



Harnessing technology to tackle loneliness.

About this report

This WPI Economics report, commissioned by Vodafone, contributes to the growing literature that highlights the significant personal, social and economic costs of loneliness in the UK. It focusses on chronic loneliness amongst those aged over 50 and produces new estimates of the potential scale of costs associated with it. It then shows how technology could be leveraged to play an important part of the overall strategy towards reducing loneliness in the UK.

About WPI Economics and authors

WPI Economics is a specialist economics and public policy consultancy. We provide a range of public, private and charitable clients with research, modelling and advice to influence and deliver better outcomes through improved public policy design and delivery.



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About Vodafone

Vodafone UK connects people, businesses and devices to help our customers benefit from digital innovation. Our services span mobile, fixed line, broadband and the Internet of Things (IoT). We employ around 11,000 people across the UK, and operate more than 400 retail stores nationwide.

Having made the UK's first mobile phone call and sent the first text, Vodafone has a history as a tech pioneer. In 2018 we made the UK's first live holographic call using 5G, and were first to start carrying live 5G traffic from a site in Salford, Greater Manchester. Today we serve over 18 million mobile and fixed line customers in the UK, with 4G network coverage at 99%. Our customers voted us the UK's Best Mobile Network at the 2018 Trusted Reviews Awards for the second year in a row. To help deliver Gigabit UK, we are rolling out full fibre broadband across 10 cities in partnership with CityFibre, reaching one million homes and business by 2021.

We are part of Vodafone Group, one of the world's largest telecommunications companies, with mobile operations in 25 countries, partnerships with mobile networks in 44 more, and fixed broadband operations in 19 markets. As of 31 December 2018, Vodafone Group had approximately 700 million mobile customers and 21 million fixed broadband customers, including all of the customers in Vodafone's joint ventures and associates.

For more information about Vodafone UK, please visit: www.vodafone.co.uk

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Foreword

Nick Jeffery, CEO, Vodafone UK.



In a rapidly changing world, our work at Vodafone UK is increasingly focused on connecting people in new and innovative ways, using digital technology. We are excited about the future and, as a leading British digital business, we are proud to have expanded from providing customers with mobiles and broadband to exploring new technologies, such as the internet of things which will transform our daily lives for the better.

While most of the UK enjoys the benefits of an increasingly interconnected world, far too many people are still suffering from loneliness. Caused by a range of factors, this is a problem that sadly appears to be getting worse. While people of any age can suffer from loneliness, it is a particular issue amongst older people, with 1.5 million over 50s suffering from chronic loneliness. As well as having a huge emotional and health cost for individuals, it also has significant implications for public services, businesses and society at large.

Experts suggest that the causes of loneliness are extremely complex and often interlinked. Many people move away from their home villages, towns, cities, friends and family to study, find work and settle down. We are living longer as a society but as we age our physical mobility is impacted, making it more difficult for us to see neighbours, visit friends or pop down the road to the local shop. Living alone can affect people's mental wellbeing, with older people experiencing loneliness nearly three times more likely to develop symptoms of depression, and almost twice as likely to be diagnosed with dementia.

The cost of loneliness is vast and affects every part of the UK, not only emotionally and physically, but financially too. As this report reveals, the annual cost of loneliness to the UK economy in the over 50s alone is £1.8 billion. Businesses are being affected, losing £800 million a year due to staff having to take time off work to care for friends and family suffering from loneliness. Loneliness also has a £1 billion a year impact on public services. Studies conducted with GP surgeries highlight that those feeling lonely are twice as likely to visit their GP and 3.5 times more likely to enter local authority-funded social care.

We must work together to end this escalating crisis. With digital connectivity and new technologies like the internet of things becoming an increasingly crucial element in everyday social interaction, it is vital that businesses innovate to connect communities and help those suffering from loneliness. New technologies are a key part of the solution.

Connectivity is at the heart of what we do and Vodafone is committed to playing its part in identifying and funding innovative digital services that can transform lives and help tackle societal challenges like loneliness. For example, we have recently announced a series of free TechConnect master classes across the UK to increase knowledge and help support the over 50s to understand and use tech. We have also developed the V-SOS Band which is designed to provide peace of mind and support independent living. The band simply sits on a user's wrist like a watch and it comes with fall detection technology as well as an SOS button so that families can be directly alerted if the wearer needs help.

Loneliness, as with other societal challenges we face, requires a comprehensive response, including from policy makers. I am greatly encouraged that the Government has begun a cross-departmental project looking at how to solve this challenge, including the Ageing Society Grand Challenge in the Industrial Strategy. But this is just the start. In the report, we have put forward a series of policy recommendations aimed at trying to reduce loneliness, including looking at the role of technology. For example, GPs could include technology in their social prescribing schemes. This could mean that an elderly person suffering from loneliness could be prescribed a wearable device by their doctor which will support independent living, or they could even be encouraged to take lessons in how to use technology, which could boost social interaction. We are also suggesting the creation of a new 'tech toolkit' which would be made available in easily accessible locations such as high street retailers or public buildings to help increase confidence in the use of new technologies among older people. The toolkit could be used by a range of organisations such as local authority social care teams and the National Citizen Service, to help support the take-up of technology to tackle loneliness.

We hope that the research we've done will bring the private, public and third sectors together in a nationwide conversation about how the UK can use new digital technology in order to support independent living, increase social interaction and improve the quality of life of older people suffering from loneliness.

