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Improving quality of life for
people with dementia and
their carers through
impact investment

Eibhlín Ní Ógáin
and Katie Mountain

March 2015

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EXECUTIVE SUMMARY

Dementia currently affects more than 850,000 people in the UK. One in three people aged 65 and over will die with some sort of dementia, and it's a growing problem. New statistics released by Alzheimer's Disease International (ADI) in 2014 reported that 44 million people worldwide now have dementia, and this is expected to reach 135 million by 2050.¹ According to the Alzheimer's Society, dementia is now the most feared health condition in over-55s and costs the economy £26 billion a year – more than cancer, strokes or heart disease combined.²

There are still huge gaps in knowledge in terms of understanding how and why dementia develops, and how it can effectively be treated. This makes the condition one of the most important fields for medical research. This year, the UK Government pledged to invest £300 million in dementia research over the next five years. This is a positive sign, but still only a third of what is spent on cancer research.^{3,4} The UK also hosted the first G8 summit on dementia which resulted in a global action plan and a commitment to find a cure or disease-modifying treatment by 2025.⁵

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This year, the UK Government pledged to invest

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Many people think dementia is a normal part of ageing, but it's not. Dementia is a chronic disease that affects the brain and can lead to loss of memory, difficulty with language, impaired reasoning and a change of personality. Better diagnosis, early intervention and support to maintain independence can help slow the progression of dementia and improve quality of life for people with the condition and their carers. We believe impact investing can help to fund and grow a new wave of social innovations that are bringing about better outcomes for people and carers dealing with the day-to-day realities of dementia.

The role of impact investment in supporting innovation

A lot of the current efforts to tackle dementia are directed towards macro issues: medical advancements, incentivising diagnosis and redesigning care budgets. In contrast, this paper explores the role that entrepreneurs, social innovators and investors can play in helping to address the wider challenges of the condition. In particular, we look at how these groups can provide:

- Support with navigating the system.
- Support with independent living.
- Access to non-pharmacological therapy.
- Support for carers.



There is already some great work being carried out by early-stage ventures, many of which are using technology to create cost-effective innovations, but this work needs the right support to grow and flourish. This is something we believe impact investment can help with.

Social impact investments can be defined as investments that deliberately target specific social objectives alongside financial return, and measure the results of both. We believe that impact investors could play an important role in identifying and growing promising innovations to support people living with dementia.

We see impact investors as having a two-fold role: to provide capital to support the growth of effective products, tools and services; and to support the evaluation of these products, tools and services in a way that contributes to the growing body of evidence of what works and what doesn't. This paper presents our scoping work to understand the role impact investment can play.

The market for innovation and impact investment

The number of people with dementia expected to rise to 1.1 million over the next ten years.⁶ The Government is committed to providing more diagnoses of the condition and opportunities for support through the Care Act.⁷ Meanwhile, local authorities' care budgets are set to fall by 30 per cent by 2020.⁸ There is a clear need to provide 'more for less' – something that innovation, particularly when combined with technology's ability to improve efficiency and productivity, can provide. Impact investment can provide an important source of capital to grow and develop these new innovations.



INTRODUCTION

This paper explores the role for impact investment in developing and scaling products to improve the quality of life of people with dementia. We have prioritised dementia as a key area for our fund as we believe it is one of the most significant challenges facing an ageing UK society. We believe that innovation is needed to provide a greater range of products to people with dementia and their carers. This paper examines the role and opportunity for impact investing to develop and grow these innovative products. It does this by examining areas where there is a need for innovation, promising evidence of impact and market opportunity. The first section of the report discusses the nature of dementia and its social and economic impact. The second section looks at the current policy and market landscape and discusses the market opportunity. The third section presents the major areas where we believe there is an opportunity for impact investing and presents examples of ventures developing innovative products and services. We conclude the report with recommendations for ventures, impact investors and policymakers.



About Nesta Impact Investments

Founded in 2012, Nesta Impact Investments is a £17.6 million fund that invests in innovation and technology to tackle major social problems, in ways that benefit everyone in society. We invest in innovative social ventures run by outstanding entrepreneurs working in three sectors: ageing, education, and community sustainability. We are an experienced team of sector experts, venture capitalists, impact investors and evaluators backed by a strong, innovative institution – Nesta.



The Investment Insights series

Nesta Impact Investments seeks to have impact by investing in evidenced-based innovations and measuring the effect these innovations have on people's lives. We undertake research to help us source new investment opportunities and to inform our decisions on investments. Our Investment Insights series presents our latest research within the three thematic interests of the fund, namely:

- The education and employability of young people.
- Ageing well.
- Sustainable communities.

We are publishing these papers to contribute to the discussion on the role for impact investing in tackling large social issues, as well as to highlight our areas of focus to potential investees. We welcome feedback on our approach and would be happy to hear from organisations and ventures working in these areas.



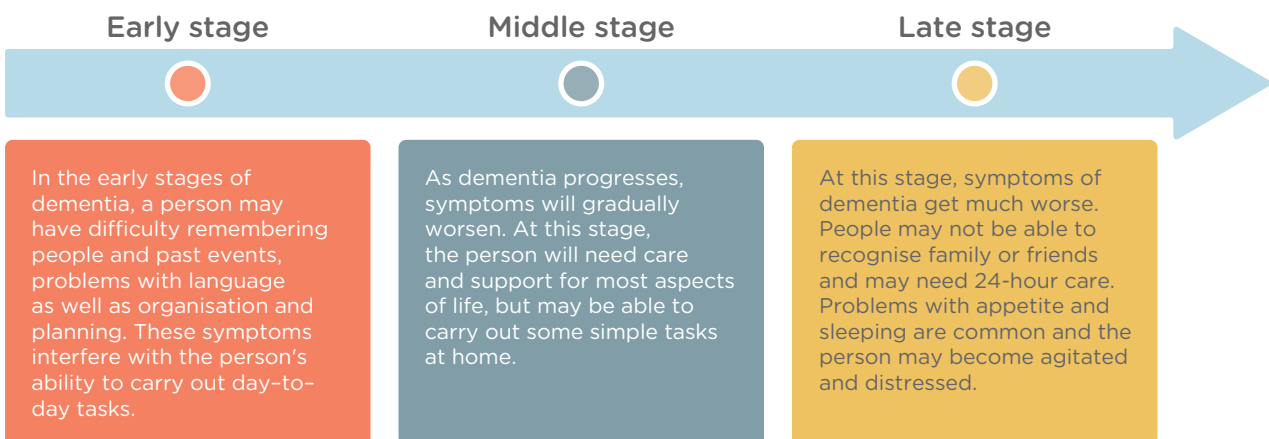
UNDERSTANDING DEMENTIA

What is dementia?

