
- **3** initiatives focused on preventive medicine and healthcare approaches
- **1** initiative involves research or R&D of medicines that directly impact on ageing

United Kingdom Initiatives Level of Comprehensiveness



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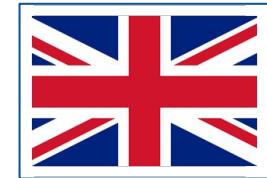


Underrepresented Initiatives

Healthy Ageing: Lifestyle and Fitness Programs	AgeTech	Elderly Healthcare Vouchers	Financial Reform	Continuing Education
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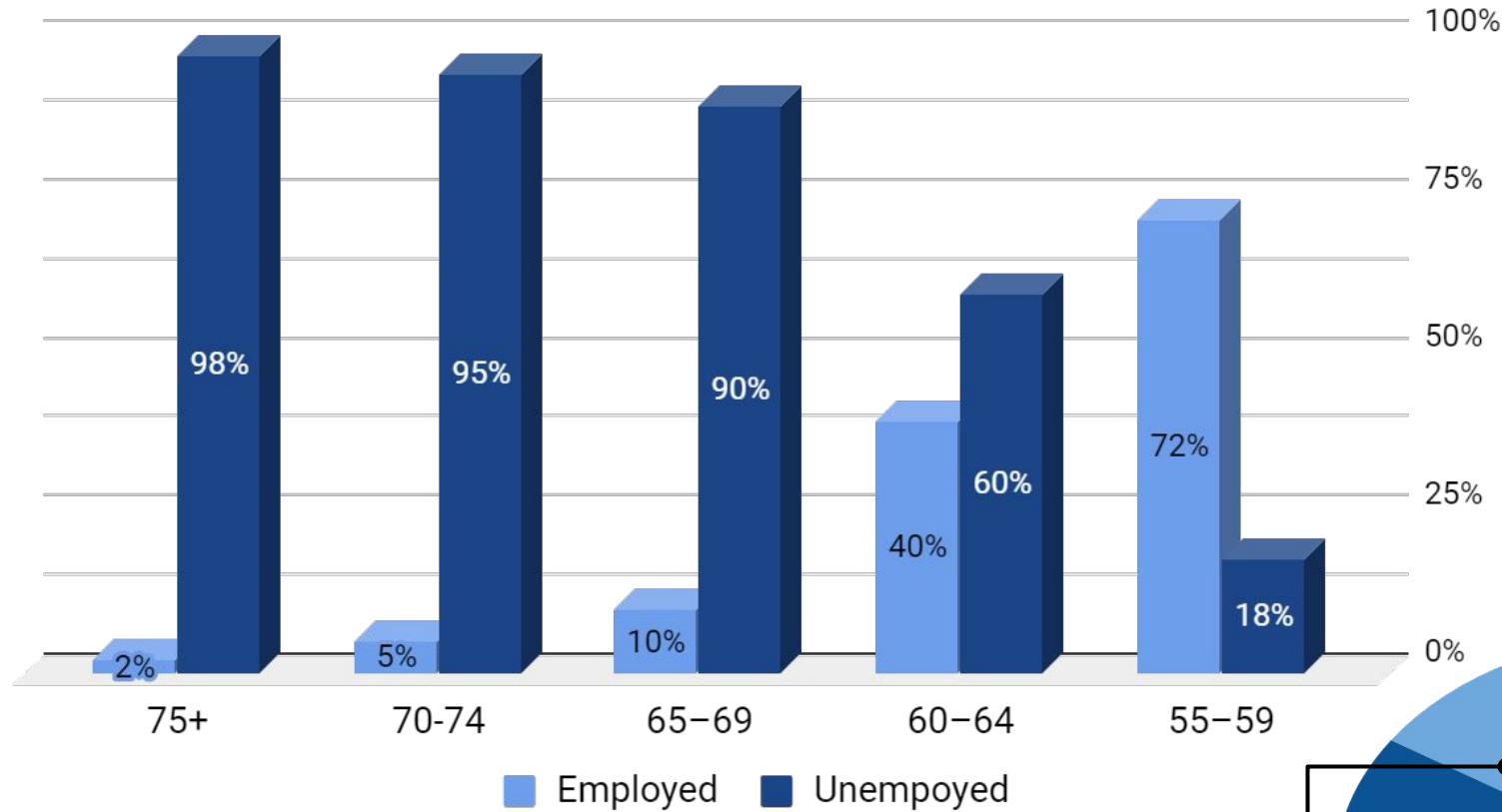


