Whiteley Village
1917 - 2017
Living Longer, Ageing Well

Ageing well
a collection of innovative thinking

The Whiteley Foundation for Ageing Well

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Front cover shows residents of Whiteley Village

CLARENCE HOUSE

In the hundred years since Whiteley Village opened its doors, life expectancy throughout our country has risen greatly. Clean water, medical advances, public policies, education and better nutrition are among the factors that have played a part in this great achievement.

Further progress in a range of fields seems to promise even longer lives for many people in future. However, we also hear daily about the challenges of an ageing population, not least the costs to the health service and social services of greater frailty among older people. We also hear, tragically, of the loneliness endured by so many.

How can we ensure that a long life is also a good life? How can we provide not merely for the better health that prolongs life, but for all the other things that make life worth living? These are questions which I know are being tackled by many organizations, including some of which I am proud to be Patron, such as Age U.K., Abbeyfield, the National Almshouse Association, Age Cymru, The British Geriatrics Society, and, of course, Whiteley Village.

If, like myself, you have been fortunate enough to visit Whiteley Village, you will know it is a place that provides homes, care and security to retired people of limited means, and that it does all this in an environment whose sensitive design, extensive facilities, splendid grounds and spirit of community all contribute to a sense of well-being that has an immeasurable effect on the quality of life of its residents.

I am not surprised by research showing that, on average, people who move to Whiteley live longer than would have been expected. Of course, there are many questions to be explored about how this has been achieved, and what lessons can be learnt in addressing the challenges of ageing.

It is a fitting tribute to the vision of the Founder and original trustees that, in this, its centenary year, the Trust is launching the Whiteley Foundation for Ageing Well to work with others to find answers to these questions. This includes government, businesses and other charities.

This volume launches the Foundation with a series of thought-provoking articles about different elements that will contribute to a good life for older people twenty years from now. They offer ideas we should consider carefully in a rapidly changing world.

After all, we all have an interest in making sure that our longer lives are also better lives.

Now I'm sixty four...and more

Peter Wilkinson

Our population is ageing, and our society is struggling to cope. Something has to change if people are to live well in later life. The question is what?

In the 100 years since the first resident arrived at Whiteley Village, life expectancy has increased by an astonishing 25 years, to around 80. In 1917, few people benefitted from the new means-tested state pension for people aged over 70, and the NHS and social services were decades away.

Visionary trustees established Whiteley as a complete village. They not only provided almshouses for the 'aged poor' described in William Whiteley's will, but also pensions, hot food, coal and care as well. Perhaps their greatest insight was to build the facilities in which a vibrant community developed and still thrives. Perhaps their greatest achievement was that people who moved to Whiteley lived longer than would have been expected.

In our centenary year, we are launching the Whiteley Foundation for Ageing Well because we want to understand what it means to 'age well' today. How could our society create environments in which older people can make the most of their added years?

Retirement is no longer 'God's waiting room'. Some people enjoy decades of active life in retirement, though many suffer the effects of poverty or of chronic conditions that can blight life, as well as shorten it.

We know many of the characteristics of people who live well in later life – Age UK recently published a Wellbeing Index – and there are many research organisations that contribute to our overall knowledge. It is a truism that we are all different, and it is equally true that we change as we age. Many things affect an individual's perspective on life: family, friends, finances and, of course, health, to name but a few. What are the critical factors that need to come together if older people are to thrive?

For this volume we asked a range of intriguing thinkers with different perspectives to look into the future. The resulting collection isn't a comprehensive look at what it means to age well; instead it challenges us to think differently about later life.

What has emerged is fascinating. There are many echoes across the articles, despite the wide variety of expertise among the contributors. Some topics affect all of us, simply because we are human, whereas others look at how priorities change over time, especially as the end of life draws near.

It won't surprise you to read that older people need companionship just like people of any age, though you may be surprised by research into their attitudes to intimacy. It won't be a surprise that experts are questioning the logic behind a cliff-edge retirement, but it may surprise you to realise how our society makes it hard to sustain meaningful lives into old age. You won't be surprised that technology will bring many changes, though you may be surprised to discover just how many different aspects of life will be improved by people-friendly robopets.

A common thread in the articles is that people want to have choices as they grow older. Choices about where they live and who they live with, especially as their need for help increases. Choices about their lifestyle, with support to remain healthy. Choices about their goals for later life, and opportunities to make and maintain emotional connections with other people.

Most people want a purpose in life. There is a danger that growing older is defined by loss: loss of family and friends, loss of mobility, and loss of independence. Positive people focus instead on what they remain capable of doing, and what they can bring to their own lives and to those of others.

Many people are reluctant to plan for later life, not least because their future is entirely unpredictable. Saving for retirement, downsizing homes and planning for decreasing abilities are not things we do enthusiastically, however sensible they might be.

Our society is changing fast, with technology a particularly disruptive force. Email, Google, Amazon, genetics, exo-skeletons, driverless cars, artificial intelligence – the list is expanding daily. It seems impossible to imagine how the lives of people, young and old, will change in the next ten, let alone the next hundred years. After all, the iPhone has been with us for a mere ten years.

We live in a world designed for the young. Most older people have to fend for themselves, whether they are capable of doing so or not. Organisations of every type – government, businesses, charities, housing, health and care providers – should ask themselves whether they are doing everything they can to enable people to age well, today and in the future.

This is not simply about money; it is about attitude and awareness. Government institutions seem to have conflicting goals, and rarely understand how their disparate actions affect individuals. Why don't they collaborate better, so people can age better?

There are plenty of moral dilemmas raised by the issues that affect older people, especially when they need support and care. In his book *Being Mortal*, Professor Atul Gawande MD wrote about the ways institutions take away residents' choices in the interests of 'what's good for them' or efficiency. A little disruption – pets, music-making, noisy neighbours, the 'wrong' food and drink, and even sofas and double beds – can restore a semblance of family and normality despite an institutional setting, and be a tonic for a better life.

Being Mortal inspired the Whiteley Homes Trust to adopt an ambitious strategy that will support independent living to the utmost. Our aim is to offer opportunities for residents to live how they choose and where they choose to the end of their days, which for most people means living independently in their own homes. It means completely reorienting support away from buildings, such as care homes, and towards people at home.

We are building some modern facilities, but the biggest impact will come from exploiting technology to the full and mobilising the power of the local community. Neighbourliness and many social activities add greatly

to the quality of villagers' daily lives. We now have more registered volunteers than paid staff, and they contribute in dozens of different ways.

The issues discussed in this volume affect all people as they age, irrespective of their wealth. We are acutely conscious that many great ideas are being implemented around the world. Initiatives like *Incredible Edible* and *Beat the Street* harness the power of communities, the former in growing and eating good food together, and the latter in making exercise an enjoyable and social part of daily life. They, and others like them, have much to teach us.

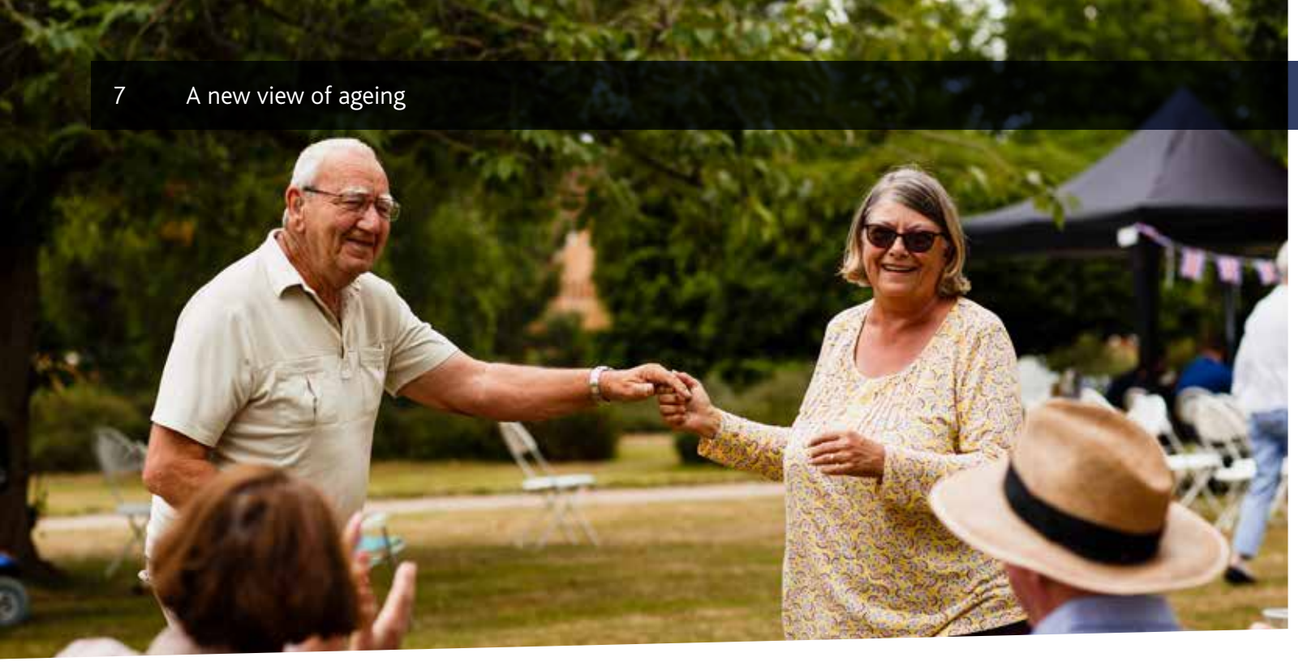
Our society's current approach to its ageing population seems unsustainable on financial grounds if nothing else. Uber owns no taxis and Amazon owns no shops. How radical could we be? Do we really need to have beds in institutional care homes for older people? How can we help everyone feel 'at home' wherever they live?

The Whiteley Foundation will work with people and organisations with innovative ideas. It will help our villagers and the Trust, working together, find out which ideas work best through rigorous evaluation. And it will share the lessons we learn widely, to give as many older people as possible the chance to age well.

Whether you agree with them or not, the articles in this volume stimulate us to think differently. I am very grateful to all the contributors, and for their encouragement to act sooner rather than later to create conditions in which everyone has the chance to make the most of all their years.

At Whiteley, the villagers and the Trust are taking bold steps to prepare for the future. We want to collaborate with like-minded people, learning together through the Whiteley Foundation for Ageing Well. Most of all, we want to share our zest for life at every age, so people live better, longer.

Peter Wilkinson CBE, Chair of The Whiteley Homes Trust



Let’s face the music and dance

Joan Bakewell, the Baroness Bakewell of Stockport

There are some wonderful, simple ways for older people to live life to the full these days. Recently I accompanied a friend to an afternoon ballroom dance session – they have them in town halls all over London. There were people in their 90s there, doing the quickstep and the foxtrot – it was just an amazing sight. There must have been 120 people.

But on a personal note, what happened surprised me. A nice gentleman with white hair asked me to dance, but I was shy and said I was just there to watch. My first response was not to do it.

He smiled, told me to relax, and I reminded myself that I used to adore dancing – so I changed my mind. I was so pleased I had ignored that response - and really enjoyed myself as a result.

All of us in our older years need to try new activities, cook new foods, make new friends – or revisit something we used to love, as I did in that town hall. And not give in to that negative response.

I have spent my whole career as a freelance writer and broadcaster, so I have always had to be adaptable and take on new challenges. I appreciate how much more difficult it may be for someone who has spent a working life in a routine job, or relied on a partner who is no longer around, to do the same.

But I think it is time for us all to start thinking about our older years much, much earlier. People don’t think about being old until they are actually there: I would like to see that change.

If we did so, we would start to see ageing as a different part of life, not a declining part of life, or running out of life. It would just be another type of age, like being a toddler or a teenager.

The names we have at the moment for older people are derogatory – pensioners or oldies. Younger people should have a more positive view of ageing and we ourselves need to take a more positive attitude to the years ahead. In fact, there should be a rebranding of ageing, a makeover, emphasising the positive benefits.

We all need to sit down at a certain stage in our lives – at aged 60, or perhaps 50 if we are thinking about retiring early - and do an ageing audit, consisting of what we have done in our lives, and what we have ahead. We may not have done what we expected. But what’s important is people should look at what they’ve got going forward. It’s like picking up a hand of cards and seeing what have they got in the deck now – because that’s what they’ve got for the rest of their lives.

There are a several topics that must be accounted for in this audit: our health, our relationships and our interests in life.

First, health and wellbeing, for which we need to take personal responsibility. People should not think how can they stop deteriorating, but how they can improve their health. This is about taking a positive attitude to staying well, rather than waiting for something to go wrong, collaborating with their doctors and making use of tests such as blood pressure checks and mammograms. I don’t think they should be fanatical about it but enough to keep themselves informed.

They should make an assessment of their aches and pains; what they know their body can do, but also what they think it could do. Older people tend to take less exercise and travel less. They get mentally and physically lazy. They think they can’t be bothered or it’s too late. But it’s not: people can take up a new sport, and it doesn’t need to be bowls. You need more exercise, not less, as you get older but the inclination and attitude from those around us is we will do less. I’ve done Pilates all my life, but people always say ‘won’t you be giving that up?’

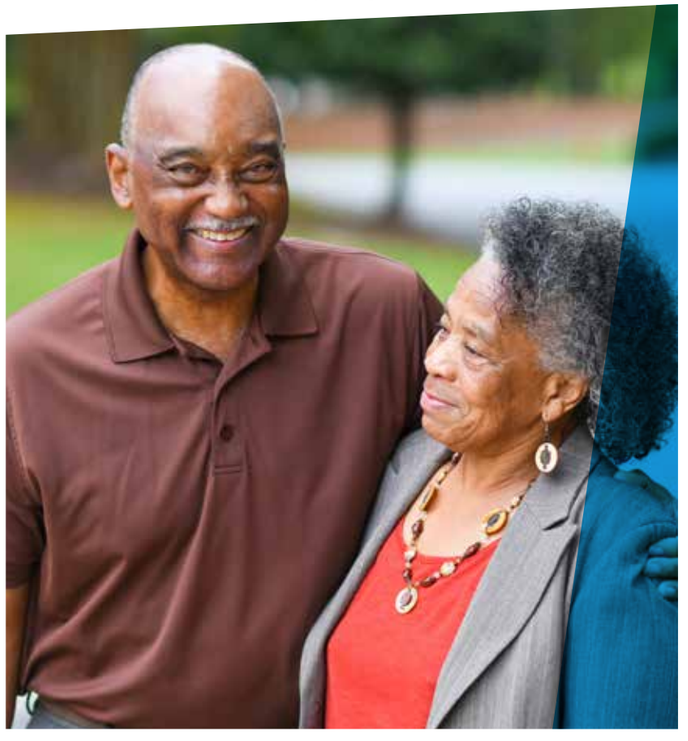
I’m doing a documentary on people who live to 100 for BBC’s Panorama and visited Whiteley Village to interview centenarians living there. Those 100-year-olds, in common with others I spoke to, said staying mobile was absolutely key to well-being and spirit – the ability to move from room to room and not feel just stuck in an armchair. People really, really mind that. Maintaining your balance with regular exercise can encourage mobility, which means being able to get to the shops or get on a mobility scooter to visit friends.