Executive Summary

This report assesses both the costs of loneliness in those aged over 50 in the UK, and how technology can, and is, being used to tackle it. By doing so, it shows the important role that technology can play in supporting the Government's loneliness strategy and, more generally, its Ageing Society Grand Challenge.

While loneliness can impact on people of any age, this report focusses on those aged over 50. It suggests that around 1.5 million people aged 50 and over are always or often lonely in the UK ("chronic loneliness").

The damage caused by loneliness for those who experience it, and for those around them and their communities, cannot be overstated. The impacts also spread much further; for instance, both by putting pressure on the NHS, employers, and organisations that support people who are lonely and by impacting on growth and living standards across the country.

Research has suggested that the impact of loneliness and isolation on mortality is equivalent to smoking 15 cigarettes a day.¹ There are also much wider impacts, including that older people who are lonely are more than three times more likely to suffer depression,² and 1.9 times more likely to develop dementia in the following 15 years.³ Loneliness makes it harder for people to regulate behaviours such as drinking, smoking, and over-eating, which in turn have their own significant negative impacts.

This report suggests that value of health and wellbeing impacts on those aged over 50 who are chronically lonely, amounts to the equivalent of £3.9 billion a year. Alongside these costs to individuals, there are additional costs to the public services and employers of £1 billion and £800 million respectively. These costs are felt in every part of the country, with yearly costs of £160 million across both the West Midlands and Greater Manchester Combined Authorities and £420 million across London.



	Impact	Cost (per year for those 50yrs+)
Individuals	Damage to life expectancy and quality of life	£3.9bn
Public services	For chronic loneliness: £6,000 per person over 10 year period	£1 bn
Employers	Direct and indirect costs to employers from absence and productivity	£800m

Source: WPI Economics, ONS, Social Finance, Co-op, PSSRU and LSE

What can be done?

The causes of loneliness are complex, inter-related and reinforce each other, with individual factors related to a range of personal characteristics, life events and transitions (e.g. developing a health condition, bereavement or divorce) and wider community factors. Other events, like moving into residential care and the associated loss of independence and reduced proximity to friends, networks and communities that have been developed over many years are obvious triggers.⁴

The complex nature of this problem has been acknowledged by the Government, which has recently published the first national loneliness strategy and appointed a Minister with responsibility for loneliness. The ageing society has also been identified as one of the Grand Challenges facing the UK. The Government's Industrial Strategy committed £98 million to innovation in healthy ageing, in part to tackle loneliness. However, tackling loneliness is not just about the role that Government can play and the funding it can bring and there is no one single response that is needed. Instead, a range of responses will be needed from individuals, communities and businesses across the UK if we are to be successful in reducing loneliness.

The role of technology

This report shows that, alongside more traditional public and community services, there are a number of ways in which technology can be used to drive a reduction in loneliness. There are two key routes through which this might happen:

1. By supporting older people to remain independent in their home and community. This increases confidence and the likelihood of positive social interactions; and
2. Maintaining and building networks and contacts. Technology can also be used directly as a way of facilitating social interactions with friends and family, or as a way of accessing new networks, communities and groups both locally and globally.

This report outlines a number of examples of where this is already happening. For example, using Vodafone's IoT expertise, the V-SOS band supports independent living by both allowing the wearer to alert their family if they need help, and issuing automatic alerts if the wearer falls. Another example is Kraydel, which along with helping care providers and older people monitor their health and wellbeing it also acts to boost social interaction directly by connecting family, friends and the community through the TV. More detail on each of these is provided later in the report.

“...technology can be a useful tool for enabling social connections... supporting older people in our community to use technology effectively can have important benefits for their health and wellbeing.”

- Dr. Thomas Morton of the University of Exeter.
Lead of the Age 2.0 project in the UK.

These approaches demonstrate that it is no longer necessary for older people to engage directly and “use” technology in the traditional sense. In addition, many of the technologies utilise mobile networks, rather than being reliant on a broadband connection. As well as bringing significant cost benefits, this circumvents the potential barrier that more than half of those aged over 75 have never used the internet.⁵ However, there remain barriers to use, including awareness of the technology available and confidence in the benefits that can come from it. None of these are insurmountable and this report outlines five recommendations to ensure that technology can play an important part in the overall strategy for tackling loneliness amongst over 50s in the UK:

1. **Social and digital prescribing:** Specifically extending the Government's commitment to social prescribing (which already allows medical professionals to refer people to a range of local non-clinical services) to cover wearable technology and technology in the home;
2. **Revolutionising support for independent living:** Consulting on how financial support for independent living (particularly for the over 75s) can be best used to maximise impact – including whether it could be used to fund the take up of technology in the home;
3. **Tech toolkit:** Creating a range of tools to increase knowledge, understanding and confidence in the technology available (and the associated benefits) to support independent living and tackle loneliness;
4. **Tech transfer:** Providing local organisations such as charities and community groups with easily accessible information to understand how to support and take up technology to tackle loneliness.
5. **Care challenge fund:** To boost innovation and trial and evaluate how technology could be used to improve independent living and tackle loneliness across whole local areas.

If taken forward, these proposals could go some way to both improving health and quality of life amongst the UK's older population and reducing the personal and societal costs of loneliness in the UK.

1. Introduction

Loneliness is an issue that, until recently, has received relatively little public attention. However, it is clearly a significant public policy issue. The damage caused by loneliness for those who experience it, and for those around them and their communities, cannot be overstated. The impacts also spread much further; for instance, both by putting pressure on the NHS, employers, and organisations that support people who are lonely and by impacting on growth and living standards across the country.