Dementia is an umbrella term for a broad category of brain diseases that affect how we think and reason and are severe enough to disrupt day-to-day functioning. Key symptoms include memory loss; difficulties with planning, problem solving and language, and changes in mood or behaviour. Dementia develops when the brain is damaged by diseases, such as Alzheimer's disease, or a series of strokes.

Many people may develop difficulties with memory and other cognitive functions as they age. However, dementia is not a natural part of ageing. A diagnosis of dementia occurs when symptoms are severe enough to affect a person's daily functioning. There are many different types of dementia, although some are more common than others. Alzheimer's disease is by far the most prevalent form of dementia, but other forms include vascular dementia and Lewy Body dementia.⁹

Dementia is a progressive disease. Over time, the brain's structure and chemistry is increasingly affected and as a result a person's cognitive functioning and ability to carry out tasks independently decline. The progression of dementia is often divided into three stages: early (also known as 'mild'), middle, (also known as 'moderate') and late (also known as 'severe'). This division, however, is not always related to the severity of symptoms the person might experience.



There are an estimated 850,000 people living with dementia in the UK today and they have an estimated 670,000 carers.¹⁰ Two-thirds of all people with dementia are women, and dementia disproportionately affects older adults. For example, 1.5 per cent of 65- to 69-year-olds has dementia, compared to 25 per cent of those aged 80 or older.¹¹ In the UK, it is estimated that the number of people with dementia will grow to over two million over the next 40 years.¹²



The social impact of dementia

The impact of dementia on the individual is significant. Day-to-day routines can become difficult for the person affected and even simple tasks such as making a cup of tea can become too much. Difficulties with recognition and memory mean that individuals sometimes don't recognise family members and have difficulty with everyday tasks. This can make communication challenging, which can in turn lead to emotional strain and frustration.

As the disease progresses, the person affected needs more care and support to carry out everyday tasks. As a result, caring for a person with dementia can be a significant personal and emotional challenge. One in five carers give up work to look after their loved ones, and many experience financial hardship as a result.¹³ Prevalence rates for depressive symptoms among this group of carers are reported to range from 28 per cent to 55 per cent.¹⁴ Because of this, there has been a growing realisation of the need to ensure carers have access to services that can support them.

The economic impact of dementia

The overall economic cost of dementia to society is currently £26.3 billion a year.¹⁵ This figure takes into account the costs of healthcare, social care, unpaid informal care and other costs associated with dementia. To put this into perspective, the cost of dementia care today is more than the entire UK adult social care budget and a third of the entire NHS annual gross expenditure.

The number of people living with dementia is also growing rapidly. If treatments for the condition remain unchanged the number of people living with dementia in the UK will increase from 850,000 today to 1,142,667 in 2025 and rise to 2,092,945 by 2050. This means that the economic costs of dementia in the UK could rise from £26.3 billion today to over £34 billion per year in 2025, and almost £64 billion per year by 2050.¹⁶

£26.3 billion

The cost of dementia in 2015

£64 billion

The estimated cost of dementia by 2050

The opportunity for impact investment

Our research has led us to a number of areas where we believe the need for dementia care and therapy is high and there is an opportunity for social enterprise. Government research shows that the cost of dementia could be significantly reduced by improvements in diagnosis, treatment and care, and through support for people with dementia and their carers.¹⁷ However, the current funding environment means that such approaches as well as preventative services are not being developed. This demonstrates the need for innovation in both products and funding in these areas.



Research into effective interventions for dementia has also highlighted a number of successful approaches for alleviating the effects of the condition, as well as providing support for carers. Currently, government funding pays for some aspects of dementia social care, but individuals and their families are also expected to pay a substantial proportion of the costs. As a result, we believe there is a significant opportunity for businesses that have social impact at their core to deliver a range of new and effective, evidence-based products and services to people with dementia and their families. In the body of this report we discuss where these products and services could address unmet needs and have a positive impact.



CURRENT GOVERNMENT POLICY

The UK Government has created a number of policies aimed at getting the right support, at the right time, to people affected by dementia. This landscape is opening up market opportunities for new tools and services that increase the efficiency of care, target prevention, improve condition management and provide support for carers. In particular, the Government has given its commitment to two areas: increasing diagnosis rates and increasing access to care.

Increasing diagnosis rates

Currently fewer than half of the 850,000 people estimated to be living with dementia have been formally diagnosed.¹⁸ The Government wants to boost this number from below 50 per cent to two-thirds in 2015; an ambitious target supported by initiatives such as national awareness campaigns, as well as financial incentives made to GPs for every formal diagnosis of dementia and to hospitals that offer quality dementia care.¹⁹

50%

Number of people living with dementia who are currently diagnosed

66%

Number of people living with dementia the Government wants diagnosed by 2015

Increasing access to care

In April 2015, as part of the Care Act, new policy will come into effect, changing the way care can be accessed and financed. Currently each local authority sets their own eligibility criteria, and access to care and services can vary across different regions. The Care Act will set out a national eligibility criteria against which all local authorities will need to assess the support needs of both people living with dementia and their carers. The Act will also cap the contribution made by any individual towards care at £72,000, excluding living costs.²⁰ It is expected that this will result in 230,000 more assessments each year and will increase the number of people who can access local authority funded care.²¹ This, against a backdrop of local authorities having to cut 30 per cent of their care budgets by 2020, will put local authorities under a huge strain as they are faced with the challenge of delivering 'more for less'.²²