Another way of improving health is to try new foods. New foods arrive all the time, and as you get older you forget to take notice of them. You think, “I don’t eat that.” It came as a great shock to me with the arrival of quinoa – I can’t pronounce that dish. But I eat it and enjoy it.

These are practical steps. But you can ‘think’ yourself healthy and happy too. Make a positive decision on how you are going to grow old. Rather than concentrating on what’s going wrong think, “Oh, my hair’s not gone white, it’s rather a good colour,” or things like that. You can take pride in the things that have remained good as you get older.

There’s no doubt you will lose various faculties, but take a positive attitude. For example, at some point, we all need glasses. That’s an opportunity to say what kind you want and take an interest in it.

I have hearing aids. I have a replacement hip. People see me being active and think I’m lucky, that I have the right genes. It’s not luck - I have taken a lot of trouble about it. It’s a positive decision on my part.



The second topic to account for is relationships. Are you in touch with your children as much as you might be, or want to be? Do you have as many friends as you would like?

If you don’t, make new friends. Join a library and see what’s happening, go to museums and outings, a book group, a swimming club. Go out on group outings. Whiteley is rather helpful for this because people who move there are given opportunities to meet new neighbours and residents are offered all these different clubs and activities. If you could enlarge what goes on there, life would be a lot better for people outside the immediate community.

It’s a good idea to have friends from all generations. Again, that involves thinking ahead - you need to lay the groundwork. You can’t just suddenly decide you want new friends when you’re in your mid-80s, when all your friends have died. After the loss of a loved one, a lot

of people can find a new lease of life because they have the chance to set a new pattern of friendships that they may not have done before.

Another part of the audit is to check how outward-looking you are. Take an interest in world affairs, which are moving so quickly. You don't have to be an expert on the United Nations, but it is helpful to take an interest in your local community.

I'm President of Birkbeck College and we have a lot of older people doing degrees, some in their 80s, and they get such a reward from it. We ask these people when they graduate to be mentors to others thinking about studying at a similar age. It could be pot-making or jewellery-making, catching up on things they have missed earlier in their lives. There are a lot of water colourists in this country. You can learn a new instrument – or find other ways to join in with making music when fingers get too arthritic. I think people will go on acquiring skills and enjoying creative activity: things that require an adult mind and emotion, rather than a routine.

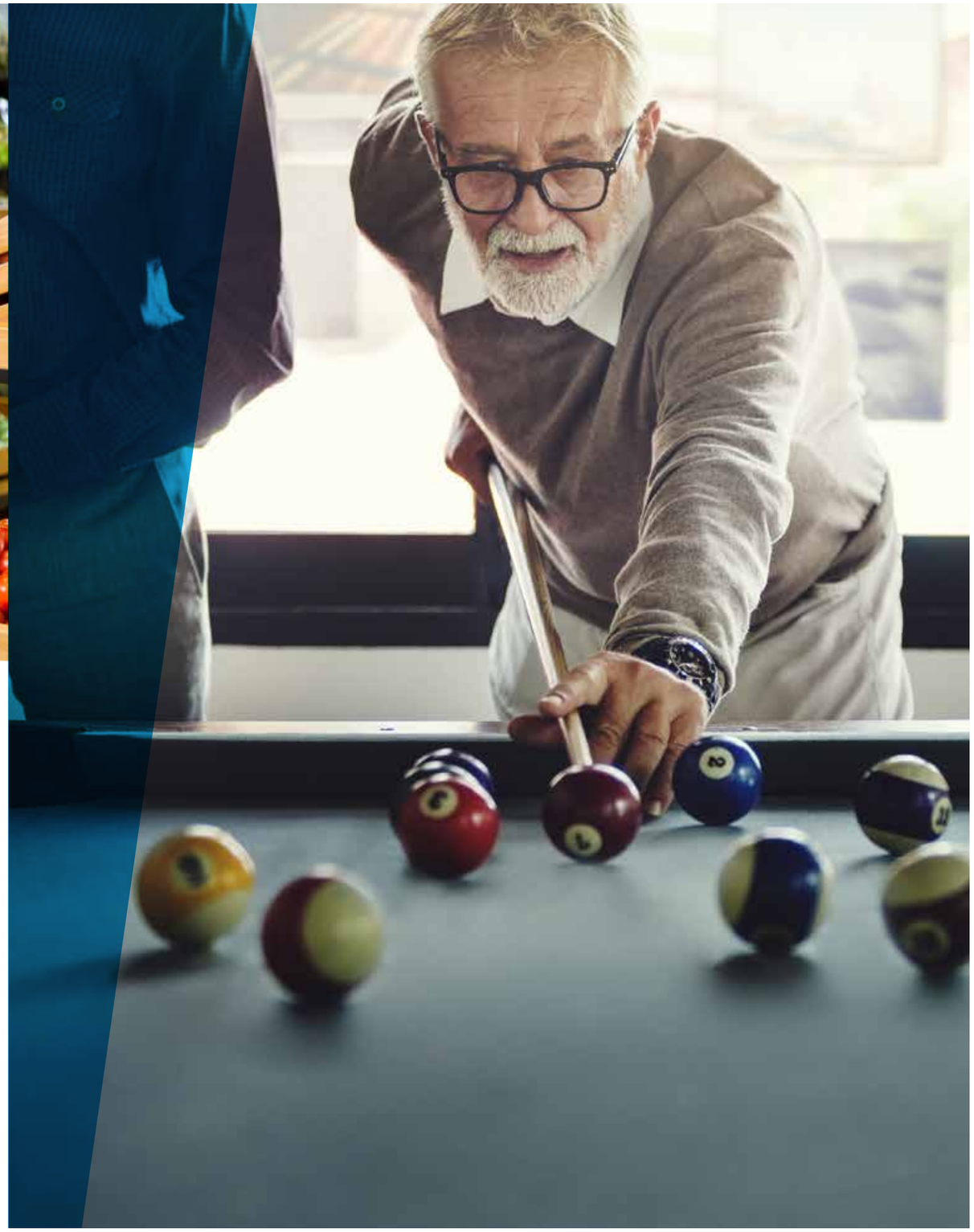
If you don't fancy that, have a project. A lot of older people decide they want to leave a memoir for their children of what their lives have been like. They often start writing essays or putting all their photographs in order and labelling them, and leaving them stories.

Or, when you wake up, you might just decide to go to the Co-op this afternoon and buy something you've never bought before, perhaps something fancy in aspic.

It might be helping out with reading at your grandchild's primary school. You can begin to uncover all sorts of small nooks and crannies where help is needed if you ask.

If you have a bit of money, it's a good idea to go away for the weekend, every so often, to the seaside or a farming community or the city if you live rurally - to refresh your view of what the world is like and give you a change of perspective. It's enormously reinvigorating, because you forget what it's like.

Or go further. Voluntary Services Overseas offers schemes whereby retired people can go abroad for six months at a time to help out in Africa, for example. I've got a friend who is a doctor who's taken six months out to go to India to go to a village to help look after people there through a Quaker group. Now, that's a pretty bold thing to do. But if you're going to have a fruitful old age, that's something you might consider. The systems are there for you to do it. People just don't know about them, or don't have the motivation to find out.



Of course, this assumes a level of financial security. But even for people with less, small changes can be made. And people are generally more comfortable now. Pensioners now have a relatively safeguarded income, with the old age pension. It's not much but what is interesting is that as I've gone around interviewing people who are 100, they say, "Oh, the old age pension is plenty – what do I need?" By your 80s you know how to cook frugally, you know the recipes you have been doing all your life, and you're not going to go to fancy restaurants. I'm not saying the pension is lavish, but I've met people who have found it adequate. And that's a security.

Society has changed for the better in other ways for older people in my lifetime. A cancer diagnosis isn't necessarily a life sentence, an arthritic hip isn't the end of the world. Things can be made better for longer, that is a really important change.

But there's more to be done. I want society to see old age as something you seize as an opportunity. There are good things about being old: it's too late to have regrets; it's too late to be hugely ambitious in your career, because you've peaked. You may well have paid off your mortgage, your children have grown up and – for better or worse – gone off to do their own thing. So there are things that you don't need to worry about any more. That's very satisfying.

So, my plea to older people is this: at this precious time of your lives, don't think the way you have always thought. Try to see life somehow differently. You are living a new kind of life, the life of an old person. But it's not a rather run-down version of what you had before. It can be exciting, exhilarating with lots to learn.

Joan Bakewell, Baroness Bakewell of Stockport, is an author, journalist and broadcaster. In 2008, she was appointed a voice for older people by the UK Government and joined the House of Lords as a Labour peer in 2011. She is President of Birkbeck College, University of London

Using consumer power to recreate a joyful communal life until the day you die

Sara McKee

In the UK, we have historically warehoused older people into either big, multi-roomed nursing homes, or, if they have the money, exclusive gated villages. These can be socially isolating and unfriendly, stalling the active, engaging life we would all want.

I believe in a housing model that doesn't create ghettos of older people. In fact, my mission is to close every institutional residential and nursing home in the country. If we create a social movement behind this, driven by consumer power, I think it's possible in 25 years. Simon Stevens, the head of NHS England, wants this too, though has a longer time scale.

With the right environment and with clever use of the older population's housing assets, their privately owned homes, I think we could have a workable system of intergenerational living: one where we integrate, not incarcerate, older people, whatever their health needs; where people can have a meaningful day every day, with choice and control over what they do; with the security of knowing there is help when they need it, and the comfort of always having someone to talk to and company to keep. In short, where we make them feel good about being alive.

This will happen, not because of government initiatives but because of demand. The next generation of older people will not be as accepting as the current one, and baby boomers certainly won't put up with current care. They will want action, activities and fun. They will want to see what's going on and get involved. They will want to participate and contribute, travel and go to the theatre. They don't want to be just looking out onto a leafy garden, or sitting on an individual chair in a care home. I don't think I have ever seen a sofa in an institution's living room.

It's not a pipedream. In the UK, there are £1.3 trillion worth of housing assets owned by the over-65s. That wealth could be used to create a variety of different accommodation types that people want to live in. Currently, far too many people in residential care live in joyless institutions - there is no positive alternative for people to choose. And they have had to sell a loved home to do so. But these alternatives need to be brought to the market by innovative developers, and people will have to get used to the idea of paying for these positive solutions – releasing money from their homes rather than passing it on as an inheritance.

My plans for *Evermore* are not for the rich or for the few. There are millions of older people in middle England who own their own home but won't downsize or plan for retirement because of the lack of choice and current market

failure to deliver a product that is aspirational, rather than institutional. They're not being catered for. This is who we will support. I was inspired by Dr Bill Thomas, the Harvard geriatrician who founded The Green House Project in the US, to develop housing concepts that enable happy living for older people in the UK.

Currently we are building a community in Wigan which I believe could be replicated widely in the next 20-50 years by the sharing of our ideas and experience. I think of it as student living for older people. By 2019, residents will live in six households of nine people each. Each will rent a one-bedroom apartment opening onto a communal space with living area and hearth, open plan kitchen and large dining table, for around £150 a week. Where it differs from student living is the 'extras' - an all-inclusive hospitality and care package costing around £500 on top. This compares with a care home which typically costs a lot more – in my experience, fees of £1000 per week are common, and can be around £1500 per week in Cheshire.

There will also be the choice eventually to buy a long lease of 125 years at a market rate but with a lower cost of living than any other residential environment. It is for private payers - people who have a house and a pension - but is designed to be affordable for those who are supported by Local Authority funding.

Intentional Communities

The purpose of household living is to try and recreate that family atmosphere; it's a bit noisy, it doesn't always go well, people fall out, don't like the food, want something different. It's just normal life – and that's what older people miss, especially if they are divorced or widowed.

Extroverts think "Brilliant – there's always going to be someone to talk to." Introverts, who might not make the effort to go out and socialise, like the idea because it forces them out of their shell. Communal living might not be everyone's choice but living in isolation risks serious loneliness.

So our tenants will purposefully or 'intentionally' be joining a community - eating together, socialising together, with the independence of their own front door and their own apartment. It's designed so that people have at least one meal a day together, so when they come home, they are not faced with no lights on and only one cup of tea to be made. There is always something going on, and they can bring their pets.

And because of the way the system works, they're never going to be found on the floor three days after a fall. They're never going to get malnourished and dehydrated and end up in A&E, and, if their needs increase, these can be met where they live.

Unlike a traditional retirement community, we need to create environments which will cater for people through to the very end of life so there is no need to move again, even when needs become complex. For example, some households within our community can be focused on people living with dementia, making sure they have a fulfilling day. In the Green House Project in the US, you wouldn't know anybody there had dementia or mental health issues. They are calm and glorious places, contrasting sharply with many UK institutions which regiment residents throughout the day and focus on 'nursing needs'.

What we are about is creating an intimate environment where people can thrive, giving them the attention they need with a total focus on what they can do and how they can live well. Some people find it a bit topsy-turvy.

There are 150 types of dementia, some physically challenging, some mentally. Aggressive behaviour happens because people can't communicate. But our staff will learn to communicate with people with dementia really well and to recognise the signs when they can't make themselves understood, or are in pain, or don't like something. It's the deep and meaningful understanding that small households can create between the workers and the residents that makes a difference.

It's also about investing and caring for the staff – if you really look after your people they do astonishing things for the people they serve.

Whirlwinds of companionship

The lynchpin making all this work are the staff. Known as 'Mulinellos' – whirlwinds in Italian – Evermore teams are self-managing and co-create the roles they play with the older people they work with, often coming up with far more innovative solutions to problems than could ever be prescribed by a manual of operating procedures.

Working within one household, they will build up long-term meaningful relationships with people, and can monitor health concerns. They coach each other, they are specialists in different areas, and they are autonomous employees who get paid a salary.

Since home-help services have been cut, there is no-one to do many of the tasks older people find tricky. In our experience people do not want to buy 'care' – buying care is admitting defeat. But they do need company, as well as help getting things done. They don't want to be rushed around by a grown-up child at the weekend.

Our Evermore@Home pilot in Cheshire provided the sorts of services a companion may have done in years gone by – a lift to the hairdressers followed by a drink in a café or even a glass of champagne; a walk to feed the ducks. This companionship is often missing from services delivered by other care providers because they are focused on the physical aspects of 'care', but it is just as essential. A 'tribe of 5' Mulinellos with a car at their disposal work together to enable these activities in half day blocks of focussed 1:1 help.

Location, location, location

The point of intentional communities is putting people at the heart of the action, close to the amenities and transport they've always used. It's not about building a quasi-town – it's about maintaining and building upon existing connections.

Where we are building in Wigan, we have a primary school next door. We will develop a very strong relationship with that school, and we will recruit staff who are parents of pupils there, who will encourage those pupils to pop round after school, do their homework, have tea and cake. It won't be a fortress of the aged, but a fun place to be. This intergenerational mixing benefits both.

How old is old?

So when does this form of living become a good choice for people? To answer this question we need to stop looking at the over 70s as an amorphous lump. In reality there is a huge range of need at older ages. I see people in hospital who are in their late 50s but on their last legs, with a very poor level of health throughout their lives. They'll be lucky to make it into their 60s; they're old. And yet I can see 90-year-olds bouncing around, still driving their cars. It's about seeing people as individuals.