United Kingdom Age/Employment Range

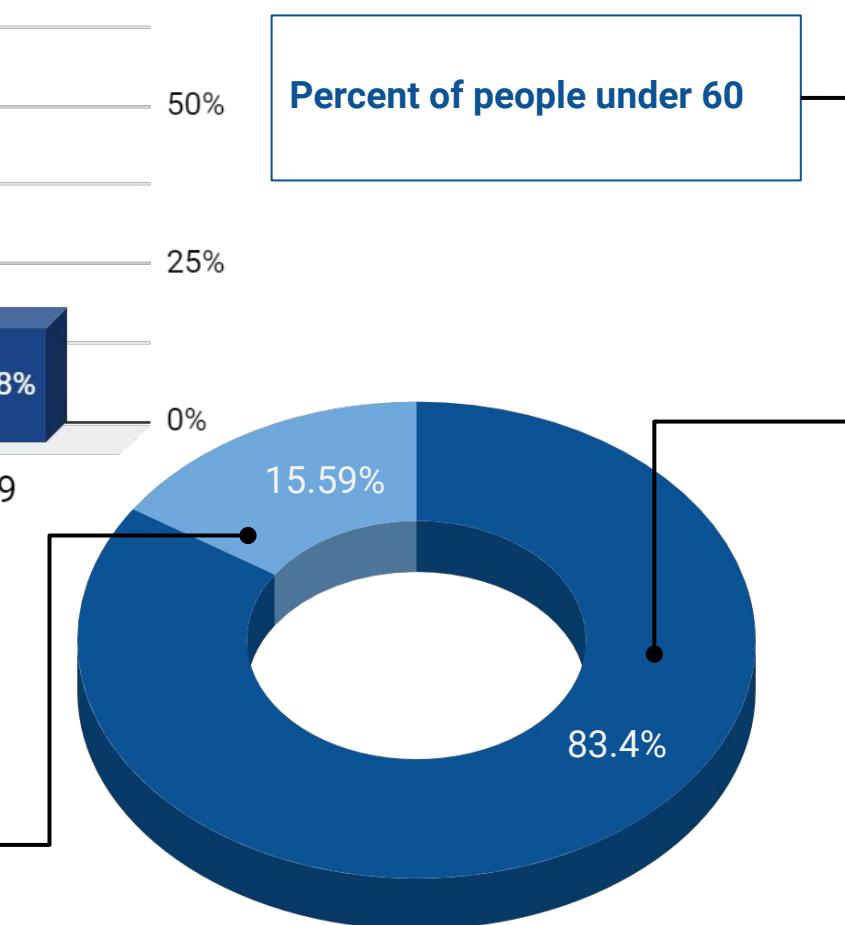


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Fraction of the Unemployed by Age



Percent of people under 60



Percent of people over 60



AI and Biomedicine: The Emerging Synergy

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As presented below, **AI and biomedicine intersect at the centre of the UK's Industrial Strategy**. The Industrial Strategy appears to be designed with synergies in mind, including the synergy between digital and biotech industries which, as we have argued in previous reports, will come to drive the future growth of the emerging Longevity Industry. The following slides summarise developments in 2018 which show some of these synergies in their early stages.

Industrial strategy



Clean growth

- Energy revolution
- Transforming construction
- Transforming food production



Healthy ageing

- Medicines manufacturing
- Data to early diagnosis & precision medicine
- Healthy ageing



Future of mobility

- Faraday battery challenge
- Extreme robotics
- National space test facility



Artificial intelligence and data economy

- Audience of the future / Next generation services / Quantum technology





Ageing Society Industrial Challenge Fund

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£300 million Ageing Society Grand Challenge fund

In March 2018 the government announced **£300 million** for their **ageing society grand challenge**. This investment will be subdivided into three programs:

The £98 million “healthy ageing programme” (£98 million) aims to drive the development of new products and services which will help people to live in their homes for longer, tackle loneliness, and increase independence and wellbeing.