230,000

Estimated number of additional care assessments in 2015



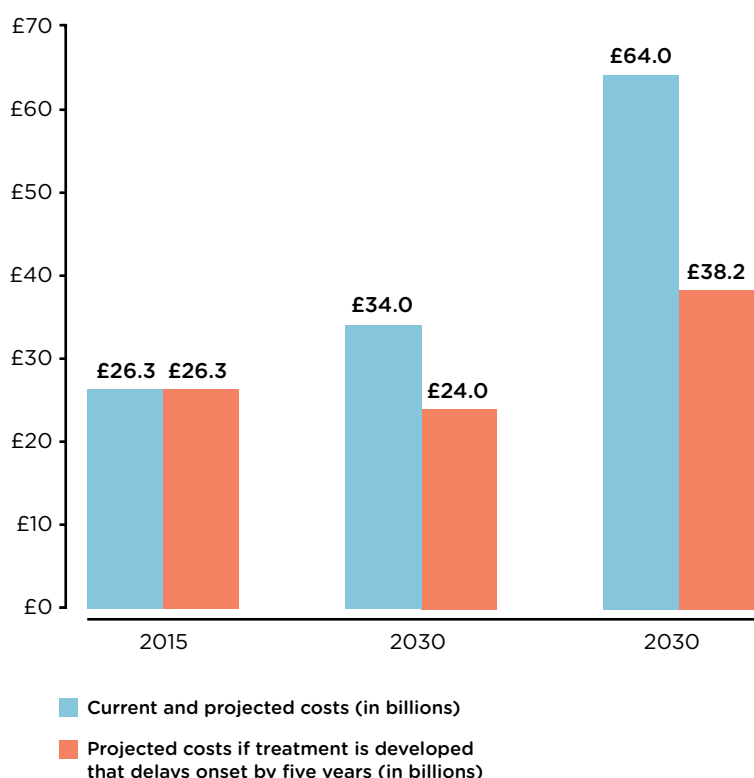
The international commitment to tackling dementia

The G7 is committed to finding a disease modifying treatment or cure for dementia by 2025. In December 2013, London hosted the first ever G7 summit on the issue, an event that brought together international leaders to start a dedicated and coordinated plan of action.

If the G7 were to achieve their aim and effectively tackle dementia, the impact would be huge. Alzheimer's Research UK has created an impact model detailing what would happen if, by 2020, the international community developed a treatment to delay the onset of the condition by five years. It showed there could be:

- 469,000 (35 per cent) fewer people with dementia and 399,000 (35 per cent) fewer informal carers by 2030.
- 666,000 (33 per cent) fewer people with dementia and 566,000 (33 per cent) fewer informal carers by 2050.²³

This would reduce costs substantially to £24 billion by 2030 (saving £10 billion); and £38.2 billion by 2050 (saving £25.8 billion).



The number of people living with dementia is expected to rise by a third over the next ten years to over 1.1 million and the number of informal carers is also expected to rise to almost 900,000.²⁴ Global resources are focused on finding a cure for dementia within ten years, but there is also an urgent need to provide better care and support for people currently living with disease.



THE MARKET FOR DEMENTIA-RELATED PRODUCTS AND SERVICES

The Alzheimer's Society has estimated the overall financial cost of dementia to be £26.3 billion. However, a large proportion of this cost comes from the unpaid informal care provided by family members. Taking out this cost the overall level of government and private spending on dementia care is £14.7 billion. This works out as £17,294 per person per annum.²⁵ With a growing ageing population this will increase to £19.5 billion in 2025 £34 billion by 2050.²⁶ The organisations and individuals who pay for products and services supporting carers and people living with dementia can be broken down into three groups:

Business-to-Consumer (B2C) – selling direct to people living with dementia and their carers. This comprises those that are funding their own care, as well as those with personal budgets from local authorities. Councils are increasingly only offering care to those with the greatest need, which is increasing the number of people who are self-funding their own care. Spending on privately funded social care is currently £5.8 billion.²⁷ Currently this is still a relatively untapped market given its size. With the ageing population increasing rapidly this market is set to grow. There is also an increasing emphasis in national health strategies on increasing people's self-management of health conditions.²⁸ As a result, demand will come from both older people looking for healthcare services and from family members caring for loved ones.

Business-to-Public Sector (B2P) – selling to public bodies, including local authorities, the NHS and housing associations, that purchase on behalf of their service users. Public spending is £8.8 billion per annum; £4.5 billion of this is spent on publically funded social care and £4.3 billion on healthcare costs.²⁹

In this market, local authorities are the biggest consumer group for products and services for people living with dementia. This is because they are responsible for providing domiciliary and residential care to those that meet the eligibility criteria. However, in order to provide these products and services, local authorities require support.

Due to Government austerity measures, local authorities' budgets in England have been reduced by 27 per cent since 2010.³⁰ This has led to the number of people receiving care from their local authority falling year-on-year as the criteria for eligibility has become increasingly stringent. The new Care Act will increase the amount of people the local authority are required to support. This coupled with declining budgets, means that price and cost savings are likely to be key drivers for local authorities.



Business-to-Business (B2B) – private companies purchasing products and services.

The biggest customer groups within this market are private medical insurance companies, care home groups and employee benefits.

Private medical insurance is commonly used to cover the costs of medical treatment – costs which have been rising in recent years and, as a consequence, have led to demand shrinking. Insurers are looking for innovative ways to improve service and to reduce their costs through keeping customers healthy.