Consumer power

By 2039, the number of people aged 85 and over is projected to more than double, according to the Office for National Statistics. We need to see these people not as a cost or a threat, but as an asset who can make a massive contribution in funding what society needs, and helping co-design what they want.

We need to capitalise on the wealth that is within the gift of the over-70s. As in all other industry sectors, consumer demand should be at the forefront and we should create products these consumers can actively engage with. Nobody thought about low cost airlines until somebody brought them to the UK and demand soared, extending travel opportunities to the less well off. We didn't know we needed an iPhone before Steve Jobs told us. Similarly, we need to show people a housing option that they won't be able to do without in years to come.

Defeating the last -ism

Ageism is the last 'ism' which is still socially acceptable. We need to create a social movement, a radical movement refusing to accept ageism, then we should have a much better future in 20 years. But it will be down to consumer power. It won't be down to government.

Whiteley Village was probably the original intentional community, where people live in close proximity, help one another and share many activities. But there has been relatively little progress in the spread of these models over the past decades. It's probably going to take another 20 years to get this to the point where intentional communities are mainstream, so we'd better get cracking.

When my husband Stephen died suddenly in 2011, I was 45. I wanted to do something that had meaning, would make a difference, disrupt the market, and I'm very lucky to be living in the Greater Manchester area where the devolved local authority and NHS are prepared to innovate and to learn by trying things out and take a risk. I've got no children and now no other half to look after me when I get old, so I need to make sure there are places like this one I want to design that are going to give me a fighting chance of having a decent life.

When I think about what is achievable in the UK in 20 years, I remember a professional woman I met in Manhattan who had run a big business, but her physical health was failing. Although she could afford the best quality carers, her ability to go about by herself was limited and she was having no social interaction. She was lonely. After her daughter suggested she move into a household scheme, she told me:

"It's transformed my life. I've got a reason to wake up in the morning because I've got friends, I've made friends for the first time in years. This is my family now. I had no idea that was possible."

I believe it is possible - longer, happier lives for the vast majority in the company of others until the day we die, following the same passions we have always have done with interesting like-minded people, in creative, convivial living spaces. I'm in my early 50s and I'm not going to stop living until I've stopped living.

No-one else should have to either.

Sara McKee is a businesswoman and entrepreneur who is the Founder of Evermore, a new model of retirement living. She is the current chair of Foundations Independent Living Trust (FILT) and was previously Chair of the Older Age Working Group at the Centre for Social Justice.

Robot companions for independence and freedom

Sebastian Conran

When I was about 10 years old in the mid-1960s, I saw my first dishwasher at the home of a wealthy friend of my mother's. I was amazed – it was a real 'wow' moment, a robot washer-upper. Now some 50 years on, these 'robots' are commonplace – 75% of UK homes have one. Uptake of technology has accelerated faster and faster, so now it takes much less time for the kind of devices that I and others are developing – robots that both assist and act as companions as you age - to become standard fitments in our lifestyles.

In perhaps 20 years, it might be completely normal for older people of all incomes to have robots in many aspects of their lives: a shared self-driving car outside; inside their home, a robot making and fetching a cup of tea, finding your keys, chatting to people and reminding them of family birthdays and other minutiae. The wealthier may have options such as self-cooking kitchens, with 'master chefs' – elegant robotic arms coming down from the ceiling - on-hand to cook from a range of thousands of recipes.

But it will not just be assisting with tasks: these autonomous devices will be looking out for their owners - monitoring their moods and their health and, in crisis situations, alerting carers or doctors if they have fallen or had a stroke – and even if they are looking depressed.

All of these technologies will help people look after themselves so they feel independent – and feel more confident about staying out of a residential care home.

Many of the ingredients are already available. Memorable ones are in the personal hygiene (lavatory) department. In Japan there are already loo seats that clean and dry the intimate parts, which is helpful for older people with mobility issues or arthritis. Most people would prefer to be cleansed by a robot than a human carer who may be a stranger. Another innovation is intelligent toilets with sensors and a 'sample catcher', placed in the toilet bowl, which can monitor whether someone is dehydrated through regular checks on urine quality, flow and volume.

In the area of mobility, our 'OmniSeat,' a robotic wheelchair, is in prototype stage. Crucially it moves sideways as well as forward and back to allow people to shift easily from worktop to sink and back, as an able-bodied person does in a kitchen – we hope to launch this in March 2018.

In many other areas, the technological hardware such as sensors, batteries and motors have been developed, but the software architecture has yet to be created outside of the research lab, and other innovations are still in a developmental stage.

But in the next five to 10 years, these different strands of technology should be able to work together reliably, and in 20 years they will be commonplace.

Take the Care-Free Home system being developed by Consequential Robotics. It aims to use assistive robotic technology to mitigate key risk issues, which are the main triggers for people going into care homes, such as fear of falling and no-one coming to help, needing support after a stroke or a knee replacement, or depression. However, it should be emphasised that these autonomous devices are designed to supplement rather than displace conventional human care – perhaps in the same way a baby sitter can take the pressure off a parent.

At its heart is MiRo, a digital pet, maybe a hybrid between Radio 4 and a puppy. MiRo can keep you company, ask you questions, suggest you wrap up warm as it 'knows' the temperature and propose a cup of tea (especially if it 'knows' you are dehydrated). And it can learn – if I came to visit and introduced myself, the next time MiRo will say 'Hello Sebastian.'

This would also be helpful if its owner was becoming increasingly forgetful. On one hand, MiRo could remind them of the visitor's name. But if the forgetfulness became overly frequent, then MiRo could alert the GP and dementia-spectrum tests could be carried out.

Rather than a clumsy humanoid, we chose MiRo to be a small agile animal, friendly and familiar. While he's been designed to be attractive to all ages, the older generation will benefit particularly. A version of MiRo with sufficient reliability and friendly behavioural software will be able to assist quite vulnerable people, and will probably be available in three to four years' time.

The technology works like this:
The Care-Free Home has a powerful computer data hub connected to four digital aides providing additional processing power and coordination, and links to the world outside: the companion in the form of MiRo; the assistant in the form of an IntelliTable; e-sensors set in the ceiling that that detect falls or abnormalities in routine, smoke and any disturbance; and a Buddi bracelet or wristband which is a Bluetooth tracker and vital signs monitor. These aides feed information into the hub constantly.

This information is then passed to relevant people; family members, care workers and doctors who can provide telephone support or pay a visit.

MiRo has six key senses including sight, acute hearing, touch sensitivity, sonar sense for navigation, and cliff sensors to ensure it doesn't fall off ledges or tables. Unlike most voice activated robots, it also responds when the wristband is touched – slapping means stop, tugging means help. In a crisis situation, such as a fall, MiRo can tell whether there any response and if not alert services, sending data such as heart rate and body temperature as well as live pictures and video prior to the event. If conscious, the owner can tug the wristband to alert a support centre and talk hands-free to an operator.

MiRo – so named because it is a bio-Mimetic Robot - is completely autonomous. It can find its way around and charge itself, and doesn't need to be told what to do. At the same time, it is much more obedient than a conventional pet, and it can find where you left your glasses, or TV remote.

The IntelliTable is part-furniture, part-stable walking aid and part-communication / entertainment hub (it incorporates an iPad-style screen). It is voice activated and moves by optically tracking reference points in the room. It 'knows' its way around the house. Within five years, we hope to add a robotic arm that can pick things up and bring them to their owner.

I gained some insights watching how my own parents live now. My 85-year-old mother often asks me to bring things from the kitchen into the living room. She used to have a live-in companion to help out, but she hated it. She likes her own company, reading and writing. Then, when the live-in left, she panicked about being left alone. A robot companion may be the answer for people like her. It's pretty impossible to bring a drink from the kitchen to the living room when you are using sticks or a Zimmer frame, but with the IntelliTable trolley it's easy.

In the near future, more people will be thinking about downsizing and upgrading, spending the rest of their lives in one storey apartments, within a secure smart block with a lift, in a town or city where the action is. I see it as swapping from a solid family Volvo Estate to a more snazzy Mini Cooper S.

I'm now in my early 60s, and in my 80s I think I will still be working as a part time consultant – just like our non-executive chairman Michael Wolf who, at 83, is perfectly cogent, whizzing about town. By my 90s I would expect to be assisted by a MiRo, cheering me up when I look a bit glum and asking me if I want a cup of coffee, before instructing my IntelliTable to make it for me.

I enjoy cooking, but if I don't fancy it I would order the ingredients for eggs Benedict, have them delivered and get my self-cooking kitchen to make it.

At present, the world's first consumer facing robotic kitchen is in prototype stage. It was revealed at the Hanover Messe international robotics show to great excitement. It has huge robotic arms and hands with all types of utensil attachments that can whisk, stir and add ingredients. This may sound far-fetched, but already new build housing groups are in discussions about including it in their upmarket developments.

The intention of all these technologies and robotics is not to replace human care but to take away the dull, dirty, dangerous and demeaning aspects. They can remind people to do things, such as drink liquids, take medicines and exercise. Just like a modern car tells you when it needs a service, the system will let you know when to get a check-up.

In the near future, the healthcare implications are huge. Depression is another key reason why people go into care homes. MiRo can monitor if people are drinking enough water – or too much gin - or not eating, then can suggest 'why not have lunch? I can cook you an egg with a cup of tea.' Even cheap digital cameras these days can tell if someone is smiling, so the cameras in our digital pets will be programmed for mood recognition.

Similarly, the software would be able to pick up some symptoms of a stroke by analysing abnormalities in facial expression, or even gait changes, associated with early stroke symptoms.

Critics sometimes use the privacy argument against assistive robots, saying people should have the right not to be helped, and not watched all the time. There are undoubtedly many difficult ethical issues to be resolved about the right to privacy, but the key to these is in giving older people choice and control over how the information collected by MiRo is shared, and with whom.

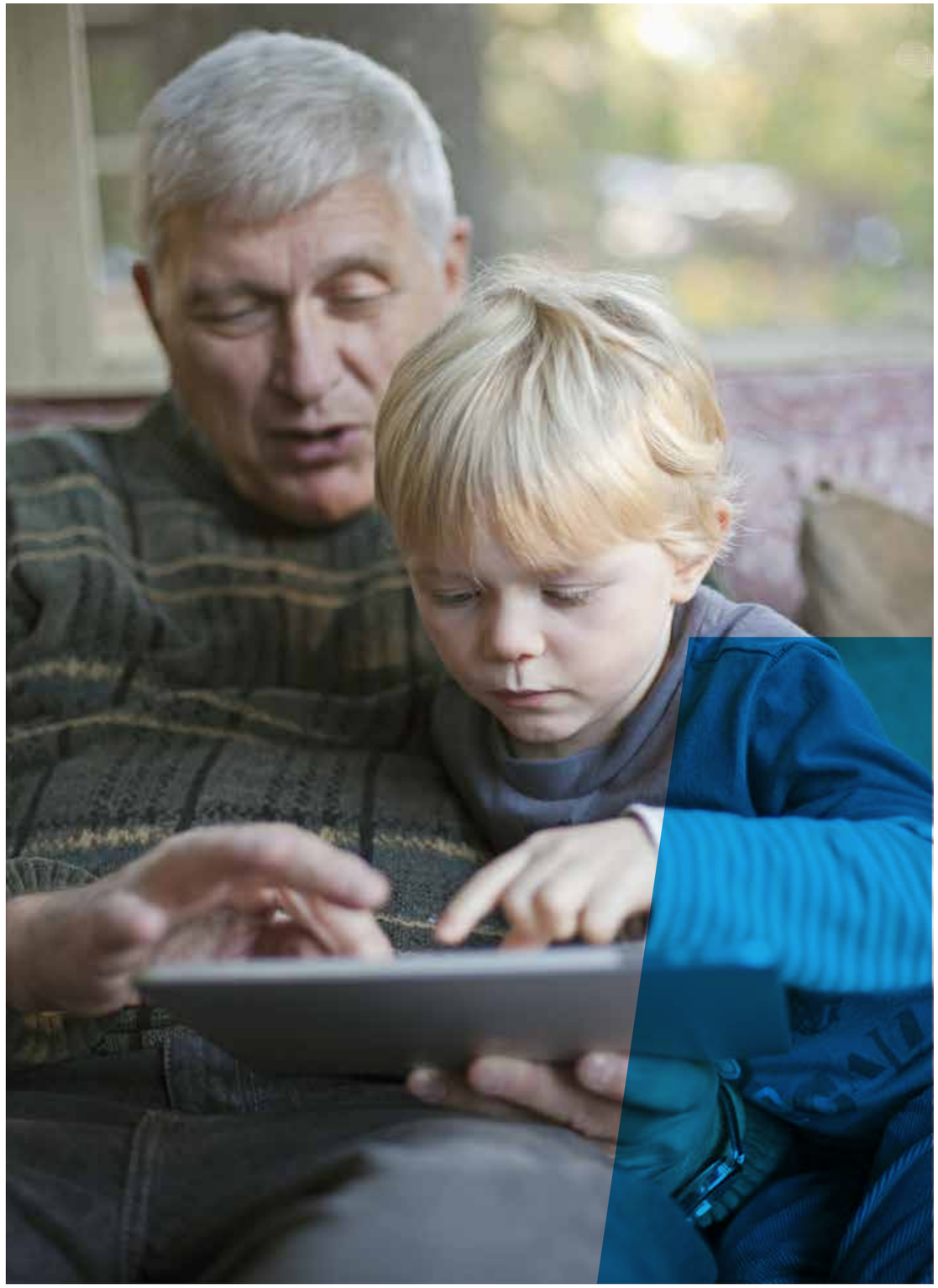
When my grandmother was in her late 90s, she told me 'getting old is not to be recommended' and indicated that she didn't have much enthusiasm to stay alive. This was the woman - with six children, a dozen grandchildren and two great-grandchildren - who significantly helped bring me up. Selfishly perhaps, I thought 'I don't want you to die.'

Under the Care-Free Home system, information can be securely fed back to doctors or family members, or the older person can keep their privacy until requested. With the wristband, if you fall down the stairs but you don't want help, you can override it so no alert goes out; individual control and autonomy are key.

The whole package will probably cost around £7,000 in five years, and prices will come down with volume. By 2038, I'd expect the technology to be affordable to most people. There will be fitting costs, but some of this is very straightforward, for example the e-sensors can be run off light fittings or replace existing smoke alarms. It's not wildly expensive when you think it is less than a quarter of what it costs for a local authority to care for someone in a home. Running costs will be about the same as a medium-sized dog.

There will be many companies innovating in this field in the years ahead. Providing everything goes according to plan, looking further ahead, this kind of technology could mean people can live as they choose: at home, independent, with companionship and communications, but also with earlier treatment and less fear of the future. They will have happier and healthier lives, as well as longer ones. I'd like to be part of that.

Sebastian Conran is a designer in residence at University of Sheffield and visiting professor at Bristol Robotics Lab. From stacking shelves at Habitat in his teens to running Studio Conran, Sebastian's life has been focused on understanding how things are made, sold, and used, as well as designing innovative, stylish and satisfying products. He has seen many thousands of successful and enduring products through from concept to consumer, whether for John Lewis or Corncorde, Nigella or Nissan, to the many other industry leading clients across the globe that he has worked with during his career.