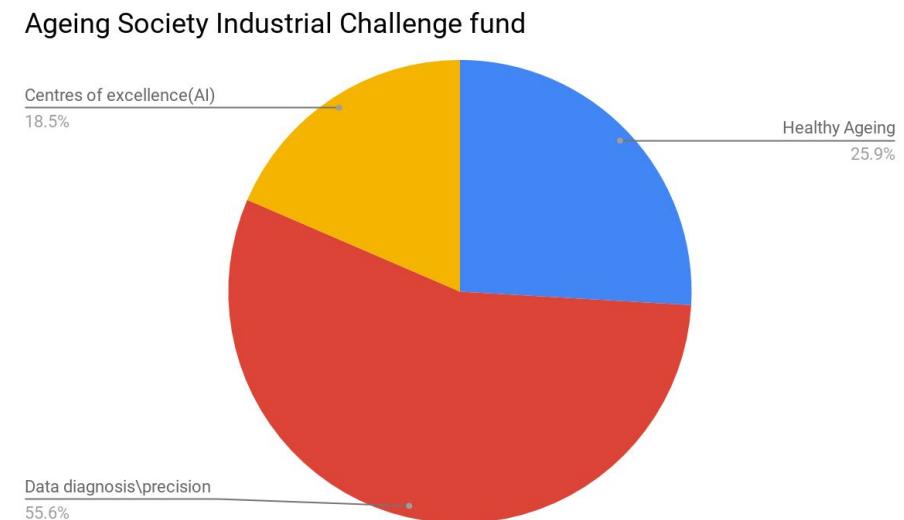
Data to early diagnosis and precision medicine programme (£210 million) will develop innovative new diagnostic tools, medical products and treatments. Part of this will be an investment in **genomics and large scale whole genome sequencing** to help those with rare diseases receive faster diagnoses and cancer patients gain better access to personalised treatment programmes.

The UK will sequence the genomes of 500,000 Biobank volunteers. The data from each of these volunteers will provide a rich resource of data that UK researchers will use to build a greater understanding of disease processes and enable the development of tools for early diagnosis and a new wave of therapies.

Regional centres of excellence program (£70 million) will create regional centres across the UK to offer UK patients better diagnosis using new technologies including **Artificial Intelligence (AI)** to analyse medical images. This has the potential to diagnose disease more accurately and therefore provide more targeted treatment, and increase efficiency in the health system.



UK Research
and Innovation





Ageing Society Industrial Challenge Fund: “Healthy Aging”

One early beneficiary of the “**Healthy Ageing Programme**” is NquiringMinds, a British company that specialises in the field of artificial intelligence and the ‘Internet of Things’.

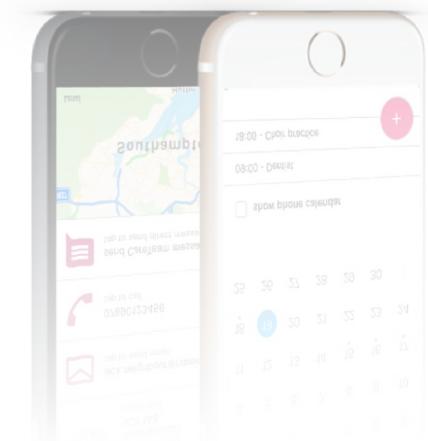
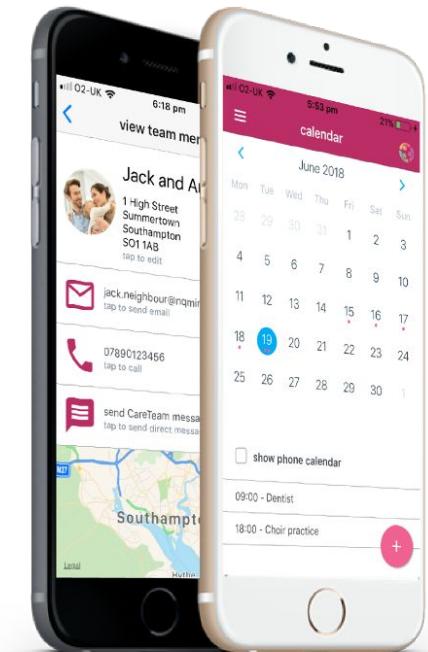
In partnership with the University of Southampton, Southampton City Council and Hampshire County Council, NquiringMinds has developed a technical platform called CareTeam that is all about making aged care more collaborative. At the centre of the CareTeam platform is an app that integrates the help from friends, family and neighbours along with the professional carers. The app allows an invited circle of trusted people to share important information such as medications and appointments in a secure platform.

The CareTeam approach seeks to transform the social care sector in the following ways:

Sensor analytics: Using AI algorithms and simple sensors, such as energy monitors and infra-red movement sensors, the CareTeam system spots anomalies in a person’s behaviour and alerts their carers if there is a significant change, e.g. if they haven’t made their cup of tea at the usual time.