“Loneliness occurs when people’s ability to have meaningful conversations and interactions is inhibited...”

- Caroline Abrahams, Age UK

Overall, this indicates that the individual and societal impacts are significant. Existing research also suggests that there are changes in society, work and our daily lives, while improving wellbeing and living standards for many, can lead to increased risks of loneliness and social isolation for others.⁶

With this in mind, it is of little surprise that the scale of the challenge of loneliness in the UK has begun to receive more attention from the media, politicians and policy makers. For example, following cross-party action, the Government has recently released England’s first ever strategy to tackle loneliness. The Prime Minister has also appointed a Ministerial Lead on Loneliness.⁷

However, after too many years of receiving too little political and policy attention, there is a lot to do to ensure that loneliness is tackled in the UK. It is also clear that the complexity and seriousness of the issue means that the Government cannot act on its own; individuals, communities and businesses will need to work together to prevent loneliness and reduce its impact where it is experienced.

This report supports that goal. It assesses the existing evidence of the prevalence and impacts of loneliness in the UK, with a particular focus on those aged over 50. It uses this to understand the potential costs of loneliness across the UK and range of actions that might be successful in tackling the issue. It then focuses on the role that technology can play as a part of a comprehensive strategy to tackle loneliness in the UK.



Box 1:

What is loneliness?

Anyone can experience loneliness. It is experienced when an individual’s desired level of social relationships and interaction is not met, either in quantity, quality or both.¹ This distinguishes loneliness from social isolation (though social isolation can increase the risk of feeling lonely): social isolation is simply the absence of social contact, which may or may not lead to loneliness. In the experience of loneliness, there is a subjective emotional dimension.² While loneliness is a common experience, the persistence of loneliness can have detrimental physical and mental impacts.³

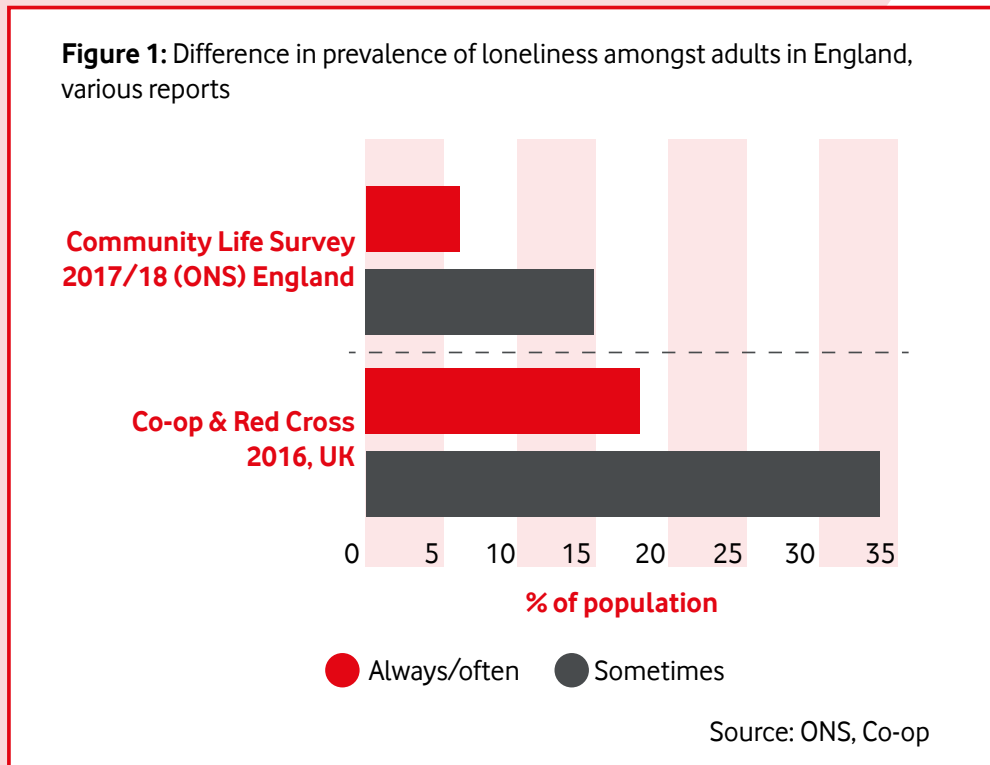
Sources: see endnotes.⁸

2. Prevalence of loneliness in the UK

All ages

Creating an accurate measure of loneliness is not straightforward. The task is hindered by a number of issues, including that much of the research previously undertaken has focused on older people.⁹ Where studies have tried to assess loneliness across all ages, there have been challenges in designing an approach that ensures the comparability of results across young and old.¹⁰

This is part of the driver of the recommendation of the Jo Cox Commission, subsequently accepted by the Prime Minister, that a consistent nationwide measurement of loneliness be created. The ONS is now taking forward a programme of work to develop a measurement framework, and has recently published its recommendations.¹¹



While the precise numbers are hard to tie down, we do know that a range of methodological approaches have shown loneliness to be a significant problem in the UK.

Existing survey data from the ONS suggests that 6% of adults in England always / often feel lonely. Another 15% feel lonely some of the time.¹² However, other sources suggest much higher figures. For example, the most commonly cited research from the Co-op and Red Cross suggest that 18% of adults in the UK always / often feel lonely and a further 34% sometimes feel lonely (figure 1).¹³ To account for these stark differences, until more robust measures are developed, this report uses the mid-point of these estimates. Doing so suggests that some 3.2 million people across the UK (aged 16 and over), always or often feel lonely.