A shifting outlook: evaluating people's changing priorities as they age

Professor Joanna Coast

Although older people's priorities in life are similar in many ways to those of other adults, with important concerns about love and friendship, independence and enjoyment, they differ in two important ways. First, older people care particularly about having a role in life: being able to do something that makes them feel valued, without necessarily feeling that they have to achieve and progress (something they may have focused on earlier in life). The second difference is around feelings of security. For adults generally, a priority is to feel settled and secure, but for older people, worries about the future seem to come to the fore, and so having a clear plan in place for things that could go wrong might provide an important contribution to wellbeing.

My views in this area have been shaped through undertaking research to develop a measure for evaluating the wellbeing of older people, defined in a broader sense than simply health. The measure centres on what older people are able to do and be in their lives; it's called the ICECAP-O (ICEpop CAPability measure for Older people).

Older people's changing priorities are not something that formal decision making processes in health and social care take much account of when deciding on what services and interventions should be publicly provided. Taking account of that variation might lead to better choices when deciding what to fund and what to deliver.

Currently, funding choices in the UK are based primarily on generating 'health', considering such things as moving about, pain, depression and being able to continue with daily activities like washing and dressing. While health is clearly important, it is primarily a means to the ends that matter most to older people: ends such as having a purposeful role, having love and friendship rather than being socially isolated, remaining independent and being able to enjoy life. It would be good to see these ends being more explicitly considered in public policy. This inevitably means a shift away from the medical model where health is all-important.

Feasible and valid measures are important in deciding which services and interventions should be funded. They can be used to tell us what works in terms of making older people happier as well as healthier. Without knowing this, we can't be sure about what is the best way to spend public money to make as much positive difference to older people's lives as possible.

The ICECAP-O measure comprises five attributes (or items). These can be asked about through a short questionnaire which is simple and quick to complete. The attributes are: Attachment (in layman's terms, love and friendship); Security (thinking about the future without concern); Role (doing things that make you feel valued); Enjoyment (enjoyment and pleasure); and Control (independence).

By asking a group of older people to complete the questionnaire before and after an intervention – such as a change to treatment or to the way in which social care is organised – and comparing their responses with those of older people who do not get the intervention, we can measure the impact of that intervention on wellbeing. Since its development, increasing numbers of research studies across the world, including in the UK, Canada and Australia, have started to use the measure to look at the impact of interventions.

To develop the measure, we talked to older people who differed in terms of levels of health, living situations and ages. First, we found out what things within their daily lives were important to them (such as home, health and finances), but then we probed into why these things were important, to find out what questions should go into the measure.

We found that many people would cite the importance of friends and family, for example, but for different underlying reasons. For some, friends and family are the people they enjoy doing activities with, for others, helping to look after friends and family gives their life meaning and purpose. For others, the existence of friends and family might be psychologically important in terms of love and friendship. It was underlying concepts like these that became the attributes in the questionnaire.

Another important finding from this research was that older people talked in terms of 'capability', in other words about the things that they could and couldn't do. Their capabilities went beyond what was determined by their health – their physical and social environment was important too. So, perhaps they couldn't read because their eyesight was failing, they couldn't go out because they were concerned about tripping on an uneven road outside, or they couldn't play with their grandchildren because they lived too far away. Sometimes the person was worried about the future because of uncertainty about finances or what could happen if they were unwell and couldn't look after themselves. It was this finding, that what concerned people was what they were able to do and be in their lives, that led us to generate a capability measure.

The approach fits with a theory of capability that has been developed in the work of a Nobel Prize winning economist, Amartya Sen, and others, such as the philosopher Martha Nussbaum. So, we can see the development of the ICECAP-O as part of a bigger movement, particularly within development settings, which involves a shift to evaluating changes in people's capability as the basis for deciding on policy. With this sort of approach, health may not be seen as an end in itself but as one of a number of means for improving people's wellbeing.

Currently, bodies such as the National Institute for Health and Care Excellence (NICE) and the Scottish Medicines Consortium determine whether the NHS should pay for a health intervention, such as a new medicine, by focusing on three questions: Will it extend years of life? Will it improve health related quality of life? And what will it cost? Where possible, they combine this information into a single figure: the cost per quality adjusted life year (QALY) gained and, if this falls below a threshold, the intervention is likely to be recommended (although other information can also be taken into account).

In making this calculation, the assessment of quality of life has typically focused on health status. The most commonly used measure throughout Europe is the EQ-5D, which asks five simple questions about mobility, self-care, usual activities, pain/discomfort and anxiety/depression. A weighted scoring of their answers is then used to generate a summary quality of life state where a score of 0 is seen as being equivalent to death and a score of 1 equivalent to perfect health; this can then be combined with information about how long people live.

The ICECAP-O measure was developed for two reasons: to recognise that older people may have different priorities from the population in general and to enable researchers and government payers to evaluate health AND social care interventions, not limited to health technologies (like a medicine or a device) but also including care, and how it is organised and delivered.

Take, for example, intergenerational housing, proposed elsewhere in this volume by Sara McKee. A development like this has multiple aims going far beyond narrowly defined health. Intergenerational housing would increase the number of people that older people live with, so that could impact attachment. It mixes younger and older people together, so the younger people can help with things that the older person might be struggling with. So that addresses older people's worries and concerns about how they might cope in the future. Intergenerational housing enables people to live in their own homes, so that helps with control and independence. And older people might find new roles within

these extended family-life environments and have greater enjoyment.

In measuring the impact of complex, multi-faceted interventions like this, a more broadly focused measure like the ICECAP-O is potentially very useful. If used by decision making bodies such as NICE, it should reorient funding towards things that make the most difference to older people's lives.

More recently, we have developed the ICECAP-SCM (Supportive Care Measure) for evaluating capability at the very end of life. The change in important attributes as people move from adulthood into older age is a subtle one, but the change in what matters to people as they approach the very end of life is more marked. For people who are dying, their expectations of what constitutes a good day may shift markedly. Choice, love and affection, freedom from physical and emotional suffering, dignity, support and preparation seem to be dimensions that people care about as they near the end of life. There is a shift from focusing on a good life to focusing on a good death.

Using measures that are differentiated by stage of life is complex, however, and may be difficult for organisations such as NICE to handle. Ideally, when making decisions, they want to be able to use the same measure across all the decisions that they have to make, so that they have comparability. For NICE, knowing that somebody's skin problem has improved massively but then trying to compare that with somebody else's cancer, or somebody's knee problem, is difficult. Measures like the EQ-5D are advantageous because, in principle, they can be applied across all conditions and all ages. Shifting to a set of measures that change across the life-course is perhaps a 'half-way house' between having a single measure for everything, and different measures for every condition.

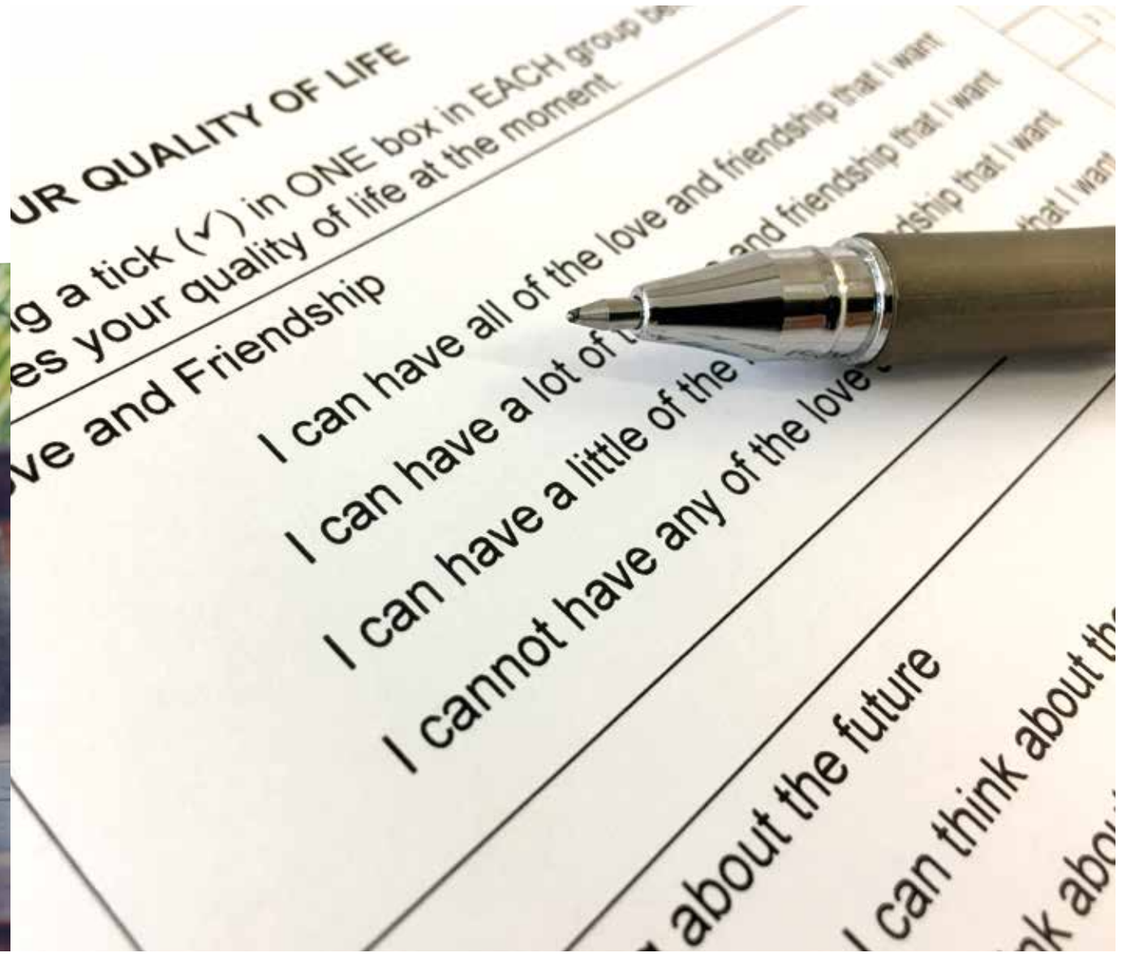
We are embarking on new work to think about the points at which we might shift between measures. It might seem odd, for example, to say, "we have a measure for people up to age 65, and then on the day of your 65th birthday, we change to this different measure." So, whilst one option is to change measures purely on the basis of chronological age, other options might be to relate this change more to stage of life (for example, the shift from employment into retirement), or to what people want from life, or to health or some sense of frailty.

These are important questions, because evaluating interventions using a measure that does not focus on the things that are truly important to people may mean that, as a society, we prioritise things that are less valuable than other options that might have been chosen. In a publicly-funded system where resources are finite, there's an opportunity cost: people lose out.

The valuations that come from older people and that are used in 'scoring' the ICECAP-O can also tell us which changes are most valuable to older people. For example, older people put more value on love and friendship than the other attributes. They also put more value on moving people from states of having no capability to having a little capability, than they do on moving people who already have a lot of capability to even higher states of full capability. Taken together, this suggests that one of the priorities should be to bring love and friendship into the lives of older people who currently have none.

This sort of information will help us make good choices about which innovative interventions, of the type discussed in this volume, should be pursued and funded through the public purse.

Joanna Coast is Professor of the Economics of Health and Care at the University of Bristol. She has published more than 140 research papers in academic journals. She has received major grants from the Medical Research Council, the European Research Council and Wellcome. She is Senior Editor for Health Economics for the journal Social Science and Medicine, and a board member for the International Health Economics Association (iHEA). She led the development of the ICECAP measures discussed in this article, working alongside a large team of researchers.



The Whiteley Foundation for Ageing Well

Whiteley Village in Walton on Thames, Surrey, is believed to be the first purpose-built retirement village in the UK. It was established through a bequest of William Whiteley, the founder of Whiteley's department store in Bayswater, London.

Largely built between 1914-1921, the 225-acre site today provides a vibrant retirement community for some 500 people of limited financial means. The first villager arrived on 10 October 1917.

The Village is owned and managed by a charity, the Whiteley Homes Trust. It includes a village shop, post office, library, village hall and café. It has a church and a meeting room for other faiths. Designed in the arts and crafts style around an octagon, it is a conservation area with 262 listed buildings.

Village facilities, including soccer, cricket and rugby pitches, a swimming pool and woodland, are used by people of all ages from the surrounding area. Villagers organise 23 clubs and societies and help look after their less able neighbours. Residents' ages span over 40 years – from 65 to 105 – with eleven centenarians in mid 2017.

The Village incorporates a variety of accommodation. Most residents live independently in almshouses, but we also have supported accommodation and nursing and care homes. A blend of housing, practical care and support, with a community ethos of "give and take", has been developing throughout the last 100 years to meet the changing needs of older people.

We have nearly 200 registered volunteers, many of whom are villagers themselves, and a staff team of approximately 150, some of whom live on site as part of the community.

Making a measurable difference

Community living brings opportunities for social interaction and help to access care and personal support. This not only boosts quality of life, but also life expectancy.

The Village's success is demonstrated in research from the Cass Business School, City University London. It shows how living at Whiteley can substantially boost the longevity of its residents by up to almost 5 years, thereby eliminating the effects of social inequality.

Inequality among retired households is increasing, with the needs of older people of limited means increasing faster than tax-payers' apparent willingness to pay for them.

We have adopted an ambitious strategy to counter this. If early preventative care and support, tailored to individuals' needs, is provided in their own homes, then people will not have to move to age well. This is what older people want, and it is cheaper for the NHS and social services.

Our aim is for all residents to live well as they age, with the Trust working in partnership with villagers and volunteers to strengthen the community, radically redesign our care and support systems, and build new almshouses of the future that incorporate the best of modern technology

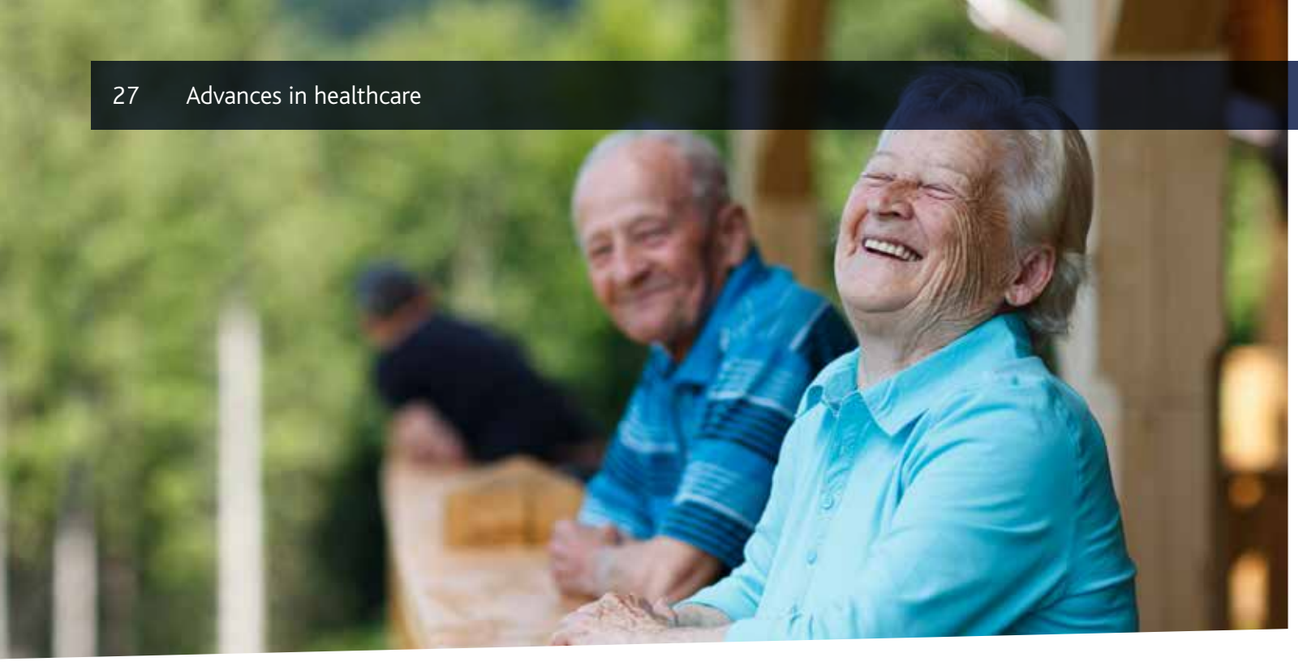
Ambitious for the future

To mark our centenary, we are launching the Whiteley Foundation for Ageing Well. Our plan is to work with everyone who lives here to demonstrate and measure the benefits of community living to both physical and mental well-being. The Foundation will help us learn from innovators across the globe, try the best ideas in the Village and share what we learn widely.