Self-learning workflow: The CareTeam system also uses analytics to gather insight on patterns in care and behaviour, which can then be used to plan future care needs. Through these insights and analytics, the platform helps to continuously monitor and improve the quality of care.

Social care insights: All local councils are continually generating and storing data on the cost and quality of social care provided. With the help of AI algorithms that can analyse trends, detect anomalies and predict patterns, this data can be used to better plan the provision of social care.



Ageing Society Industrial Challenge Fund: “Centres of Excellence”

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On 6 November 2018 the business secretary Greg Clark announced five new centres of excellence for digital pathology and imaging, including radiology using artificial intelligence medical advances.

The centres will be used to help hospitals make scans and biopsy images digital in a bid to cut down manual reporting to free up more staff time for direct patient care in the NHS and is part of a bid to find new ways to speed up diagnosis of diseases to improve outcomes for patients. They will aim to offer more personalised treatment for patients while freeing up doctors to spend more time caring for patients, while investment in large-scale genomics and image analysis will drive new understanding of how complex diseases develop.

The centres, funded by the Industrial Strategy Challenge Fund which is managed by UK Research and Innovation (UKRI), will be based at universities and NHS facilities and are expected to be up and running in 2019.

The centres are:

- London Medical Imaging and Artificial Intelligence Centre for Value-Based Healthcare will use artificial intelligence in medical imaging and related clinical data for faster and earlier diagnosis and automating expensive and time-consuming manual reporting.
- Glasgow's I-CAIRD (Industrial Centre for AI Research in Digital Diagnostics) will bring together clinicians, health planners, and industry to work with innovative SMEs to answer clinical questions, and solve healthcare challenges more quickly and efficiently.
- NCIMI (National Consortium of Intelligent Medical Imaging) in Oxford will consider the role clinical imaging plays in the delivery of more personalised care and earlier diagnosis to support disease prevention and treatment.
- The Northern Pathology Imaging Collaborative (NPIC) located in Leeds will boost the city's reputation in digital pathology research further by creating a world-leading centre linking up nine industry partners, eight universities and nine NHS trusts.
- The Pathology image data Lake for Analytics, Knowledge and Education (PathLAKE), based in Coventry, will use NHS pathology data to drive economic growth in health-related AI.

Ageing Society Industrial Challenge Fund: “Centers of Excellence”

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Professor Sir Mark Walport, Chief Executive of UKRI

“Early diagnosis of illness can greatly increase the chances of successful treatment and save lives. The centres announced today bring together the teams that will develop artificial intelligence tools that can analyse medical images varying from x-rays to microscopic sections from tissue biopsies. Artificial intelligence has the potential to revolutionise the speed and accuracy of medical diagnosis. The centres will bring together doctors, businesses and academics to develop products using these advances in digital technology to improve early diagnosis of disease, including cancer by detecting abnormalities.”



Matt Hancock, Health Secretary

“Artificial intelligence will play a crucial role in the future of the NHS – and we need to embrace it by introducing systems which can speed up diagnoses, improve patient outcomes, make every pound go further and give clinicians more time with their patients. As part of our long-term plan, we will transform the NHS into an ecosystem of enterprise and innovation that allows technology to flourish and evolve.”



Greg Clark, Business Secretary

“AI has the potential to revolutionise healthcare and improve lives for the better. That’s why our modern Industrial Strategy puts pioneering technologies at the heart of our plans to build a Britain fit for the future. The innovation at these new centres will help diagnose disease earlier to give people more options when it comes to their treatment, and make reporting more efficient, freeing up time for our much-admired NHS staff time to spend on direct patient care.”





Digitisation of Medicine Challenge Fund

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On 10 September a competition opened for UK businesses to apply for the Digitalisation of Medicines Manufacturing: Challenge Fund, a share of up to £8 million from the government's Industrial Strategy Challenge Fund for projects that significantly improve the efficiency, effectiveness and scope of medicines manufacture., by reducing waste and costs in the medicines supply chain through greater use of digitalisation.

It is provided by UK Research and Innovation and delivered through Innovate UK.

They are considering projects that address at least 1 of 3 themes. In order to be eligible they must aim to:

- Improve the UK's capacity and capability to manufacture small-molecule, biological, or cell or gene-based medicines.
- Significantly reduce the cost of manufacturing these medicines.
- Significantly reduce the waste produced while manufacturing them.