Loneliness amongst the over 50s

Applying this approach to just those aged 50 and over in the UK suggests that around 1.5 million people aged 50 and over are always / often lonely. Projections from Age UK suggest that, on current trends (and with cautious assumptions), the number of over 50s who are always / often lonely could rise to more than 2 million people within the next ten years.

One of the major gaps in existing knowledge is how the prevalence of loneliness varies across the UK. Figure 2 provides new regional estimates derived from existing research. It shows that, for example, there are around 80,000 people aged over 50 in Wales that report to be lonely most or all of the time.

The causes of loneliness



The causes of loneliness are complex, inter-related and reinforce each other, with individual factors related to a range of personal characteristics, life events and transitions and wider community factors. However, we also know that there are particular groups of older people who are more likely to experience loneliness. Some of these are unsurprising. For example, those who have been widowed are more than five times as likely to be lonely than those who are in a relationship, and those who feel stigmatised by, or isolated from, society are also more likely to be lonely.¹⁴ Those who have had to leave their home to enter care are also at risk of losing the friends, family and connections with the local community that they may have built up over many years. Other drivers are less obvious, for example evidence suggests that the prevalence of loneliness (and its severity) is greater for disabled people and those living in neighbourhoods perceived to be unsafe.

The costs of loneliness

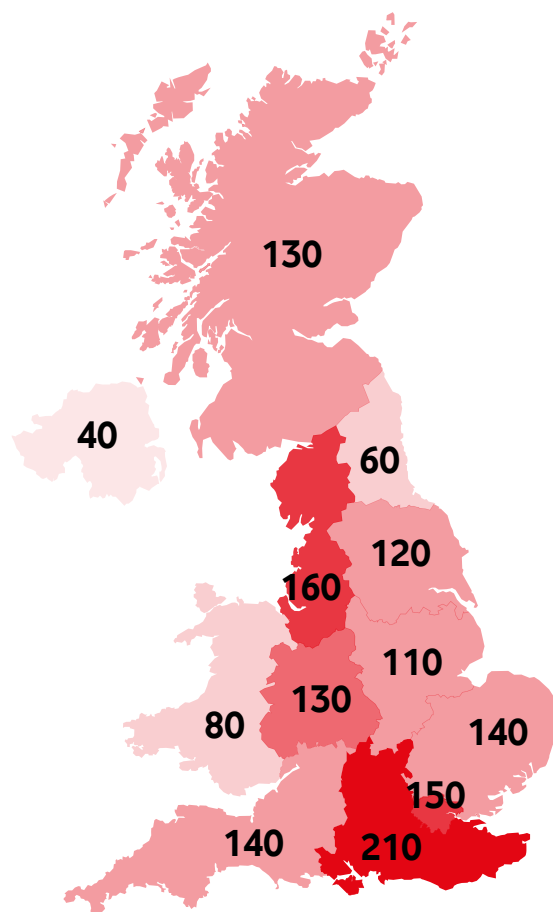
There has been a wide range of research attempting to detail the impacts of loneliness on individuals, families and communities. Overall, these can be broken down into three main categories: the impacts on health and wellbeing; the impacts and costs to public services; and the costs to employers and the UK economy. Each of these is considered separately below.

Health and wellbeing

Perhaps most obviously, loneliness makes people less likely to be happy and less likely to be satisfied with life.¹⁵ At the most extreme, recent research has suggested that the impact of loneliness and isolation on mortality is equivalent to smoking 15 cigarettes a day.¹⁶ There are also much wider impacts:

- Older people who are lonely are more than three times more likely to suffer depression than older people who are not lonely,¹⁷ and 1.9 times more likely to develop dementia in the following 15 years;¹⁸
- Loneliness is linked to a higher risk of hypertension, heart disease and having a stroke;^{19,20} and
- Loneliness makes it harder for people to regulate behaviours such as drinking, smoking, and over eating, which in turn have their own significant negative impacts.²¹

Figure 2: Incidence of loneliness amongst those over 50 across the UK ('000s)



Source: WPI Economics analysis, ONS, Co-op

It is hard to estimate the overall costs of these issues. The typical approach is to consider Quality Adjusted Life Years (QALYs), which are used in public health analysis to understand the cost-effectiveness of different interventions (see box 2)²². A recent report estimated that, over a 15-year period, these factors could be associated with 1.3 lost QALYs per person experiencing chronic loneliness.²³ This can then be combined with estimates of the "value" of QALYs. There are many ways of determining this value; including by understand individuals' willingness to pay to gain one QALY. This report uses a relatively conservative estimate based on the NICE rule of thumb that it will pay up to £30,000 for an intervention that provides an individual with one QALY.²⁴



Box 2:

What are quality adjusted life years (QALYs)?

QALYs provide a way to measure the state of health of a person or group, by considering both the length and quality of life (including consideration of the person’s ability to carry out the activities of daily life, and freedom from pain and mental disturbance). QALYs are calculated by estimating impact of a particular treatment or intervention on both the length and quality of life, before and after the intervention. One QALY is equal to one year of life in perfect health.