We aim to make living at Whiteley the best way to age in Britain. We emphasise independent living, feeling safe in a friendly environment, and sharing a pride for the Village and its life. The Trust creates the conditions in which everyone can thrive, but it is the villagers themselves who make the community unique and special.

More information about the Whiteley Foundation for Ageing Well, the Whiteley Homes Trust (Patron of the appeal: HRH The Prince of Wales), the Village and our innovative plans to make the most of later life can be found on our website: www.whiteleyvillage.org.uk

Email us: foundation@whiteleyvillage.org.uk



Life before death: new potential for medical technologies to extend healthy years of life

Professor Dame Linda Partridge

In 20 years' time, I believe we'll have a much longer period of healthy life before we decline and die – and when we do, it may be quite hard to tell exactly what we have died from.

When people die at very old age, it will not usually be from cancer - it will probably be a combination of respiratory and cardiac failure, where everything just shuts down. But before that point, older people will suffer much less loss of function and ill health.

Currently, life expectancy is still increasing, and it's increasing mainly in the 80+ age group. Of current births, something like 25% are going to make it to 100. And that's without anything else changing.

Some people have put maximum life expectancy at 115, based on today's oldest people, who were born in the 19th century, others have claimed it could reach 125 by 2070.

But the earlier research is based on people who grew up in completely different circumstances, and I think we have no idea about the long-term consequences of the way in which young people are growing up today.

Having said that, the primary aim of our work is not to extend life (though that might be a consequence). Most of our work is conducted with the fruit fly Drosophila and through comparison with C. elegans roundworm and then with the mouse. It's about finding ways to compress that time at the end of life when things go wrong. I'm sure there are many people who would pay very large sums of money to live longer, but that's not what we're about – we're about health.

We already know about the preventative benefits of drugs like statins to protect against cardiovascular disease. Currently, in animal research, great promise is being shown in using existing, relatively cheap drugs taken as preventative medications which prevent several different ageing-related conditions simultaneously.

This means we could potentially ward off not only many cancers but also diabetes, which we know has a role in another major illness of older people, dementia. One of the best ways of preventing dementia is to make sure that the blood supply to the brain is good, by preventing cardiovascular disease and diabetes and the vascular damage that comes with it. Doing clinical trials with people showing signs of cognitive impairment is really locking the stable door after the horse has bolted. We need to intervene much earlier before the neuronal loss starts; the battle is almost lost if you start to see the symptoms.

One drug showing great promise is rapamycin, which is now off-patent and therefore inexpensive. Its clinical uses include anti-cancer chemotherapy and prevention of tissue rejection, particularly kidneys, after transplant surgery. At lower doses, it appears to block the genetic pathways that cause ageing and research suggests it increases the lifespan of mice by an average of three to four months, which is the equivalent of 10 human years.

There is also evidence that pre-administering rapamycin can boost the power of vaccinations, so the impact of devastating illnesses such as influenza and shingles in older people could be reduced.

Another promising strand is the insulin and insulin-like growth factor signalling network. Research in animals using drugs that suppress the network indicate that it gives broad spectrum improvement in health, so there is better immunity, bones, skin and motor coordination.

We are talking about very different systems – the nervous system and the immune system, all showing improvement in these animal models.

Eventually many of us will be taking a 'poly pill' – a daily medication containing perhaps rapamycin or a similar molecule combined with low-dose aspirin and a statin.

Preventing cancer, I think, would be a key goal, as it's very clear that treating this disease is extremely difficult.

If we are successful, this is where the extension of healthy survival comes in. Cancer hits people in early old age. If we can eliminate or prevent the cancer at this age, they are likely to die from something else years later.

Senescent cells may have a role here. These cells build up during ageing, having run out of division potential. They go into arrest where, instead of dying, they just sit around, unresponsive to signals from their environment, growth factors and death factors. They just sit there, spitting out protein molecules called chemokines which damage the surrounding tissues.

In mice studies, you can genetically ablate those cells (silence the genes in them), and this produces a big increase in the health of individual tissues. Senescent cells affect the health of several different tissues - they are very important in skin, in the immune system, in bone - so you would be looking at a rather broad-spectrum effect if this could be turned into a human medicine.

There is also amazing work being done at Stanford University in the US on the rejuvenation of stem cells. During ageing, stem cells, the dividing cells that regenerate tissues as they are damaged, get less and less able to repair those tissues.

The US work has shown that there are factors present in young blood that can 'wake up' these stem cells when they have become unproductive. They have identified some of the molecules that are involved, and have immediately set up a company to exploit their discovery. One condition which could be addressed is sarcopenia – muscle weakness – a huge threat to the health of older people. If you could regenerate stem cells in poorly-working muscles, that would be incredibly important.

Another target for improvement would be the immune stem cells in the bone marrow, because old people's immunity goes down, and they respond much less well than young people to vaccinations. So, these breakthroughs are very exciting.

Of course, we are not saying you could pop a pill from the age of 60 and everything will be OK. This intervention needs to be combined with dietary improvements and increased exercise.

Both need to start early in life.

In respect of diet, there is some animal work which is quite depressing, suggesting that it's very hard to get over the bad eating habits you had when you were young, that some consequences are irreversible: no matter how good you are later on you can't make up for youthful overeating.

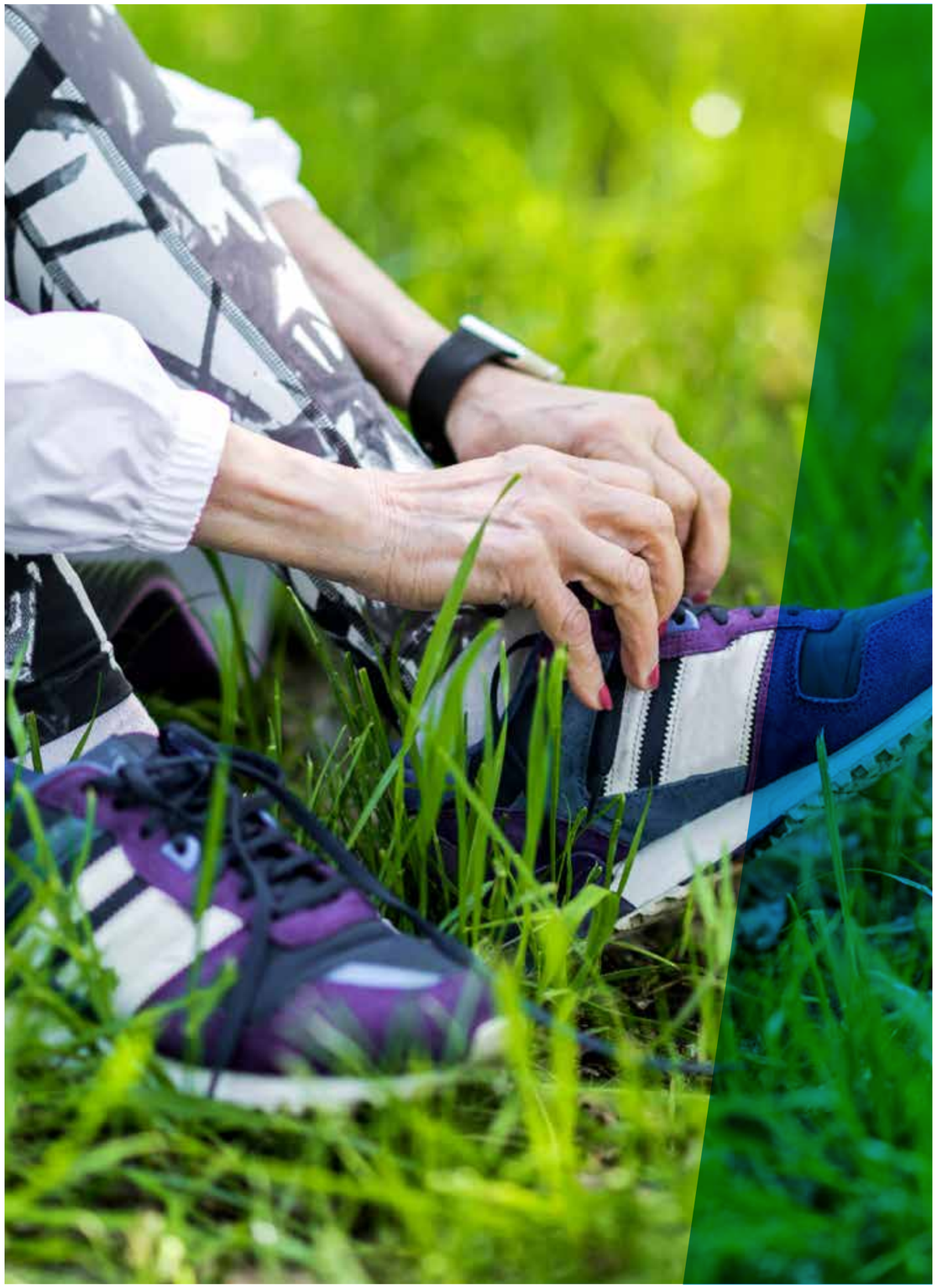
Healthy eating habits must be instilled at school as it's hard to change after that. Similarly, with exercise, the basic concept should be that it's a positive thing that you look forward to, rather than being made to feel awkward or wear horrible clothes or get laughed at by everybody else. You need somebody who can really turn it into a bit of a giggle.

As people get older, it gets harder for them to make the effort just to maintain the level of fitness that young people take completely for granted. Individuals react differently to that. Some get fed up and collapse on the couch, and others continue to fight for fitness.

There's no doubt that if you want to be healthy and have a good time, or at least have as healthy and enjoyable a life as you can, given the problems of old age, you have to make an effort.

People vary tremendously on whether they're prepared to do that, often for very understandable reasons. It's a terribly vicious circle, because if you start not taking exercise and become sedentary, then you put on weight, then it gets even harder to take exercise: a downward spiral. But an awful lot of the problems of old age are identical to the problems of sedentary young people.

With the advent of new medicines, people will be more mobile and more able to get out when they are older, so that will help. But to persuade older people to do this, exercise



needs to be made fun. We should follow the east Asian example where older people get together and do Tai Chi and other activities involving real social interaction. I think it's shocking in our society how old people become isolated, and I think a major social push that would improve the quality of life for older people is to bring them into contact with each other, to bring them out, to have activities which are suitable for them. Now, the way a lot of old people see things is, the world is designed for the young.

I'm very struck in London that almost everything to do with exercise is geared to the young - it's all Lycra and big gym machines, many of which are just not suitable for the kind of exercise that old people can do.

It's also very individualistic - everybody is plugged into their earphones and on their machine, whereas more social classes – Tai Chi or yoga – are the sorts of things that old people really want, but they are much less readily available. If they turn up for a class, then it's going to be largely populated by people much younger than them who are exercising at an impact level that's just completely inappropriate.

Another reason old people become isolated is lack of mobility – they can't get out of their houses and move around. If they are healthier, thanks to preventative medicine, they will be able to do that, and more; they will feel more like participating in things like going out to the theatre, meeting a friend for coffee, volunteering. All the stuff that gives meaning to people in later life would, I think, be enabled by improved health.

Local organisations which pull old people out of their houses and get them doing things have a role to play. Once they get involved, people will start to organise things for themselves.

The role of the medical professional will undoubtedly change because of these medical advances. Geriatricians will need to be more holistic in their care and I would like to see them academically trained in biomedical science, where they catch illnesses before they start.

As I said earlier, the aim of my research is not to try and make people live longer, it's to try and make them live more healthily, with fewer health problems. My area of expertise is biomedical science and I don't think people like me can solve the other problems that longer life brings, such as loneliness, kids flying the nest, having enough money to pay for it all, and other thorny issues of how to make that healthier life fulfilling.

Improving people's health will not make them more lonely, poorer or more depressed – probably they will be less depressed because they are healthier. But the loneliness and the financial aspects are social and economic issues, and they are important ones, just as important as health, but they should be addressed using quite different instruments.

Sometimes I think I should become a political activist on behalf of old people, because some of the things that go on are so batty, such as retirement policy. We are all being told it's unaffordable, people can't keep collecting their pensions for so long, there are big problems with the economic burden on society of older people – well, okay then, encourage them to continue in work.

But of course, that's not happening. People immediately recoil and take the view that there's a fixed amount of work to go around, which is of course not true, that older people are blocking jobs for younger people. The perception is that because older people can be a bit slower than other people, maybe they are not such good employees, where actually they are more reliable, and much more mature than younger people; that can be a big plus, depending on the nature of the job. There is so little flexibility in the workplace to try and get the best out of what older people have to offer as employees.

Science is tough, and I think at some point I am probably going to want to organise my working life in a slightly different way, getting involved in running the system and a bit more in science politics. Running a lab is a tough ask, and one should probably quit while one still knows what one's doing, rather than hanging grimly on past one's sell-by date. University College London is flexible when it comes to age: if you keep bringing in the grant income and doing the job, then they're perfectly happy. For now, we are making extremely large strides – and I want to continue to lead this important work.

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Functional medicine: enabling communities to co-create health

James Maskell

Today's conventional, Western medicine is built on a model of acute disease, where illness 'happens' to the patient. The doctor isn't there to play a preventative role, he or she is there to put out the fires once they've started. It's a patriarchal system, with the doctor telling the patient what to do, with little involvement by the latter. Chronic conditions devastate lives, particularly in the last years.

But in 20 years' time, if everything is aligned as I believe it could be, I can see a system of healthcare which could be described as 'matriarchal' – peers working and learning together to prevent people in their communities getting these chronic conditions in the first place and patients participating in their own care right until the end of their lives. Each person would have health goals, aiming for the highest quality of life for their whole lifespan.

This could be achieved by functional medicine – a new way of thinking about combatting chronic diseases way before symptoms start, by looking at the whole body. Doctors would work with their colleagues across specialties and other practitioners, in partnership with patients, bolstered by a strong community spirit encouraging and creating health.