Projects' total costs must be between £2 million and £4 million. Projects themselves must start by 1 January 2019 and end by 31 March 2019. They can last between 3 and 4 months.

Innovate UK

Notice

Digitalisation of medicines manufacturing: Challenge Fund

Published 20 August 2018



Industrial Strategy: The Grand Challenges

23

The Industrial Strategy sets out Grand Challenges to put the UK at the forefront of the industries of the future, ensuring that the UK takes advantage of major global changes, improving people's lives and the country's productivity. The first 4 Grand Challenges are focused on the global trends which will transform our future:

- Growing the Artificial Intelligence and data driven economy
- Clean growth
- Future of mobility
- **Ageing society**



Ageing society: The UK population is ageing, as it is across the industrialised world. The prospect of longer lives will require people to plan their careers and retirement differently. Ageing populations will create new demands for technologies, products and services, including new care technologies, new housing models and innovative savings products for retirement. The state has an obligation to help older citizens lead independent, fulfilled lives, continuing to contribute to society, must be created an economy which works for everyone, regardless of age.

In support of the Grand Challenge on data and artificial intelligence (AI), a new Centre for Data Ethics and Innovation is being established to enable and ensure safe, ethical and ground-breaking innovation in AI and data-driven technologies. The centre will work with government, regulators and industry, as well as across sectors and applications, to ensure that the UK's regulatory regime fully supports – and removes barriers to – the ethical and innovative use of data and AI. This will lay the foundations for AI adoption which could benefit households across the UK by up to £2,300 per year by 2030, and ensure that the positive impact of these technologies on the UK economy and society can be maximised.

Ministers Announce £300 Million Research Fund To Help Brits Reach 100

24

Ministers will inject more than £300 million into researching old age in order to support the ageing population. They say “we need to ‘revolutionise’ the way people get older – ensuring they remain healthy and independent for longer.”

The funding will support a research hub looking at dementia as well as a major project looking at the prevention and treatment of disease, involving more than 500,000 patients. Under the plans set out by Mr Greg Clark, a £210 million competitive fund will be established to invest in the development of innovative diagnostic tools, medical products and treatments.

It will include the creation of a series of regional centres across the UK to improve the diagnosis of patients using technologies such as artificial intelligence. A further £98 million will be invested in a healthy ageing programme to develop products and services to help people to live in their homes for longer. In addition, £40 million will go to the UK Dementia Research Institute, in partnership with University College London, to create a hub in which 350 leading scientists will research treatments for the condition.

An estimated 850,000 people in UK are living with the disease.

Care minister Caroline Dinenage added: “As a society we are *living longer* – a child born today can expect to *live to 100 years* – but now we must seize the opportunity to *improve the quality of lives lived longer*.”

The state pension age for men and women will rise to 66 by 2020, and Government actuaries believe it will reach 70 in the 2050s and 71 in the 2060s.



We can already see a broad spectrum of government initiatives from around the world focusing on ageing and Longevity. Some have a more biomedical focus, some a more digital focus. Some are national and some municipal. This all depends the economic and technological conditions and political traditions of each nation. But more importantly, some government initiatives are more integrated, comprehensive and long termist than others, with a varying degrees of emphasis on economic and industrial planning. **In this respect, some nations are closer than others to developing a fully integrated long term national development plan for longevity.**

Progress in this direction requires political will. And as the variety of British government initiatives listed here demonstrates, there is no shortage of political will to address the ageing population challenge in the UK. This is one factor that has resulted in the UK being ranked as #1 in terms of the strength and relevancy of its Government-led Longevity initiatives among the twelve regions profiled in this report.

However, while the UK has been shown to be a leader in this sphere, there are still important next steps that it can take in order to optimize the actionability of its ageing and Longevity-related development activities, and to maximize the chances of delivering tangible deliverables as a result, such as an increase in the nation's Healthy Longevity, and a reduction in the economic burden posed by its ageing population.

More specifically, it is the recommendation of this report that the UK Government work towards extending its existing efforts by developing a framework to change the deficit model of the 'Ageing Society' to an asset model around 'Longevity' and be bold with a national strategy to harness the 'Longevity Dividend' to benefit all people in society. In other words, the nation needs a fully integrated Longevity National Development Plan.

To this end, the development of a Blueprint and Framework for a Government-led National Longevity Development Strategy is one of the core aims of the recently established All-Party Parliamentary Group on Longevity and its secretariat company, Longevity International UK, for which Aging Analytics Agency is the main source of analytics.