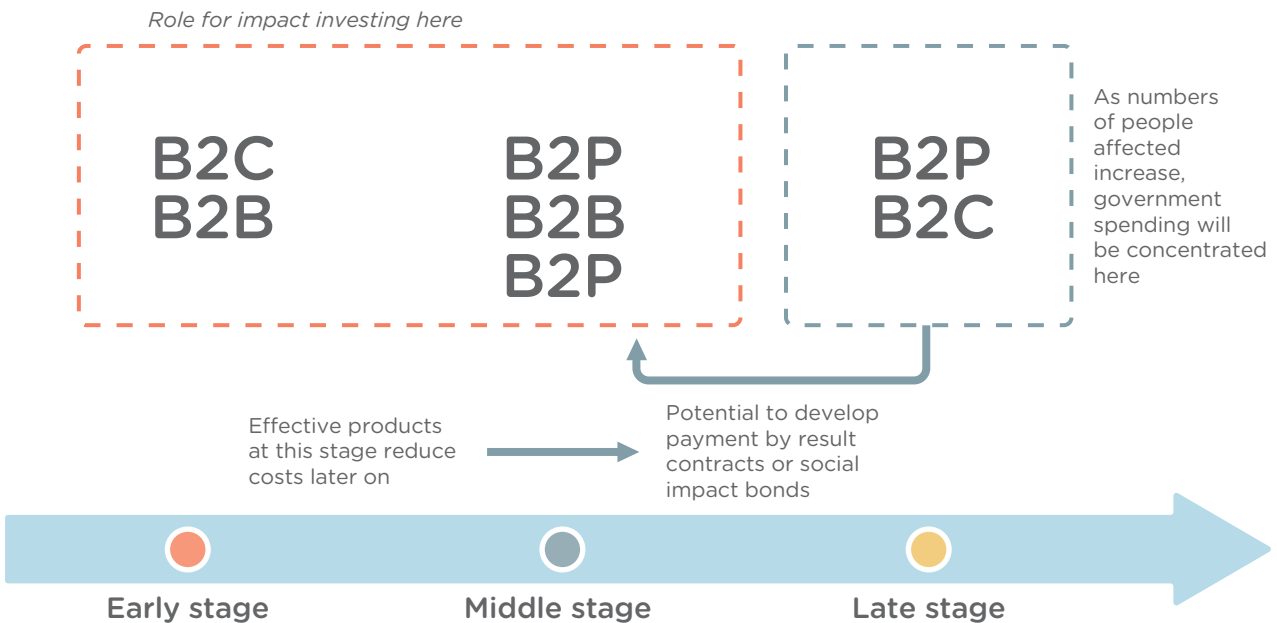
Employee benefits are provided as a complement to salaries for individuals working in permanent jobs. Employee assistance and wellbeing programmes are becoming more widely offered; in 2013 over half of employers offered a flexible benefits programme.³¹ Health-related benefits are the third most valued by employees, and childcare support is also widely offered.³² With the rise of the ‘sandwich’ and informal carers, employers will be increasingly looking for ways to support their staff to manage their work and care responsibilities.



THE ROLE FOR IMPACT INVESTMENT IN TACKLING DEMENTIA

The current level of government and private spending on dementia care is £14.7 billion. This will increase to £19.5 billion in 2025 and £34 billion by 2050.³³ With the numbers of people affected by dementia growing a third in the next ten years and continuing government cuts to care budgets,³⁴ we see an emerging gap between care needs and the ability of public spending to cover this need.

Innovation in products and services is needed to plug this gap – developing products that are both cost effective and delay the progression of the condition. Delaying the progression of the condition will mean more people are living at home for longer which will reduce the costs for more expensive residential and 24-hour care. To enable this we see the need for products that focus on improving therapy and care at the early stages of the condition –increasing independence, managing the symptoms of the condition and supporting informal carers. With limited care budgets, public spending is currently focussed on the higher need and more expensive later stages of care.³⁵ Private consumers are purchasing products at the earlier stages but this is still a young and undercapitalised market. This is where we believe impact investing should play a role: providing capital to ventures that delay the progression of the condition and improve quality of life. Improving outcomes for people with dementia and their carers and understanding what products are effective will be key to this. Impact Investing can provide the right combination of financial capital as well as a focus on outcomes and measuring impact.





To understand where impact investing could play a role in developing products and services for people with dementia and their carers, we carried out research to prioritise the areas that would benefit most from these. To do this, we interviewed experts in the area, spoke to social enterprises and reviewed research on the efficacy of different interventions. This allowed us to focus on four key areas where we see an opportunity for investment.

These areas are:

1. Support with navigating the system.
2. Support with independent living.
3. Access to non-pharmacological therapy.
4. Support for carers.

We believe that products that are addressing a real need, have some evidence of impact and a viable business model, are investable opportunities in this space.

In the following section we discuss the need for new products and services within each of the four aforementioned areas, the opportunity for innovation within these areas, the evidence for impact and examples of investable opportunities.

1. Support with navigating the system

Navigating the system

Size of the market	Estimated to be over four million people in the UK
Business Model	B2C, B2P, B2B
Impact	Improved quality of life and quality of care
Examples	Lantern by FutureGov

The need for greater access to personalised information

The current Social Care Institute for Excellence (SCIE) and NICE guidance points to the importance of services that include information and advice on the signs, symptoms, course and prognosis of dementia; treatments; local care and support services; and where to get financial and legal support. The guidance also points out that people living with dementia and their families currently find it difficult to get such assistance.³⁶ There is a need for services that can provide information about the care system and help people to navigate this in a tailored way, allowing them to understand what they are entitled to.

It is widely recognised that targeted and timely information and advice for people with dementia and their carers is lacking. There are key stages in the progression of the condition where the need for information is highest, such as when a diagnosis is made and as a person progresses to a different stage of the illness.³⁷ Information needs to be personalised and delivered at the right time.



Local authorities and GPs increasingly need to act as a source of information and signposting services. The report on dementia from the 2012 All-Party Parliamentary Group recommended that these services be enhanced and that local authorities should ensure an independent source of advice and information is in place.³⁸

“ At first I felt able to cope. It was a case of ‘we are fine now’, but we had no idea what was to come. Perhaps I didn’t access the info or help as much as I could have done – but if someone had given me the information, told me what was available and prepared me for what was ahead, I could have planned and adapted better. ”

Zoe Harris, former carer for husband with dementia

Opportunities for innovation and technology

Evaluations of interventions in this space, such as training, telephone support and support to help navigate the care system, have led to positive outcomes that have demonstrated improvements in quality of life and functioning.³⁹ From our research and discussion with experts in the field, it is clear that there is not a need for a greater quantity of information but rather information that is targeted and personalised.