While this way of operating healthcare is primarily for the benefit of patients, it has significant attractions for the medical profession too – enabling them to use their time and resources more efficiently and effectively, allowing greater job satisfaction and more meaningful involvement with patients. With highly respected healthcare organisations like the Cleveland Clinic in Ohio taking it up, it is gaining mainstream credibility.

The discipline is built on three principles. The first is asking how and why illness occurs and restoring health by addressing the root causes of disease for each individual - not just treating the symptoms.

The second is patient participation - the end user of the medicine is actively involved in doing things to get themselves better. It's a 'therapeutic partnership' between the doctor and patient which is achieving the healthy results.

The third is a systems approach, which is seeing the whole body as an inter-connected system. That is particularly important in chronic disease, as most are not limited to one organ or system - they may, for example affect the digestive system, the endocrine system and the brain.

So how does it work in practice?

It involves inserting a new layer between the doctor and the patient, made up of three 'Cs' – content, community and coaching. This layer will take the pressure off the medical system.

Content, or information, is the first piece in this new layer. We've been sold the idea that the body breaks down over time, that a doctor can help to slow that, but ultimately, we're all on a downward trajectory.

People need information to know what's possible in terms of reversing illnesses – so they understand what to do as regards their own care and why they should do it. This can come from a variety of sources - a person delivering a lecture to a group of tenants on, for example, how certain food leads to inflammation; it could be a book, or video or a podcast; or it could be a TV programme. The BBC's Doctor in the House with GP Dr Rangan Chatterjee, which teaches how lifestyle changes can be effective in reversing disease, was super-popular.

In the US, we have more of these types of lectures and group clinics delivered by hired professionals, including doctors working in partnerships with ancillary health providers such as nurses or diabetes educators. The most exciting thing about the group clinics in the community is that they can be led by a person who's already been through the process, for example just a regular tenant who has trained to become a diabetes educator. They know what it takes to do it, and they are infinitely more credible and valuable than any health professional.

Community helps people make those changes through group activities, ideally with peer to peer learning. This needs passionate people to start the groups because they want to help people. It's very English to wait to be given permission to do anything. It's much more American to just go and do stuff and that's why I chose to start my functional medicine revolution in America, because loads of people will support it. But as Lord Young has written in this publication, this type of purposeful activity would be popular with many in the UK.

It's not time consuming, difficult or expensive - you can have one person sitting with a group of people, asking them all to share their goals and then the whole group hold themselves accountable to those goals and there are no medical personnel involved at all. It doesn't cost anything to do that. Community is the only inexhaustible resource we have in medicine.

Encouraging behaviour change through health coaching is the third element and it's the new profession that is the most exciting adjunct to functional medicine. It's a great opportunity for people who want to get involved with helping others. They can charge small amounts to individuals seen in groups to make it low cost. Other allied professionals such as nutritionists, dieticians and chiropractors would play a part too.

These three elements would be an evidence-based wellness 'add-on' to the medical system that helps people be accountable for their health goals.

In order to work out these goals, there would need to be some kind of quality of life scoring system. Currently, in health economic terms, when people are born, their score is 100 and as they age the score starts to tail off slowly, depending on how sick they are.

I want older people to be able to maintain up in the 90-100 all the way through their life. Individuals would know their own score and if they chose to share this with friends and family too, this would enable the local community and others to help them hit their goals.

We believe there is a space between perfect health and disease called dysfunction and it's where the body has started to break down. The underlying functions of the body have become sub-optimal. The scoring system could be based on symptom scoring, or potentially on biomarker scores: biological markers of disease.

Currently biomarkers are assessed through blood tests and this would be prohibitively expensive to do monthly on a wide scale. But ideally, in the years to come, I believe we could receive that information on demand at any moment. In that kind of scenario, there's an opportunity to get ahead of disease through understanding underlying patterns of dysfunction that emerge before the disease has a name or is causing symptoms.

So, health goals for people with diabetes could be getting their HbA1c (glycated haemoglobin) levels under 7 so they're not diabetic anymore, or walking for 30 minutes every day, or meditating regularly.

At the same time, there may well be technological developments which enable continuous health monitoring, rather than a doctor's appointment every six months or a check-up every year.

As I say, I believe this ideal image could happen in the relatively near future - what it will take is a reorganisation

of the medical system, because typically the doctor is not in the business of having the patient participate in their health.

While the NHS is not yet advocating functional medicine, there are signs that they are willing to innovate with private companies to solve problems, such as pilots with Babylon Health in north London give people on the NHS access to care by tele-medicine. There's an urgency to get more out of taxpayers' money and that's where I think the motivation will come. The reason why I'm 100% convinced that in the next 10 years, functional medicine will enter the medical system in the UK is because they're running out of money to meet increasing demand and they need innovative ways to reduce the cost. Peer-to-peer medicine is the only medicine that we can scale up, is cost-effective, and accessible.

There are some great examples of functional medicine group clinics and education in the US, and they have often come about because of a resource deficit. For example, Dr Shilpa Saxena, a family physician in Florida, was holding a weekend diabetes clinic – she had 16 patients and thought 'why don't we just get them all to come in at the same time and from there, we'll be able to see what happens?' This developed into regular group sessions and peer to peer learning, which is loved by Medicare and Medicaid because they're able to get better care for lower cost, so it's increasingly popular.

That's been happening in diabetes for a long time, but now it's started to evolve in other areas, such as intensive cardiac rehabilitation through the work of Dr Dean Ornish, which uses the group dynamic and peer to peer support, advising on cooking, meditation and exercise for heart patients. Insurance companies are prepared to pay for 72 hours of this type of care and only two of those 72 is with the doctor.

The next type of chronic condition functional medicine could really help with is auto-immune diseases, which include illnesses such as colitis, lupus and rheumatoid arthritis. As they don't have a shared name, like cancers do, people don't put them together into one area, but they are more connected than you think.

This is why we need more doctors who are super-generalists. Science has started to emerge which links the gut and brain, but this is a problem for Western medicine as the neurologist doesn't read the gastroenterology journal. Doctors who are doing functional medicine are more like super-generalists: Dr Chatterjee is a great example. He was

a nephrologist but then he went back to family medicine, primary care, because he wanted to be on the front line.

The other great example of functional medicine in practice is at the Cleveland Clinic, non-profit, multi-specialty academic medical centre in Ohio, which is an innovative, while also fairly conservative, organisation.

It established the Centre for Functional Medicine and has been leading the way ever since. It is ridiculously over-subscribed, growing to 18,000 square feet. They use group visits, health coaches and dieticians; they have a physical layout that encourages people to be in a relationship with more than one healthcare provider also comprises good use of technology and tele-medicine, and peer-to-peer support.

The Centre's interim results suggest that it has significantly better outcomes at lower costs for the majority of chronic diseases and in some cases, way better outcomes at way lower costs.

One of the reasons I'm very excited about the Cleveland Clinic is that it's the quickest way to get mainstream credibility. Once you have that, as well as the internal knowledge from the people involved, plus the army of providers ready to do it, that's when you're ready to kick into action.

There will always be those who don't like being told what to do, but the content and community engagement will give them a reason and rationale to take part. The healthiest places in the world, the 'Blue Zones,' have either fewer self-destructive behaviours, or community is such an important driver of health that just by having it in place, even if they smoke and drink, people still live long lives with less chronic disease. The social and community structures trump those behaviours in terms of health outcomes.

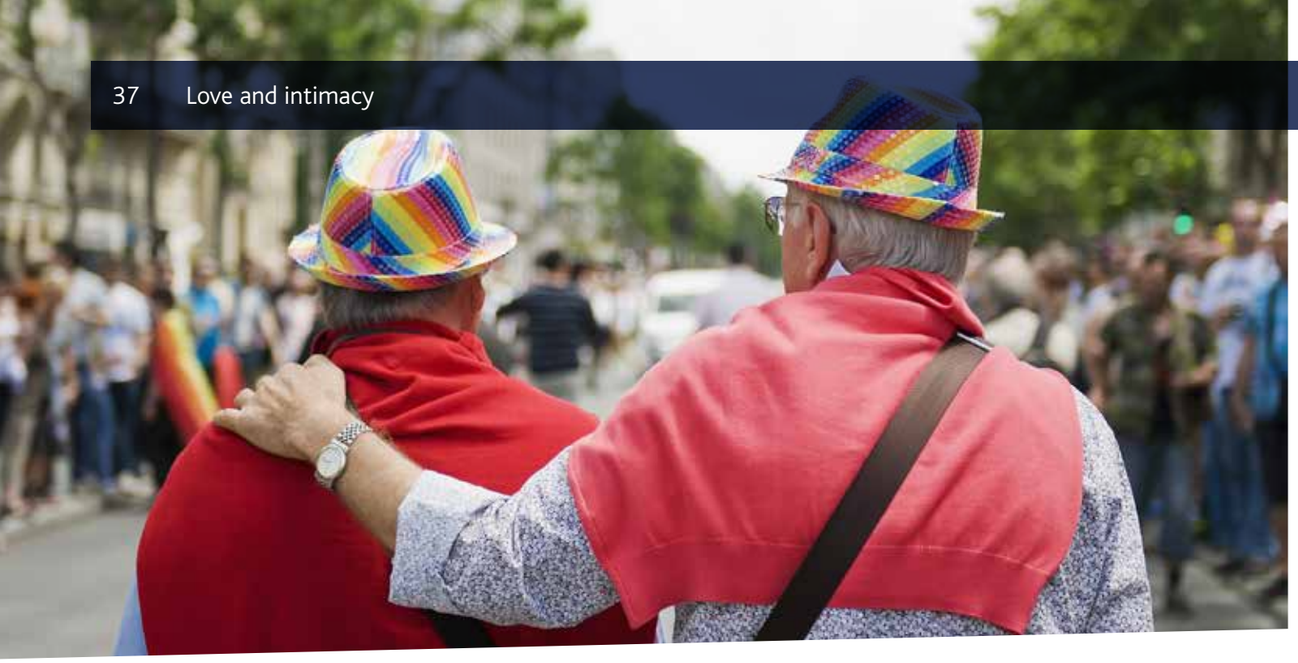
Now is the time to press ahead with this system. For the first time ever, you have life expectancy in certain socio-economic groups going down in America. Yet you have the well-heeled in society who live to 100 more consistently. The gap between those who live to a great age and live well, and those who die early, is widening.

The years between 65 and 95 could be the best of your life. At the age of 65 you might find the thing you've been most passionate about all your life. You don't have that option if you die at 64.

Functional medicine gives us all the opportunity to live our whole lives in the best way possible. But for this to happen, passionate people need to act. You have to be the change you want to see in the medical system.

In the UK, I believe that The Whiteley Homes Trust has the potential to really shine and provide leadership for this new model – in fact you could build the most innovative functional medicine programme in England before any hospital system catches up.

James Maskell is a health economist, entrepreneur and author of The Evolution of Medicine. He is the founder of kNew Health www.kNewhealth.com.



Love in all its guises

Dr Paul Simpson

Older people have every right to enjoy loving relationships until the end of their lives, in whatever form they want them to take – holding hands, cuddling, and other forms of intimacy. This level of closeness, which can but may not include physical touching and sex, is a basic need and improves wellbeing for all ages.

Currently our social narratives are telling us otherwise. As a result, people who would like some kind of loving intimacy or sexual fulfilment with a partner internalise those feelings.

Look at birthday cards – for anyone over 40 they are telling us we are old and decrepit - cognitively, mentally, physically and, by implication, sexually. It's an area of unspoken assumptions about withdrawing from that life. By contrast older people seem only to be validated when they are aping youth. It's as if old age in itself is a category to be shunned and avoided, and that explains, I think, the rise in plastic surgery amongst older people who can afford it.

Of course, behaviour changes with age – physical infirmity sees to that apart from anything else – so 'aping youth' isn't always a viable option. But intimacy and sex (and you can have one without the other) is part of normal, healthy ageing, and opportunities for fulfilment should be equally available to everyone, regardless of age.

Research has found that sex can boost wellbeing and cognitive function. Neglecting the need for intimacy can impact self-esteem and mental health.

And to make matters worse, disincentives to engage in intimacy and sex are built into the environment and the furnishings around us. Have you ever seen a communal area of an old folks' home with a sofa? Wherever you go, the seating is all individual. You can sit there and maybe hold hands, but the thought that people might want to cuddle or spend a little bit of time together physically, is ignored. Care homes preclude intimacy, subtly colluding with assumptions along the lines of 'you don't really want that, do you?'

But the work that I do, researching into the sexuality of older people (over 60), shows that yes, many do. We conducted a study involving people living in care homes, female spouses of men with dementia who lived in a home and 16 care staff.

We found a diverse spectrum. Some turn away from intimacy and sex as a conscious choice, taking

pleasure in other activities at their time of life; some want it, in the form of intercourse or other sexual touching; others prefer cuddles and closeness, being listened to, and someone being there for them. For spouses, cuddling and affection featured as a basic human need and could eclipse sexuality in importance. Being worthy of touch is important when we consider that older, frailer and sicker bodies are touched largely for the purposes of care, and commonly through the protective barrier of plastic gloves.

Some people expressed nostalgia for something they considered as belonging in the past, or spoke of openness to intimacy and sex given the right opportunity and conditions. Others were more adventurous, wanting to continue to explore sexually.

There is a stereotype that the current older generation are prudish; again our work is contesting that. Yes, there are older people that are prudish, but many younger people are as well.

I first became interested in this subject when I was at an academic conference and all the researchers were at the front talking, while at the back there were a number of older women. They were attractive, and had made efforts to be so. I thought some might well be saying, 'I'm actually still a physical and a sexual being. Look at me!' But we – the academics and society as a whole - were ignoring those messages.

The good news is that I think things will be very different in 20 years' time. The generation who are now moving into later life are the first post-war baby boomers who grew up with Jagger, Joplin, the 60s so-called sexual revolution, the rise of the LGBT movement and rights, the women's movement. These people articulated and demanded all kinds of freedoms and equalities – and they will be more demanding in terms of their ongoing sexuality.

Coupled with the fact that, due to higher divorce rates there will be increased numbers of older single people, the 'intimacy' landscape, in all its forms, could be a lot more complex than today.

This means that if care homes continue to be an accommodation option in the future, providers will need seriously to consider the type of spaces they offer. Currently all but the most enlightened provide single rooms only. For privately run homes – and that's most of them – they aim to make a profit, and it's more profitable, if you have a couple, to put them in two separate rooms and charge for both.

But it also comes back to the fact that the room – with a single bed – re-emphasises the notion that you will have no need or desire to sleep with anyone else: "You're past it now."

In 20 years, consumers will demand the option of a double bed. At present, the average age of admission to a care home is 85. At that age, they may not want to sleep with their partner in a double bed because of physical disabilities or other problems. But they might want to cuddle for a while, they might want to have some intimacy before they go to their own bed in an adjoining room.

This facet of older age needs sensitive and imaginative handling. For professionals in care a willingness to sit down with people and identify needs is a pre-requisite to defining a solution that works for them, especially in a regulated environment such as a care home. To do that, we have to tackle many ageist attitudes including erotophobia: at one end of the spectrum simple embarrassment; at the other, visceral disgust.