Source: see endnotes ²⁵

Public services

These personal health and wellbeing impacts also have a knock-on effect on public services. For example, recent work from Social Finance suggests that, compared to those who are not lonely, older people who are lonely are nearly twice as likely to visit their GP and 3.5 times more likely to enter local authority funded social care.²⁶ Work with GPs suggests that three in four of them see between one and five people a day, who have come in mainly because they are lonely.²⁷

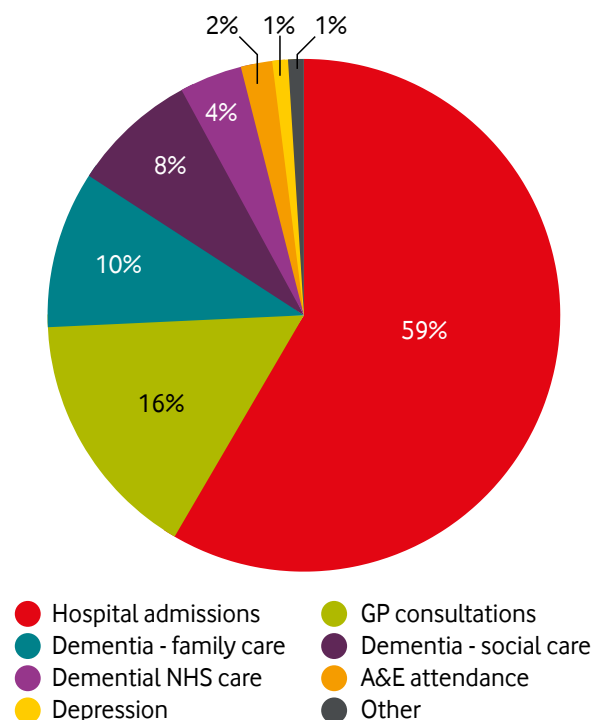
Overall, healthcare-related costs to the public sector which could be avoided by tackling loneliness are estimated to be in excess of £1,700 per person over a ten-year period. For those who are lonely most of the time, these avoidable costs increase to £6,000 over a ten-year period. As figure 3 shows, the majority of these costs come from avoidable hospital admissions (59%) and GP consultations (16%).²⁸

Economy

There are also a range of costs to employers and the economy. These come both directly from the sickness absence and presenteeism from those who are in work and lonely, and from those who care for those who are lonely. When looking at these costs, based on conservative assumptions, a recent report suggests there are:

- Costs to employers of around £20 million a year from sickness absence linked to loneliness;²⁹
- Another cost of £220m a year from absence of those who are caring for those with loneliness.³⁰
- More than £2 billion of costs because loneliness also impacts on the employees who do come to work, but are affected either directly, or indirectly (by caring for a friend or relative) by loneliness. These costs have been shown to come from presenteeism (reduced productivity whilst at work) and increased job turnover.³¹

Figure 3: Relative scale of healthcare costs associated with loneliness in the older population.



Source: PSSRU, LSE

Potential costs of loneliness in the over 50s

Whilst there is a degree of uncertainty around these costs, it is clear that they are significant. This report uses the research above to provide illustrative estimates of the costs for a single year, for those who are chronically lonely and aged over 50.

Overall, this suggests that the value of the damage to personal health and wellbeing on those aged over 50 amounts to the equivalent of £3.9 billion a year. Alongside these costs to individuals, there are additional costs to the public services and employers of £1 billion and £800 million respectively.

The table below shows how those costs would be distributed across different parts of the UK, based on the number of people aged over 50 in each area.

	Impact	Cost (per year for those 50yrs+)
Individuals	Damage to life expectancy and quality of life	£3.9bn
Public services	For chronic loneliness: £6,000 per person over 10 year period	£1 bn
Employers	Direct and indirect costs to employers from absence and productivity	£800m

Source: WPI Economics, ONS, Social Finance, Co-op, PSSRU and LSE

	Cost associated with loneliness in the over 50s (£ million a year)		
	Individuals	Public services	Employers
UK	3900	1000	800
Country			
Wales	220	60	40
Scotland	360	90	70
Northern Ireland	110	30	20
England	3300	850	680
English region			
North East	180	50	40
North West	470	120	100
Yorkshire and the Humber	350	90	70
East Midlands	310	80	60
West Midlands	370	90	80
East of England	410	100	80
London	420	110	90
South East	600	150	120
South West	400	100	80
Combined authority			
Greater Manchester	160	40	30
Sheffield City Region	90	20	20
West Yorkshire	140	30	30
Liverpool City Region	100	30	20
North East	140	30	30
Tees Valley	40	10	10
West Midlands	160	40	30
Cambridgeshire and Peterborough	50	10	10
West of England	50	10	10

Source: WPI Economics analysis, ONS, Social Finance, Co-op, PSSRU & LSE



3. What can be done?

Given the potential impacts and likely future trends in the prevalence of loneliness, it is no surprise that politicians from across the political divide regard tackling loneliness as a priority. Building on the Jo Cox Loneliness Commission, the Government has also recently published a loneliness strategy (Box 3).

Box 3:

The Government’s loneliness strategy and older people

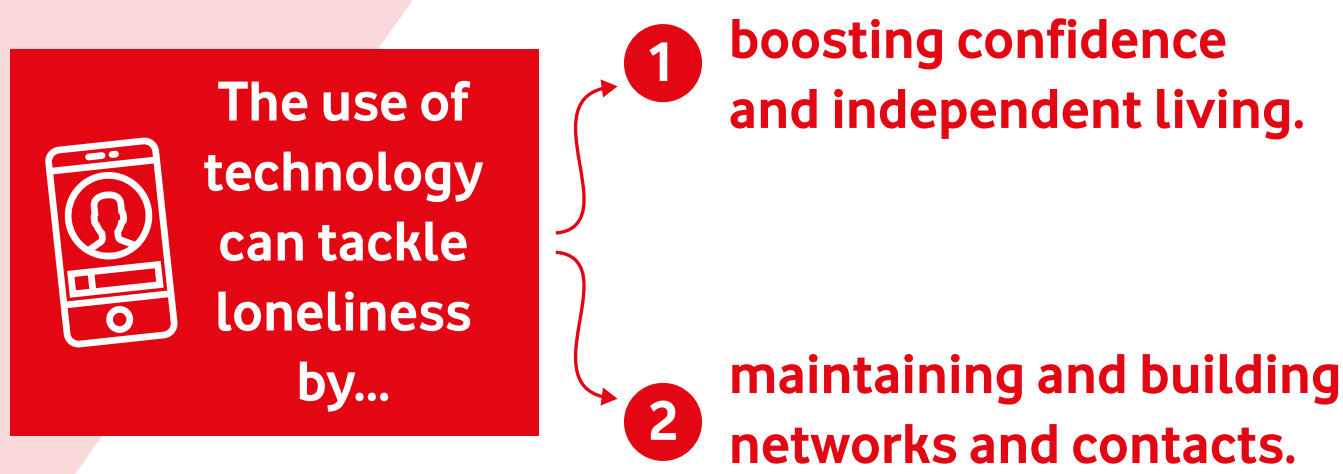
The Government announced its loneliness strategy in October 2018. This attempts to bring together efforts to tackle loneliness across a range of government departments (from DWP to BEIS), community groups and charities. At its heart is a commitment to better understand and report on loneliness indicators. GPs will also be able to adopt ‘social prescribing’, referring patients to community activities and voluntary services. Other commitments include an increase in the number of community spaces, support for organisations that already address loneliness through additional funding, and steps to share knowledge and promote good practice on tackling loneliness.

More generally, the ageing society has been identified as one of the Grand Challenges facing the UK. The Government’s Industrial Strategy has committed a £98 million fund to innovation in healthy ageing, in part to tackle loneliness. However, the Government has been clear that tackling loneliness is not just about the role that Government itself can play and the funding it can bring. A range of reports have also highlighted that, because of the complex nature of loneliness, there is no one single response that is needed. Instead, a range of responses will be needed from individuals, communities and businesses across the UK if we are to be successful in reducing loneliness.³²

There are examples of where this is already happening. These include Norfolk County Council’s ‘In Good Company’ campaign,³³ which has encouraged projects including an intergenerational digital skills workshop and a ‘Great Get Together’.³⁴ There are nearly 4,000 community and social groups listed on the campaign’s ‘company directory’.³⁵ Businesses are also playing a part, for example Co-op Funeralcare have set up bereavement groups to offer structured support, informal coffee mornings and life coaching.³⁶ Village Agents across the country focus on those both physically and socially isolated, providing social interaction and help with practical tasks, such as organising transport to get people to appointments and arranging for a handyperson to adapt the home.³⁷

What role can technology play?

The existing research also shows that, as part of a comprehensive strategy, there are a number of ways in which technology can be used to drive a reduction in loneliness. The figure below demonstrates two key ways in which this might happen.



Boosting confidence and independent living

There are already clear examples of many ways in which innovative use of technology can benefit older and vulnerable people. The key point here is that, traditionally, approaches based on using technology relied on older people proactively engaging with it, for instance by using technology to communicate with friends and family or inputting information that could then be used to support them. Recent innovations have done away with this, instead running silently in the background of the home to improve independence and confidence. As a result, these approaches can also reach much more widely into the at-risk population, reduce costs and, most importantly have a bigger impact.

Many of these can also be used to directly or indirectly support action to tackle loneliness. For example, technology and, specifically, the internet of things, is already being used to promote independent living, deliver improved social care and to boost confidence and wellbeing.³⁸

Successful delivery relies on reliable and continuous connectivity and, for example, Vodafone's leadership in NB-IoT (its next generation Internet of Things network) and 5G is laying the foundations for cost-effective care support at new levels of scale.

More detailed examples are shown below. Many of these show that the use of technology inside and outside of the home could tackle loneliness directly, or more indirectly by boosting confidence and promoting independent living, which in turn would increase the likelihood that older people will engage in a range of social activities.

Republic of Things



More generally, the approach to providing social care is being revolutionised by collaborations between product innovators and Vodafone. An example of one collaboration is with Republic of Things. This is already working to take exciting research into the field to improve care data analytics around behaviour, environment, wellness and vulnerability. This can then be used to better inform both integrated health and social care policy (including the balance between intervention and prevention) and working practices at both local and national level. Again, Vodafone's leadership in NB-IoT and 5G is central to this approach.

Maintaining and building networks and contacts

Technology can also be used more directly to facilitate social interaction. For example, a recent project conducted across the UK and Italy worked with a pilot group of people aged over 60 to understand the role of the internet and social media in reducing loneliness, isolation and promoting active ageing.

The project supported the use of social media, email and Skype for the participants, and used a control group to understand the impacts. They found that those who received training used the internet and social media more and increased their social activity. They also had a stronger sense of personal identity and self-competence and saw improved cognitive capacity and overall mental and physical health and wellbeing.³⁹

A number of other approaches have been trialled, including using "socially assistive" robots, computer training, videoconferencing, virtual befriending schemes and apps that aim to improve access to information about local activities and groups. More details of similar schemes for both younger and older people are shown below.