Technology can play a role in personalising information and supporting people to access it at the right moment. For example, Lantern (see case study below) is a web-based tool that helps signpost people to the social support and care they need.

The current marketplace

Demand for information on dementia comes from all customer groups and includes people who are concerned about dementia as well as those living with dementia, and their carers and loved ones. We estimate this market consists of over four million people in the UK and that it is growing.⁴⁰

Increased awareness of the disease means that dementia is now the most feared health condition in over-55s in the UK, and people are demanding information about it and its symptoms. Individuals living with or caring for someone with dementia need to be given this information in a personalised and timely manner if they are to manage the condition.⁴¹

GPs are under pressure to increase diagnosis rates, currently at 50 per cent, to over 66 per cent in 2015. The NHS is providing a financial incentive to GPs for each diagnosis made as an attempt to meet this target.⁴² This is therefore going to increase the number of people in need of post-diagnosis advice and support by almost a third this year. As a result, local authorities can expect that more people will come for an assessment. This means that their role as provider as well as ‘signposter’ will increase. They will be looking for ways to manage this demand and provide a good service.

Four million

The number of people in the UK we estimate are in need of information on dementia

One-third

The approximate increase in the number of people needing post-diagnosis advice and support this year



The value proposition and customer base

There is a lot of information available for free, so the value will come from offering information and services personalised to an individual's needs. Technology is opening up opportunities to deliver personalised solutions at scale and at low cost.

Value will also be delivered in solutions that can support someone throughout their journey and not just at one trigger point.

The main customer groups are likely to be:

- Local authorities coming under increasing pressure to deliver more for less who will get value from services that can provide information and signposting at a lower cost.
- Individuals and carers who have the funds, either through their own means or through personal budgets.
- Corporates looking to support staff who are 'sandwich carers' to manage their joint responsibilities of care and work.

LANTERN BY FUTUREGOV - SIGNPOSTING FOR CARE

Lantern is a product developed by FutureGov that helps assess peoples' needs and signpost them to appropriate support and care services. Accessible on any device, this easy-to-use web tool guides people through a short questionnaire about their daily life before presenting them with a personalised list of support providers in their local area.



Using Lantern enables people with social care needs to self-serve quickly and easily, cutting out the need to fill in complicated and lengthy forms and providing everyone with a tailored list of community-based and information services. For those with high levels of need, questions can be submitted directly to the relevant social care team.

Lantern helps take people through their care options and reduces pressure on social services by redirecting those for whom there are alternative care paths. Lantern is sold to health and social care organisations.

See: www.thisislantern.com for more information



2. Support with independent living

Support with independent living	
Size of the market	Over 565,000
Business Model	B2P, B2C
Impact	Improvements in quality of life and quality of care; improved health and wellbeing; reductions in avoidable accidents and falls; slower onset of the condition
Examples	Buddi, Lively, Dementia Dog, Shared Lives Dementia

The need to remain independent for longer

Support to remain independent for as long as possible is crucial for people with dementia. Retaining independence and the ability to carry out the activities of daily living allows people with the condition to live in their own home for longer, supports carers and has been associated with a delayed progression of the disease.⁴³ Furthermore, a recent survey of people with dementia found that 85 per cent want to live at home for as long as possible after being diagnosed.⁴⁴ Products that support people to do this play an important role in facilitating independence.

However, support with independent living is not just about keeping a person safe in their home. It is also about ensuring a person is supported to be independent outside of the home, in their community. Retaining a familiar environment and keeping to routines of daily activities can help to manage the symptoms of the condition and reduce psychological stress for both the patient and carers.

After being diagnosed with dementia,

85%

of people want to live at home for as long as possible

Opportunities for innovation and technology

A recent review of new technologies that help to support independent living for people with dementia suggests that technology could play a significant role in delivering care. However, the market is immature and new technologies are still developing. Therefore it is uncertain exactly which approaches are most effective in maximising independence.

The use of GPS tracking devices is another area that has potential to support the greater independence of people with dementia. For example, Pot et al., (2012) tested a GPS device and found that the device supported people with early-stage dementia by facilitating more freedom to go out.⁴⁵ Another study identified that using electronic devices such as movement sensors helps people with dementia to move about more freely.⁴⁶ Products that can help individuals to live in their own homes and that also support carers in carrying out their caring responsibilities can play a significant role in maintaining independence.



People with dementia, especially in the mid and late stages, will require more intensive care, and therefore there is a limit to the value that such products can bring. Technology and other tools can never be a replacement for care, but they can make care more efficient and more responsive.

The current marketplace

There is a high demand from people living with dementia to remain in their own homes for as long as is possible. And it is cheaper for local authorities, who are under huge pressure, to deliver cost savings rather than care homes.

Currently, two-thirds of people with dementia live in the community, while one-third live in care homes.⁴⁷ This means there are over 565,000 people who need support to live independently, and this number is rising rapidly. If it increases at the same rate, over the next ten years it will reach over 755,000.

Innovations in this space will also benefit overall health and wellbeing by giving people access to better care and responding faster to events that occur, such as falls. Improved coordination between health and social care and pooled budgets should also open up opportunities for preventative innovations to improve health outcomes.

565,000

Number of people who currently need support to live independently

755,000

Number of people we estimate this will rise to over the next ten years

The value proposition and customer base

The cost of formal care is expensive, so any tools and services that can reduce demand have a clear value proposition. On average a care home costs £641 per week and domiciliary care £7–£12 per hour.⁴⁸ Products that can save the ‘payer’ the amount of formal care required by even an hour a week, or delay the need for a care home even by a few days, represent a significant saving.

With a clear link between prevention and cost savings there may also be promising opportunities to develop social impact bonds in this space.