This is not just about institutions. It's also about people living in their own homes, or shared homes. We need to talk more about sex and intimacy in older age to challenge these views.

It may feel impossible for families, who find it difficult enough to deal with physical support for an ageing relative, to talk to them about intimacy and sex. It's difficult for relatives to begin conversations with their grandchildren or children. But this is an equally important part of wellbeing in older age.

One answer to this could be peer education. We have somebody connected to our research team who is not an academic but is an 80-year-old woman, Kate, who is a peer sex educator for older people.

She helps all types of people understand that they still have rights to express themselves intimately and erotically. She would say that if you've been married to a man for 56 years, then you're widowed and all you've known is the missionary position, it is hard to express any need for pleasure. But she helps people to express those needs. She teaches people and gives them the confidence to say they would like to meet someone, or tell care home staff they would like to invite a friend over and have some private time alone together.

This type of support could easily be replicated, because older peers understand the constraints and the joys that are common in that generation. They are able to enter into a dialogue over it and understand each other without feeling foolish or embarrassed.

In the care setting, we often find we are knocking on an open door. A lot of the paid carers that we have spoken to say, "You know, we're so conventional. We're so glad that at last, somebody has helped us on how to talk to residents about sexuality, because we've been struggling for ages, we need guidance." One of the big things that comes up from care workers is, "Well I'm 25, how can I instigate a conversation with an 85-year-old man or woman when I'm young enough to be his grand-daughter?" More importantly how can we enable the older person themselves to bring that up with someone who is as young as his granddaughter!

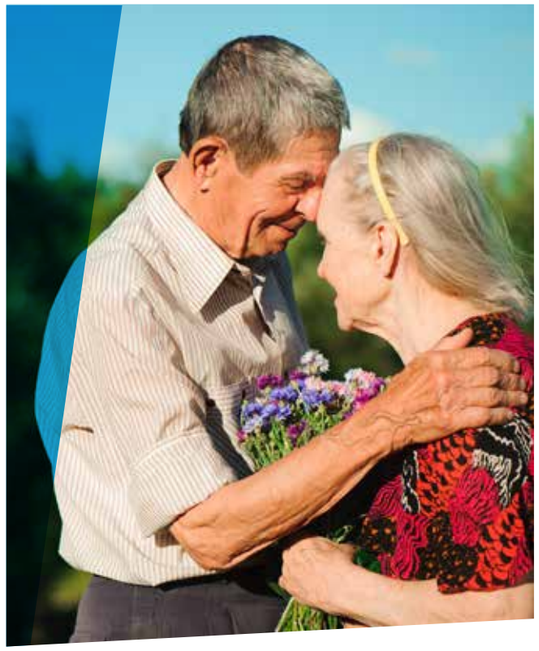
So, there does need to be sensitivity training and awareness-raising to help care workers to have discussions with older people about their needs and desires for intimacy. All staff bring their own prejudices, fears and cultural experiences to work and the different attitudes to ageing or diversity in sexuality need to be opened up if we are going to make positive progress in assisting older people who want to continue in sexually fulfilling relationships and need assistance to do so. The relationship with a care worker is key: an older person might want a sensitive carer to whom they feel they can disclose some very personal things and get guidance, advice and support from them if they need it.

Sexuality and sexual needs are rarely part of the assessment when someone needs care provided. I think they should be. In my view, intimacy and sexuality should be part of a typical needs assessment. Care homes can demonstrate that LGB&T residents are welcome by displaying LGBT inclusive cues within the home, such as literature and leaflets, and can open up the dialogue by displaying literature about sexual matters more widely.

There are obviously a number of ethical issues, particularly in care homes.

With conditions like early onset Alzheimer's or dementia there may be difficulties where a man is expressing sexual desire, coming on to or even touching a woman who is not his wife. His actual wife, who doesn't have dementia, is naturally upset by it. How do staff and relatives deal with that incredibly complex moral dilemma, in the best interests of all parties?

So what are the rights to intimacy of someone with dementia, are they any different to any other older person? This is where I could see 'advance directives' being used. For example, in the event that I should be affected by dementia and I lose my capacity to consent, I have written down formally what my preferences for intimacy would be in the future.



One of our research participants has Alzheimer's and it was clear that physically he wasn't capable of intercourse, but he was still a sexual citizen in the sense that he had fantasies. So he might have wanted to read erotic literature. Finding ways to help is an incredibly personal and sensitive journey, but doesn't mean that we shouldn't try. Of course this is just one illustration of the many dilemmas that staff face.

I would certainly support the same kind of principles that have been applied to opening up opportunities for disabled people to have consensual sexual activity. For older people, we are well behind the 30-year-old debates we have been having about young and older adults who are physically or learning disabled and their right to intimacy and sex.

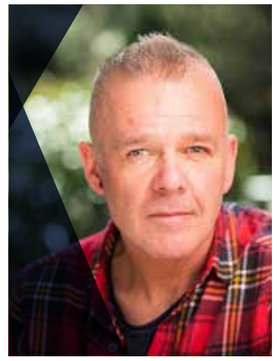
In Holland, therapeutic sex workers go through training, they know how to be sensitive to people, they know the practicalities and the mechanics of perhaps trying to bring pleasure to people who have all sorts of disabilities. A question for an evolved society in which older people have equal rights to a sex life and to develop intimate relationships is whether this is akin to other basic needs and therefore could be assessed and funded as part of a care plan.

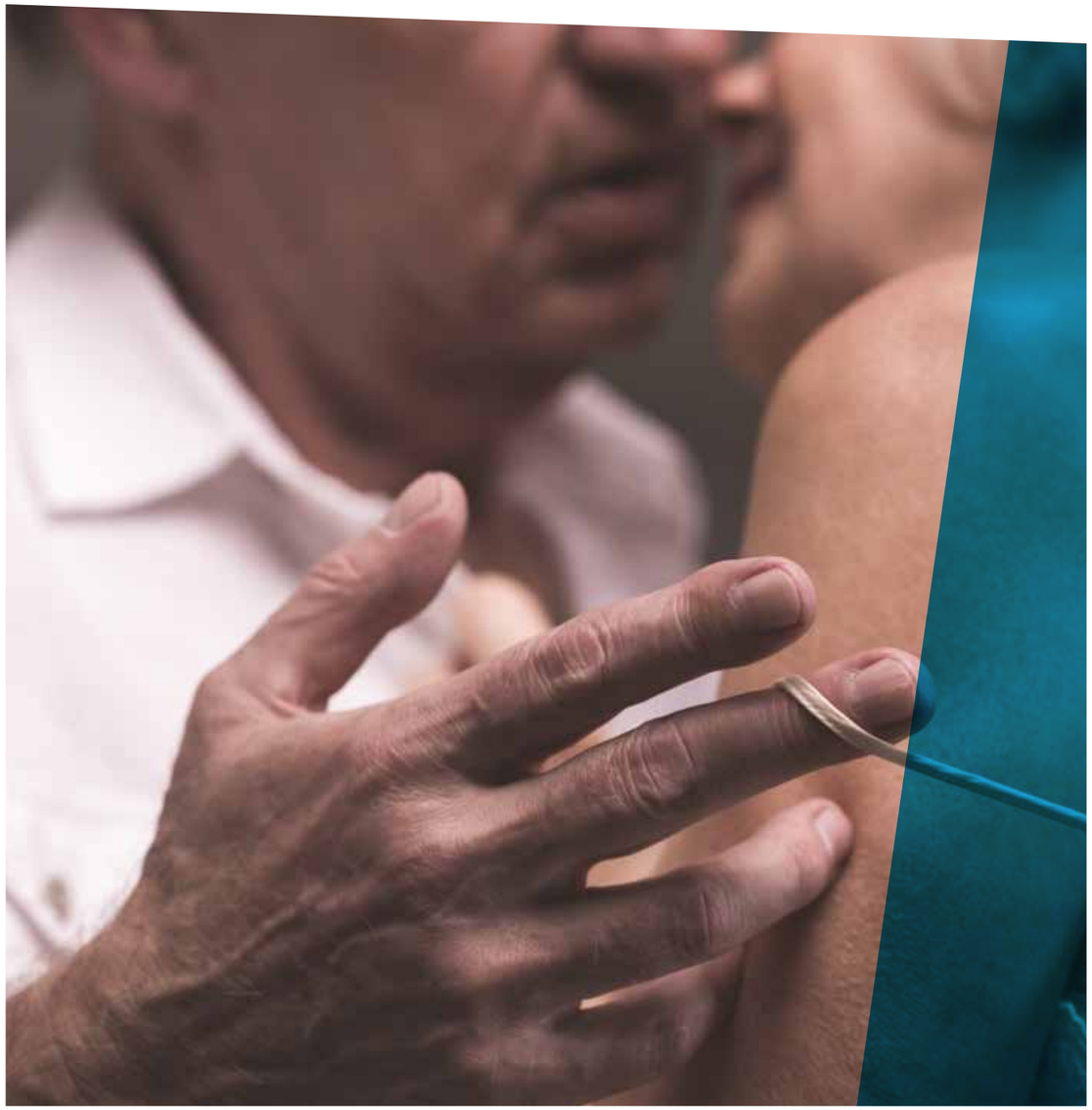
Overall, I feel quite optimistic that in 20 years' time older people will be recognised as sexual citizens. They will be people who have grown up in this more libertarian society so who knows, perhaps there will be pornography that involves older people catering specifically to needs that they can identify with.

I am also optimistic because younger people now are much more inclined to describe their gender and sexuality along a spectrum rather than in terms of binaries, such as gay, straight, male, female. These concepts have more fluidity than they once did, and this is likely to foster a much more complicated landscape of sexual and gender possibilities later in life: another challenge for our current models of care and accommodation.

We've made tremendous gains in a very short space of time since probably about the late '90s, but we're still not a fully comfortable, sexually democratic society. I hope that in 20 years, we will all be equal sexual citizens, whatever our age.

Dr Paul Simpson is Senior Lecturer in Applied Health and Social Care at Edge Hill University. He is co–leader of the Older People's Understanding of Sexuality project (OPUS) which is allied to the Manchester Institute for Collaborative Research on Ageing (MICRA) Network.





Moving retirement into the workplace and work into retirement

Dr Jonathan Collie

The life-model of our grandparents - where you were born, went to school, on to college, university or an apprenticeship, worked, got married, had kids, retired, and had a very short period of retirement before death - is in the past. Increasingly today, and most definitely in 20 years, we will all have far more dynamic, flexible lives, with no 'black line' of retirement dividing the productive and the dependent. As the average age of the workforce increases, workplaces will need to become culturally more accommodating for people of all ages to thrive.

Some of this is driven by economics. The state pension of the future may be able to sustain only a very basic standard of living, with little scope for extras. Some people will have to work because pensions have been mismanaged, their funds have evaporated for some reason or they don't have a private pension.

But in every single model I've come across describing what makes for a good retirement, the term 'retirement' almost becomes redundant. All include an element of productivity, paid or unpaid. It's all about a sense of worth, a sense of purpose, about routine. It's about human connection, interactions, getting you out of the house. Work is the best way to obtain that. It's about opportunities for continuous learning, which work certainly helps with. And finally it's about continuing to have fun - making sure that you don't lose your sense of humour and constantly find ways to delight yourself.

This will be a world where schools will teach not just maths and English – pupils will learn resilience, adaptability, flexibility, confidence, the ability to reinvent themselves, understand their strengths and weaknesses and adapt to opportunities as they present themselves. This will enable them to get through life's big transition points and to enjoy active later years, rather than being lonely, unproductive, waiting to die.

In every 20-year period, 60% of job types disappear on average, so it's going to be almost impossible to predict what types of careers today's schoolchildren will have throughout life. But these careers will need to be nurtured in a very different way.

We won't wait until people are 50, 55 or 60, or until they get a pension, in order to start engaging them around how to manage their later years - we will take a whole-life approach.

Realistically, everyone could and should have a fundamental mid-career review, taking an inventory of their skills, strengths and weaknesses, and then looking at what those skills would enable them to do in the future. The review would inculcate an expectation of changing job roles and ways of working but also an appreciation of what people CAN do in the future: that there is space for career development in your 50s, 60s and beyond.

Then, at a stage when the pressures of a nine to five full-time role no longer appeals, but the 'cold turkey' sudden cessation of work into retirement is also unattractive, there would be a formal process of 'job deconstruction.' This is where employers could look at the core assets of that older worker and work out what specialism they have that could be integrated into a phased approach to retirement. Is it doing spreadsheets? Is it carrying out performance review appraisals for subordinates? Is it about line management? Or business development, training, or strategy?

When I talk to companies today, they resist the idea of employing older workers by saying it is too expensive. But if you can deconstruct roles and make them flexible, you can pay more per hour but for fewer hours. In this way, retirement concepts are introduced into people's working lives, and the concept of working introduced into retired people's lives.

Older people, with increasing confidence, will start to place a price on what they can offer, so instead of giving away their time for free on charitable volunteering, they will start to say: "I've got skills that I think people should pay for." And increasingly people will.

This may lead to them becoming part of a start-up, perhaps with a younger business partner. This will be a tech-savvy older generation. They won't just want to be delivering products and services for old people such as mobility aids and mug handles for arthritic hands. They will be an integral part of wider entrepreneurship.

To assist with this process, there should be established places in the community where older people can go to understand their transferable skills and the opportunities around them, to learn about start-ups, how to be self-employed, what the opportunities are for a career post-retirement, networking, and ongoing learning.

Currently local authorities' focus is on supporting the very old and frail. It's important not to be distracted from that, but there is almost nothing being done proactively within the community to provide opportunities for older people who aren't dependent and needy. Society must champion the fact that we have now got extra time at the end of our lives and make use of it. We must stop relying simply on people's 'get up and go'. We need to provide an improved environment for them to 'get up and go' in.

How will this environment be created?

First, we need to reclaim normal language for older people, and move away from the negative jargon of 'silver' workers or 'oldpreneurs' working in their 'encore' or 'twilight' years. Stop trying to make excuses for age. Instead, we need to celebrate the fact that that older employees bring wisdom and experience, and are still going strong.

Second, we must move away from what the media loves doing, which is telling stories about the hundred-year-old marathon runner, which almost nobody can aspire to. If you're lucky enough to be able to run marathons when you're 90+, good luck to you – but we want to tell stories of people doing start-ups, going back to university, taking up leadership roles, staying in work or returning to work. These kinds of tales aren't being told. The other stories we hear are about dependence and burden – of social care, dementia, other chronic health problems - and the fissures between the generations. The media are doing their best to perpetuate these divisions, highlighting the political differences between old and young in parliamentary elections and the Brexit referendum. It's all about pitching one generation against another.

In fact, my organisation, The Age of No Retirement, interviewed 2,000 people aged 18-99, and we asked them questions around life's tension points, about them as consumers, about learning in the workplace, and intergenerational living. We discovered that there is far more that connects people across the ages than separates them, and that the stereotypes that everybody clings to - such as the Gen X Y Z, the baby boomers, etc. – are overly simplistic.

That intergenerational aspect is fundamental with regards to progress in the workplace. Currently, the workforce of major corporations is predominantly young, with the emphasis on graduate recruitment, graduate development, early leadership and career development.

By the time people get into their 40s and 50s, they are feeling less 'loved' by their employer, and a little disillusioned. They might have been doing the same job for a long while but they don't want to risk losing it. They have stopped being nurtured by employers who don't want to stop them from retiring or moving on.