A recent review of the evidence on many of these schemes found potentially positive effects that would benefit from rigorous piloting and evaluation in the UK. The review also showed that, as with all interventions, when used badly, technology can be counterproductive. For example, where people struggle to understand or operate the technology, this can lead to feelings of alienation and disempowerment, which can raise the risk of loneliness and other issues which may impact negatively on wellbeing.⁴⁰

V-SOS

Vodafone's V-SOS Band is designed specifically to support independent living, and as a result can play an important part in older people remaining in their homes and community for longer. Utilising the mobile network, rather than broadband, users can leave the home with the confidence that they can get help when they need it. The band comes with an SOS button and an easy-to-use app that means families can be directly alerted if the wearer needs help. It also uses fall detection technology so that families can be alerted automatically if the wearer falls either in the home or when they are out.





Kraydel

Kraydel is a small device designed specifically for people who may not be familiar or comfortable with technology. The smart device sits on top of the TV, linking elderly people to their carers or family members, through their TV screens.

Kraydel helps people be more independent and remain in their own homes for longer as well as helping people be more socially connected to their family, friends, carers and local community. It can help people return home from hospital earlier, while still providing the professional overview needed for recovery. It also addresses social

isolation with its user-friendly video calling via the TV. Going forward it will deliver interactive content to the user like activities and fitness resources, creating a community and helping people feel included and valued.

Connected to the cloud by Vodafone's technology, the device interprets the data it receives to build up a picture of the user's daily activities, their health and their wellbeing. It issues medicine and diary reminders, and alerts caregivers if it sees something amiss, or identifies potential risk. At the same time, it provides peace of mind for relatives.

AV1

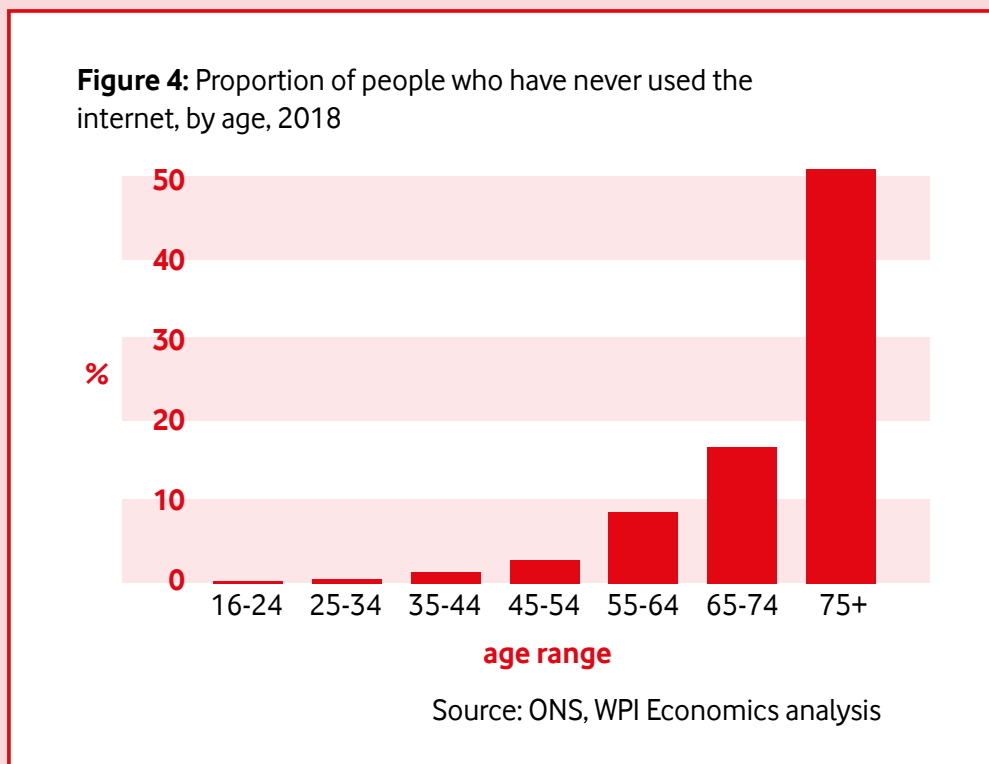
Supported by Vodafone IoT technology, No Isolation have developed a robot that is designed to reduce the risk of children and young adults with long-term illness becoming socially isolated. While aimed at young people, rather than over 50s, this demonstrates the revolutionary effect that innovation in technology can have in tackling social isolation and loneliness and, in doing so, meeting wider social objectives.

The robot avatar acts as the child's eyes, ears and voice in class. It is controlled by an app on a smartphone or tablet and is equipped with a camera that can rotate 360° and weighs no more than one kilogram. This means AV1 is easy to move around, enabling the robot to go on school trips and attend birthday parties. By doing so, AV1 remotely keeps children closely involved with school and in touch with their friends. The robot uses innovative Vodafone IoT technology that facilitates the transmission of relatively large amounts of data. AV1 is online anytime, anywhere, which enables audio and video communication.



4. Barriers and challenges

The previous sections have demonstrated the significant costs associated with loneliness in the over 50s in the UK, and a number of ways in which this could be tackled, including through the use of technology.



There have traditionally been a number of challenges to maximising the potential benefits that technology could bring. For example, one challenge is that take up of technology in those aged over 50, and particularly for those aged over 75, is relatively low:

- More than half of the those aged over 75 have never used the internet.⁴¹
- Just 33% of care homes provide internet access to their residents;⁴² and
- A third of older adults (65+) identify themselves as only “a little confident” or “not at all confident” in their ability to use electronic devices for essential online activities.^{43,44}

However, many of the approaches outlined above (and others already in use) circumvent these traditional barriers. There are two key reasons for this:

- Many of the approaches being used to boost confidence, improve support and increase independent living do not rely on older people engaging directly with technology. For example, both Keruve and monitoring services in the home rely on technology that can be worn or installed, which then works silently behind the scenes; and
- Wired internet access is no longer needed for many of these approaches, as they are based on mobile technology that can be constantly connected, whether inside or outside of the home.