SHARED LIVES PLUS - UK NETWORK FOR INFORMAL CARE

Shared Lives Plus is the UK network for family-based and small-scale ways of supporting adults to live independently and to contribute to their families and communities. The aim of Shared Lives is to provide support to adults with care needs including adults with learning disabilities, older people with care needs and people living with dementia. Support is provided by registered Shared Lives carers, who share their family and community life with the person who visits the Shared Lives carers home for day support or short breaks or even moves in with the Shared Lives carer and their family. Members of Shared Lives Plus are Shared Lives carers, schemes and Homeshare programmes, who are provided with resources and support from the network. The network also enables Shared Lives carers and schemes to learn from each other and group together to influence national and local policymakers. There are nearly 8,000 Shared Lives carers in England and the Shared Lives movement has gained national recognition for their life-changing work. The ambition is to integrate the Shared Lives model further into the systems of local and national care providers, including the NHS.



See: www.sharedlivesplus.org.uk for more information

DEMENTIA DOG - 'ASSISTANCE DOGS' FOR PEOPLE LIVING WITH DEMENTIA

Dementia Dog is a charity based in Scotland that uses specially trained dogs to provide emotional and practical support for people living with dementia. These 'assistance dogs' work alongside carers and carry out tasks such as walking their companions and reminding them to take medicine, as well as providing emotional support.



The assistance dog pilot scheme has shown reduced stress and improved independence for patients. The charity also worked with support staff and their dogs to trial 'intervention dogs', which can help reintroduce weekly tasks into the routines of those in the early stages of dementia, and are beginning to look at 'facility dogs' to support residents in care. Dementia Dog has an impact by helping to either retain routines or helping to establish good routines before the person with dementia loses capacity to embed behaviours. This helps to increase mobility, reduce psychological stress and possibly minimise the need for support. Dementia Dog began as a service design project at the Glasgow School of Art and received funding from the Scottish Government and the Design Council. It is now supported by Alzheimer Scotland, amongst other organisations, and is currently running a fundraising campaign to complete its pilot scheme and measure the project's impact.



See: www.dementiadog.org for more information.



BUDDI - WEARABLE TECHNOLOGY FOR PEOPLE WITH DEMENTIA

Buddi has developed a wearable wristband and clip that acts as a personal emergency response service providing the wearer with the comforting knowledge that they can call for help at anytime, anywhere. While the wristband goes everywhere with the user, traces their movements and raises an alert if it detects a fall, the clip goes in a pocket or handbag. The waterproof wristband also features an emergency alert button. If the wearer presses the button for help, or if the system detects the person has fallen, the 24/7 fully-staffed monitoring service can find information about their location, talk to them through the clip to establish the kind of assistance they require, and notify emergency contacts, which might be a relative, friend or carer. Because Buddi monitors the user's whereabouts through GPS, people with a tendency to 'wander' or get confused can be quickly and easily located, providing family and carers with peace of mind.



Paul Gohla, 93, from Todmorden, West Yorkshire, started wearing a Buddi last November. It allowed the widower to remain independent, taking the bus 20 miles away to Halifax and even visiting the Isle of Wight. His carer, Sarah Boocock, from Horton Housing Association said: *"The Buddi device has definitely made him more comfortable. The moment he put it on his confidence boomed."*

This technology addresses the issue of Activities of Daily Living (ADLs), as highlighted by NICE, both by allowing the patient to be more mobile and by minimising the need for hands-on support from others. Buddi is sold directly to consumers as well as local authorities. The company is currently working in over over 100 local authorities in the UK, providing hundreds of people with devices. Buddi is sold through a one-off purchase of the equipment with a monthly service plan and there is also a monthly lease service plan available.

See: www.buddi.co.uk for more information



3. Access to non-pharmacological therapy

Non-pharmacological therapy to alleviate cognitive and non-cognitive symptoms

Size of the market	1.5 million
Business Model	B2C, B2P
Impact	Improvements in the symptoms of dementia, reduced non-cognitive symptoms (such as depression and anxiety), improved communication, improved wellbeing
Examples	My Life Software, Oomph!, Talking Mats

The need for psychological wellbeing

In a 2013 Alzheimer's Society survey, 63 per cent of people with dementia said they often feel anxious or depressed.⁴⁹ Along with this, cognitive functioning in areas like memory, communication and self-regulation begin to worsen over time. Psychological therapies are playing an increasing role in helping people to cope with the emotional and cognitive effects of dementia. Indeed, psychological therapies can play an important part in reducing the rate of decline and maintaining independence for longer. Such therapies include music therapy, reminiscence therapy, stimulation therapy and other cognitive treatments.

The opportunity for innovation and technology

There is a growing body of evidence that highlights a number of approaches that significantly improve the symptoms of dementia. These include group therapies and sensory stimulation, reminiscence therapy and effective communication.

Group therapies and sensory stimulation

Multisensory stimulation therapies that involve exposure to soothing and stimulating light, colour, scents and music have been found to positively impact on symptoms of depression.⁵⁰ Structured group stimulation programmes have also shown consistent positive effects on the cognitive symptoms of dementia. A Cochrane Collaboration review in 2012 analysed 15 randomised controlled trials of cognitive stimulation and concluded that it consistently benefits people with dementia.⁵¹ There are a number of social enterprises that have developed products consistent with research on effective therapies. For example, Oomph! is a social enterprise that delivers small group exercise sessions using props and music.



OOMP! WELLBEING - GROUP EXERCISE IN CARE HOMES AND THE COMMUNITY

Oomph! ('Our Organisation Makes People Happy!') designs and runs fun, interactive, group exercise classes within care homes and in the community. Its specialist exercises are based on expert methodology and use reminiscence themes, upbeat music, colourful props and simple routines to deliver physical and mental health benefits. So far, Oomph! has delivered 16,000 sessions in over 950 care homes.



It is rapidly expanding and is now licensing its proven methodology to some of the biggest names in the care sector, including Barchester, Hallmark and Four Seasons Care Homes. The World Health Organisation states that regular exercise improves cardiorespiratory and muscular fitness and reduces the risk of diseases such as cancer, depression and cognitive decline. Yet only 7 per cent of adults aged 75 or over in England get the minimum recommended levels of physical activity.



Oomph! trains and supports existing care workers in care settings to be able to deliver classes themselves. Care homes pay a fee for the licence to deliver the classes, with Oomph! providing new materials and equipment on a regular basis. Oomph! has received support and investment from Nesta Impact Investments as well as the Big Lottery Fund.

See www.oomph-wellness.org for more information

Reminiscence therapy

A recent systematic review of reminiscence therapy for people with dementia found positive effects on mood, wellbeing and some aspects of cognitive functioning.⁵² A number of enterprises have developed apps or software that include elements of reminiscence therapy. For examples, My Life has developed software that allows people with dementia to easily engage in a specially developed form of reminiscence therapy.

MY LIFE SOFTWARE - REMINISCENCE THERAPY

My Life Software has developed innovative reminiscence therapy software aimed at promoting engagement and discussion for the elderly and people living with dementia. The software is particularly important in facilitating the transition from hospital to care home for patients and their carers, promoting familiarity at what can be a stressful time.



My Life has conducted research into the impact of their software and has found a decrease in prescription of antipsychotic drugs for people who use it. On a broader level, My Life Software has the potential to tackle depression through multisensory stimulation and reminiscence materials.



My Life Software is sold in a variety of forms – clients can choose from a range of products or packages – to hospitals, care homes, local authorities and even prisons. The options include outright purchase and lease of the software, as well as offering specialised touch screen monitors.

See: mylifesoftware.com for more information

Enabling effective communication

The impairment of verbal skills in people with dementia can be particularly challenging for effective communication with their family, friends and carers. Therapy can also be used to help improve this, and promising evidence has been found for the effectiveness of tools such as Talking Mats.

TALKING MATS – A TOOL TO ENABLE COMMUNICATION BETWEEN FAMILY, FRIENDS AND CARERS

Talking Mats is a social enterprise that produces tools to improve the lives of people who have communication difficulties, whether they are young people with learning difficulties or people living with dementia.



It uses specially designed picture communication symbols that are attractive to all ages and abilities and it is used by clinical practitioners, carers and support workers in a range of health, social work and residential settings. The structure and consistency of Talking Mats makes it easier both for people with dementia to keep to topic in expressing themselves and for listeners to follow the conversation.

One family member of a Talking Mats user said *“It showed my husband the things he CAN do rather than what he CAN’T do”*.

This product has the potential to make it easier for those with dementia to communicate effectively with others, which can have a wider impact on their mental wellbeing and cognitive functions. Talking Mats offers a range of products – both tech-based and physical – to individuals or organisations. As well as the products themselves, they offer training courses for organisations to help find the best way to use the products.

See: www.talkingmats.com for more information

The current marketplace

Innovations such as the ones explored above will be of benefit to all people with dementia, whether they are living in the community with early stages of the disease or are in a care home setting and have greater needs. These innovations can also be used as a preventative tool for older people at risk of getting dementia to reduce their chances of developing the condition. We estimate this market to be over 1.5 million and growing rapidly.⁵³



There is also a drive from government to raise awareness of dementia and increase rates of diagnosis. This will undoubtedly increase the demand for products and services as people learn more about the condition and how it can be effectively managed.

From April 2015 the Care Act will mandate that all advice and support from local authorities must include the provision of services, facilities or resources to prevent or delay the need for care and support, and to reduce needs that already exist.

1.5 million
 Our estimate of the market for products and services that provide non-pharmacological therapy to people living with or at risk of developing dementia

The value proposition and customer base

The value of non-pharmacological therapies will be greatest for people living with dementia, their carers and loved ones, but they will also appeal to people at risk developing the illness who want tools to manage their symptoms. Care homes and formal care providers looking for ways to deliver better care and communicate more effectively with the people they are looking after will also find these products valuable.

4. Support for carers

Support for carers	
Size of the market	Over one million
Business Model	B2B, B2C, B2P
Impact	Improved quality of care, increased support for carers, improved health and wellbeing of carers
Examples	Jointly, HomeTouch, Care Charts UK

The need to support carers

In recognition of the stress and emotional impact associated with caring duties, part of the new Care Act ensures that all carers are entitled to have an assessment of their needs. Support for carers is a crucial component in improving quality of life for people with dementia. The quality of care a person with dementia receives, as well as the ability of their carer to cope, has a significant impact on the progression of the condition. As we've mentioned previously, effective care also enables a person with dementia to live at home for longer, which is associated with a reduced decline in health as well as cost savings for the state. Carers, alongside people with dementia, would benefit from a single point of contact to help them navigate the system. The 2012 All-Party Parliamentary Group on Dementia (APPG) recommended that information and peer support should be available to carers, as well as to people with dementia.⁵⁴ Since 2011, the Government has also committed funding to carers' respite.



The opportunity for innovation and technology

There is substantial research highlighting the impact of effective support for carers. A number of reviews have shown that greater group support, a peer network and tailored information can help to reduce stress and depression.^{55, 56} There is an obvious role for online platforms and apps that can help link carers to a wider peer group as well as provide information and practical support. In one study the use of online tools was also linked to a reduction in caregiver stress and an improvement in wellbeing.⁵⁷ In particular, tools that engaged other family members as well as the primary carer showed promising results.⁵⁸

HOMETOUCH - A CARE MANAGEMENT TOOL

HomeTouch has recently launched a 'care marketplace' that connects care seekers to vetted and approved self-employed carers. It recommends matches according to skills and interests, and the HomeTouch app enables family members to monitor arrival time and task completion. HomeTouch has a dual aim: to tackle inactivity and social isolation amongst the elderly; and to provide carers and families with tools to help with communication and monitoring.



The care marketplace is paid for by those who require care. Local carers are listed at an hourly rate depending on their experience, but the minimum rate is £10 per hour.