This means there are now significant opportunities to harness technology and drive a tangible reduction in loneliness and other related issues.

However, some barriers remain; research with people aged over 50 demonstrates a range of barriers to the use of technology more generally. In short, even where no or minimal direct engagement is needed, the technology does need to be accessible and available in the home. Individuals and families, and those that care for them, also need to be aware that the technology is available and understand the potential benefits that it can deliver.⁴⁵ Concerns regarding cost, privacy and security have also been shown to be more impactful amongst older people.⁴⁶

5. Steps to Reducing Loneliness

While each of these are significant barriers, they are not insurmountable. We have also seen significant progress in recent years: for example, the overall proportion of over 55s who have never used the internet halved between 2011 and 2018⁴⁷. This could be built on to break down barriers to access, boost confidence and continue to drive innovation and collaborative working. This section outlines five recommendations to ensure that this happens, so that technology is harnessed to play the key role that it should in supporting a significant reduction in loneliness.

Improving access

The evidence in this report shows that access, including financial constraints, to technology is a major barrier to take up of approaches that could support a reduction in loneliness. There are many ways in which this could be tackled, including:

1. **Social and digital prescribing:** GPs and health services should include technology (for example wearable devices, monitoring systems or classes providing lessons on how to use technology) in social prescribing schemes. Given the lack of definitive evidence in this area, we believe that the Government should work with partners to launch a trailblazer of these schemes and conduct a comprehensive evaluation that could support roll out through NICE.
2. **Revitalising support for independent living:** A range of financial support is already available to older people (including Winter Fuel Payments). Given the potentially significant benefits of technology in the home, we believe that the Government should launch a consultation on supporting independent living that invites views on how existing support could be best used to improve health and wellbeing.

Boosting confidence

Another major barrier is a lack of confidence around the benefits and use of technology amongst older people. By improving knowledge surrounding technology, some of the barriers created by misconceptions around costs and relevance to older people could be overcome. Previous programmes have focussed on IT/technology training that appeals to older people. For example, Age UK offers computer training courses in many of its local centres.⁴⁸ Schemes like this improve confidence and tackle loneliness directly by increasing social interaction. There are many ways in which this sort of approach could be extended to boost awareness, understanding and confidence in all forms of technology.



3. **Tech toolkit:** The development of a range of tools to support older people to understand the technology that is available and how it can be used to support independent living and a reduction in loneliness. Importantly, this should also be targeted at friends, families and those that care for older people (including local authority services), who will have a key role in increasing understanding and take up.
4. **Tech transfer:** The toolkit will be made available in easily accessible locations such as high street retailers or public buildings, and to any organisations that want to support the take up of technology to tackle loneliness. This could include Local Authority social care teams, charities and youth organisations, such as the National Citizen Service.

Supporting innovation

This report has highlighted that there are already a wide range of innovative technology-based approaches being used to support independent living and tackle loneliness. Given the significant benefits that could be realised for individuals, families and society as a whole, we believe that the Government and industry have an important role to play in continuing to drive innovation. This should focus on how technology can be used to support and improve social and personal interactions and connections that can reduce loneliness.

The benefits of this continued innovation are likely to be maximised where the approaches are brought together and used both in the home and across the wide range of agencies, support services and organisations that older people engage with. However, it is clear that this will take significant action, and will need to be based on evidence of what works. As highlighted above, that evidence does not currently exist. Tackling this will involve supporting innovation and ensuring that new approaches are evaluated effectively.

5. **Care challenge fund:** To boost innovation and trial and evaluate how technology could be used to improve independent living and tackle loneliness across whole local areas, we believe that a challenge fund should be launched. This should be funded by the Government, and open to partnerships of innovative providers, Local Authorities and Combined Authorities. Bids would need to demonstrate how they would leverage technology to improve social care, increased independent living and help combat loneliness amongst older people. Bids would also need to demonstrate a clear and robust evaluation strategy.

Conclusion



This report has demonstrated the significant personal, societal and economic costs associated with loneliness amongst the over 50s in the UK. With the political spotlight currently focussed on this important domestic agenda, now is the time to take firm action to tackle this issue. As the Government has already highlighted, there is not a silver-bullet solution and a comprehensive strategy will be needed to bring together action across all levels of Government, from businesses and from community groups amongst others.

Whether by directly facilitating social interaction, or by promoting independent living and providing older people with confidence, technology can play a clear and important role in that strategy. However, it is clear that there are challenges to this. For this reason, this report has outlined a number of options for breaking down the barriers to the take up and use of technology amongst the over 50s.

These ideas should just be seen as the start. As well as the issues of take up and knowledge highlighted in this report, our research has already uncovered more systemic challenges in increasing the use of innovative technology in social care both in the home and more broadly in the residential care sector. Future work will need to build on the ideas in this report to outline how procurement can be improved and the costs of delivering the “back-end” of these approaches managed in a cost-effective way.

Taken together with the recommendations in this report, this could go a long way to reducing the multi-billion-pound annual costs of loneliness and, more broadly, increasing independent living and quality of life amongst a large portion of older people in the UK.

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