See: www.myhometouch.com for more information

We found that a number of enterprises are developing innovative products, apps and platforms that help families to coordinate care, as well as simple innovations that provide better information to care staff. An area of work that has had very promising results involves programmes that train carers in aspects of psychological therapies and strategies to cope with the symptoms of dementia.⁵⁹ We have yet to find enterprises that are delivering products and services in this area, which suggests there could be potential for innovation here.

JOINTLY - A NETWORK AND TOOLKIT FOR CARERS

Jointly is an innovative app designed to make caring less stressful and more organised. The mobile and online app combines network features, such as group messaging amongst carers, and organisation tools, such as task allocation, shared calendar and medications management. The app is particularly useful for those who share care with others or juggle care with work or other commitments, as it allows users to create a circle of care for the person they are looking after.



Jointly was developed by the charity Carers UK. The app is free to download, but has a small one-off fee of £2.99 attached to it to



meet operational and maintenance costs. Jointly is also available at low cost to employers and service providers who can offer it free of charge to their employees or service users. A Jointly user said *“Looking after someone can be so complicated. Jointly helps me stay on top of things and share information easily with everyone involved in my son’s care.”*

See: www.jointlyapp.com for more information

The current marketplace

There are currently 670,000 informal carers of people with dementia in the UK, and this figure is rising.⁶⁰ These informal carers, largely family and friends are saving the nation £11.6 billion a year.⁶¹ However, this contribution also comes at a social cost. Caring for a loved one puts people under huge strain and it can cause stress, loneliness and financial hardship. The Care Act will strengthen the rights and recognitions of carers. Currently support for carers is provided at local authority discretion. The Care Act will bring in to force a legal right for all carers to be assessed for their needs, and those that meet the eligibility criteria will be entitled to support. As well as the 670,000 informal carers of people with dementia, there are ‘sandwich carers’ and friends and family who may not class themselves as carers but do provide emotional, social and low-level support. If we include these in the total number of carers, the final figure in the UK is likely to be over one million.

1 million

The estimated number of carers in the UK, including ‘sandwich carers’ and friends and family

The value proposition and customer base

Sandwich carers, who are juggling care with work and childcare responsibilities, need to find solutions to help them manage and are likely to be responsive to products and services that help alleviate some of the stress associated with caring.

With one in five carers leaving work to care for a loved one, employers are also increasingly seeing the value of supporting their staff to juggle work with caring responsibilities.⁶²



RECOMMENDATIONS FOR INNOVATORS, INVESTORS AND POLICYMAKERS

Products and services that support the individual needs of people living with dementia should be developed and scaled

A challenge of designing products and services for people living with dementia is that it is a complex disease, which typically does not exist in isolation. Eighty-five per cent of people living with the illness have at least one other long-term condition. Often, dementia is only a part of the problem.

There are many different types of dementia and many different side effects, which mean there is no 'one size fits all' treatment plan. The challenge is how to offer personalised solutions at scale – but technology is opening up opportunities to achieve this in a reactive and cost-effective way. There is a substantial opportunity to build and grow products that improve quality of life of people with dementia. Companies like SharedLivesPlus, My Life Software and Buddi are all developing such products. These products should be scaled and companies should explore the opportunity for new products, building on the research base of what is effective at improving independence and quality of life.

Impact investors should target and exploit opportunities to support and scale innovative ideas in this emerging market

There is a market emerging for new products, tools and services that support people living with dementia and those who care for them. However, the current approach to accessing these are through formal health and social care providers, which are challenging to sell to, especially for early-stage ventures operating in the current funding climate.

Arguably the biggest potential market and opportunity for impact is people living in the community in the early stages of the illness who are not yet accessing formal care. Impact investing should focus on providing capital and support to scale these early-stage ventures. We believe this capital can focus on delaying the progression of the condition, thus lowering later high care costs.



The development of products and services to tackle dementia needs more proactive support from government, policymakers, charities and healthcare professionals

There needs to be more proactive co-ordinated support to ensure that products and services, such as the ones mentioned in this report, get into the hands of the right people at the right time and achieve their potential impact.

Evidence suggests that the symptoms of dementia can be managed and the onset of the condition slowed down if treated correctly. If this is to happen, distribution partners, such as national charities and healthcare professionals, need to signpost carers and people living with dementia towards innovations that can improve their quality of life.

More evidence is needed to tell us what is most effective in supporting people with dementia to live independently and to manage their symptoms

There have been some excellent studies and reviews looking at new therapies and treatments for dementia. However, there is a lack of experimental research examining the impact of approaches that support activities of daily living and the role these can play.

As always, it is difficult to understand the long-term impact of interventions without accurate data on the long-term effects of different approaches. Dementia, like most conditions, lacks longitudinal research and this makes it difficult to understand the impact of some of the products that are currently available. Excellent initiatives like the National Institute of Health Research's Join Dementia Research website can help to improve the involvement of people with dementia in research and improve this situation. A focus on collecting rigorous outcome data over a significant period of time will help build our knowledge of what works and enable us to target our support most effectively.



CONCLUSIONS

Dementia is one of the single greatest challenges that we as a society will face over the next 50 years, and a lot of effort and funding is rightly directed towards both finding a cure and drug treatment that can offset the effects of the illness.

However, currently there are almost one million people living with dementia who could benefit from innovations that would help to improve their independence and alleviate their symptoms – for instance, the products, tools and services described in this report. This number of people will also grow over the coming decades as the ageing population increases. This will put the already restricted local authority care budgets under increasing pressure. Impact investing can support the growth of ventures that improve quality of life while also delaying the progression of the condition. This will ease the higher level of care costs at the later stages of the condition.

While more research into what works and what doesn't is needed, this report shows that there is a clear market for products and services that support people living with dementia and those who care for them. The introduction of the Care Act in April 2015 is expected to result in significantly more people being diagnosed with the condition, while cuts to local authorities' care budgets are likely to raise demand for products and services that offer 'more for less'. If the potential market for these products and services can be tapped into by impact investors – and properly supported by government, policymakers and charities – not only would we be backing the G7's commitment to treating or curing for dementia by 2025; we would be improving the lives of people living with the condition today.



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