In the future, line managers in their 30s will be managing much more age-diverse teams. By 2020, one in 3 workers will be over 50. It will be in the interests of employers to nurture their careers right until the end. Managing employee alumni better will also become more important, looking at how they can be used as a resource rather than just a target for communication.

Fundamental to this shift will be changes to employment rights, pensions and health insurance. The actuarial model and the mathematics of retirement are changing fast. When retirement was popularised, average life expectancy was less than the pensionable age. So, the minority of people achieved retirement, and if they did achieve it they only lasted on average three years. Now, people can live for decades in retirement.

Some people argue that older people should not be 'taking the jobs that younger people need'. This is a big economic misperception which is stopping people from reaching out for paid work because they feel it's inappropriate to do so. Older people themselves have absorbed and validated the stereotype. Analysts have estimated that between 2012 and 2022, 14.5 million people are expected to leave the UK workforce as they retire, while only 7 million are expected to enter.

The economists working on the Fuller Working Lives agenda, with the Department of Work and Pensions, found that having a higher number of older people in the economy earning a salary creates more jobs for others. While it is true to say that, on a single job basis, an older person getting that job does prevent a young person from having it, if you get hundreds of thousands of people over the age of 60 staying in work, that will grow the economy and create more jobs for younger people. From a macro-economic basis, we want as many people of every age in the workplace as possible.

I believe that people could work for an extra 10 years in the future and, as a result, we would grow the British economy far faster than currently. Older people working is, without a doubt, the biggest overlooked, unused and misused resource that we have at our disposal.

There are already some examples of innovative practice in enabling older people to work effectively which could be taken up by others.

BMW realised that there was a lot of value in the wisdom and experience of its older workers on the production line, yet they were threatening productivity levels because of their anticipated rate of departure into retirement. BMW needed to find a way to retain their more experienced workers for longer. So they re-engineered their entire production line, including lowering certain levels of the line and enabling engineers to work sitting on wheeled stools. Productivity levels improved enormously. And they could retain their best staff - their older staff - for longer.

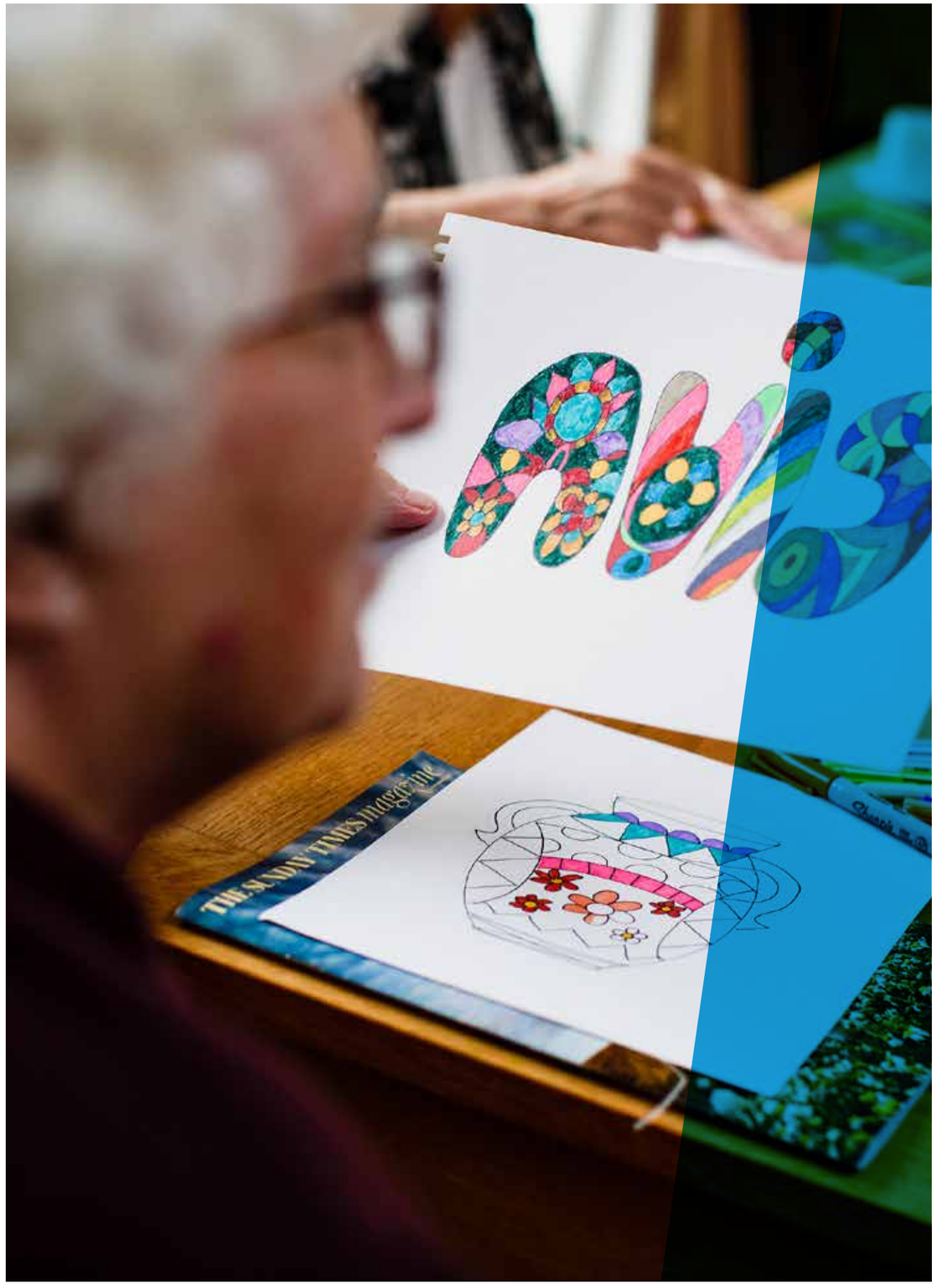
Now others are leading the charge. In February this year Andy Briggs, the Government's business champion for older workers called on every firm to increase the number of staff aged between 50 and 69 that they employ by 12% over the next five years. Aviva, Barclays, Boots and the Co-op have unveiled plans to do this. We want to see big brands like Microsoft, Legal & General, IBM or Tesco, indeed every major employer, including public and third sector employers like the NHS or Metropolitan Police or Age UK, start to explore the value of an age-inclusive, intergenerational workforce. Not to let their most experienced workers retire and bring them back in as consultants, but to avoid them leaving in the first place. Flexible arrangements need to be introduced that blur the black line of retirement, allowing people to retain an element of work and income, and also balance their working lives with some of the more traditional retirement activities.

The sheer magnitude of the demographic shift is upon us. It is happening. It is a fact. To ignore it is futile and to do nothing is folly. Huge benefits and economic returns, and competitive advantage, are available to the organisations that realise the benefit of intergenerational thinking and take action.

Of course, not everyone will want to work or have the physical and mental ability to do so. You can still be productive in your hobbies, your social networks, your sports activities and leisure pursuits. You don't have to be economically productive, it's about making full use of the life that you have.

In 20 years, you will be hard-pressed to find somebody who isn't doing a form of work, paid or unpaid, in retirement. And that, to me is a great positive. I want to live in a society where people are viewed in accordance with their capabilities and their productivity - not their age.

Dr Jonathan Collie co-founded The Age of No Retirement, a social enterprise with backing from the Big Lottery. Jonathan began his career as a doctor in the NHS before moving into health IT via an MBA at University of Edinburgh. In 2014, Jonathan launched Trading Times, an online service that connects people over 50 with local employers for flexible, paid work. As a result, he became committed to changing the narrative of age, from one of dependence and decline, to one of exploration and optimism, and in so doing, create a better future for us all to grow up in.



Life is a bicycle; stop pedalling and you fall off

Rt Hon Lord Young of Graffham

Some people are born seeing a glass always half empty, others half full. Mine, unfortunately, was overflowing.

I'm 85, and this week I'm making a keynote speech at Buckingham University on Tuesday, a keynote speech on artificial intelligence on Wednesday, and I've got another one on Thursday. I work four days a week on my own projects and business interests and I'm also chair of the Jewish Museum. And I'm the happiest I have ever been.

I haven't experienced ageism - quite the opposite. At the age of 78, David Cameron asked me to come into Number 10 to be appointed his Enterprise Adviser and I did five years there. I'm currently following the work through, including developing a Passport for Life for secondary school pupils, recording all the extra-curricular, voluntary and training activities they do, to inspire them into the world of work. Perhaps we need to keep a Passport for Life well into our later years, inspiring us in our 'retirement' too.

People are judged at face value: if they remain active and energetic, following their own interests, then age becomes irrelevant.

Yes, I get aches and pains, we all do; it's the only way you know you are still alive. But I don't dwell on them. And I'm constantly seeking out new adventures. So much of ageing is in the mind. I've seen many of my contemporaries retire to nothing (apart from golf) and go downhill – they've had nothing to think about. If you're not working, you start worrying about all the aches and pains, and that in itself can make you ill.

If you sit at home and just say, "I'm old, nobody wants me," then nobody will want you, and you won't last that long. It's all about mental attitude. You've got to have a positive outlook which takes an entrepreneurial approach to life.

In 1996, aged 64, I decided to set up my own business again. I've been lucky, I've been an entrepreneur all my life. I set up my first company in 1961, so I knew how to do it - and more importantly knew that if it was my own business, there would be no retirement age, I could carry on as long as I wanted. I told everybody: "Life is a bicycle; stop pedalling and you fall off." My determination was to keep on pedalling for as long as I felt I reasonably could.

That approach applies to my social life as well as my working life. I have a granddaughter of six who is a very good tennis player, so I have promised her two things, first, that we will have a joint party – her 21st and my 100th - and second, I will become her manager in her tennis career. Now, these are jokes, but they are not really jokes, because older people have got to look for interesting things to do.

Being positive is crucial for every aspect and every time of life. I have never met a successful negative person. And I believe that this valuable quality needs to be addressed at school. It's the education system that makes many people think they're failures, encouraging negativity.

In the past, when we stopped offering technical schools, many people didn't think studying was relevant for them. Far too many young people leave school today functionally illiterate and innumerate, and convinced they are failures. You can easily educate people to be negative.

But equally, you can educate people to be positive, encouraging them and helping them have an open attitude.

This encouragement can and should start young. When I was at Number 10, I introduced a programme called Fiver. We gave 31,000 primary school children around the country £5 to invest over a month, with the promise that they could keep the profits. One bright young lad ended up with £495, and six made over £100. These are nine and 10-year-olds. They are positive and entrepreneurial at that age. Very few children lost money; we've got to encourage that attitude.

In some jobs, developing that entrepreneurial get up and go attitude is more difficult. If you've worked in a high street bank or in a business where it's very restricted and you're not allowed to do 'this, that or the other,' you may come out with a 'safety first' approach to life, and that makes it more challenging later. When people in these roles get to retirement, they don't necessarily see the opportunities, and don't have the enthusiasm for them.

In this situation, the positive people need to help others become more purposeful. I think active people of my generation should carry a 'to do' list, organising activities for those lacking ideas of where to get involved. Once they take part, the ones with not so much get up and go will get into the swing of it. Playing a role in a local society or local company, for example, will appeal perfectly to their desire for structure and clarity of purpose.

Back in the 1970s, Pulitzer prize winning research by gerontologist and psychiatrist Dr Robert Butler, (the doctor who coined the word 'ageism') followed healthy people between the ages of 65 and 92 for 11 years. It showed that those who expressed having clear goals or a purpose lived longer and lived better than those who did not.

Today, we see this finding echoed in the concept of 'Blue Zones', areas of the planet where longevity exceeds the norm and where one explanation is that older people retain a clear sense of purpose, a reason to get up for in the morning, or 'ikigai' as the Okinawans call it. One of the suggestions from the Blue Zone researchers for achieving this is to dedicate a place in your house to display your passions, accomplishments and the things of which you are proud. They say that every time you walk by, you'll be rewarded with a surge of pride and a reminder of how you fit into the world.

I don't have a trophy room – mine is in my mind rather than in a room somewhere. But they are right – there must be a purpose to your existence, a reason to get up in the morning.

There is so much that needs to be done in the local community, not always high profile or large scale. If you take responsibility for something within the local church or the local community centre, however small, that gives you a purpose in life.

My age group, and those who are a few years younger than me perhaps, are hugely important, as we've got time, knowledge, and wisdom, to impart. Wisdom is merely an accumulation of mistakes, and I'm quite wise these days! But people learn by making mistakes all the way through their life.

When people have ended their careers or their employed working lives, they should consider something they've never done before. It could be taking up a language, or an Open University course. They just need a new challenge, so that when they wake up in the morning, they think, "I've got to write that essay," or, "I've got to convene that meeting." There are things you have to do.

Of course, our family structure and working lives in the coming years will evolve to look very different to how they are today, as ours do compared with our grandparents'. My grandparents had no opportunity to know what we kids were like, they just didn't live that long. I have been taking our own grandchildren, the oldest of whom is now approaching 30, away on holiday all their lives, and I'm now beginning to know their children.

I started work in 1948, when people worked 50 weeks a year, 48 hours a week. If I'd had a 'typical' job, I would have ended up working nearly twice as many hours in my lifetime than somebody leaving school this year going into a job will do in their lifetime.

In my early working days, I was employed by a subsidiary of Great Universal Stores – this was the mid-1950s – and one of the companies had a pension fund. In those days, the pension age was 67 and the fund ran for 20 years without ever paying out a penny because nobody made retiring age. It was embarrassing for the fund managers, because the fund kept accumulating money and had nothing to do with it. That was a long time ago, but it's a good example of how people of the past barely reached their mid-60s, let alone enjoyed much life after that.

In 20-25 years from now, we will have a 4-day week, and in 60-70 years perhaps a 3-day week with people working into their 70s. It will be the government's responsibility to get people working for longer, as employees won't be able to retire at 55 if they are going to make 105. The point is that if they retire at 55 with 50 years ahead of them and nothing to do, they won't make 20 years, they will just go downhill. People will have to start proactively preparing for retirement earlier.

Everyone will have more leisure time, but leisure by itself is useless unless you use it to some purpose, as discussed earlier.

There are some challenges of course. Not everyone will be healthy enough to take part in lots of social or voluntary activities, or paid work.

And the great enemy for all older people is loneliness, particularly if children have flown the nest and they are widowed or without a partner. I think it's a terrible thing when you have had a very long marriage and it comes to an end. It's a real shock, for which nothing can really prepare you. But people can sow the seeds of friendships with others to prepare themselves; what they mustn't do is just live in a vacuum.

That's why for people who are well enough, continuing to work will make such a difference. It might be nice to be able to keep earning a bit of money, but primarily it's about being part of an organisation and having friends there, who you might end up seeing socially. Obviously, it depends what the work is; many older people will struggle to sustain work which is physically demanding. But then the work of the future will inevitably be very technologically based, with less manual labour. The older generation in 20 years will be very tech savvy - everyone who is 50-60 now has a smartphone and they are used to technology.

I am conscious that I am very lucky. I have my family around me, two daughters, six grandchildren and one great-grandchild. I see a lot of them, and that gives me an enormous amount of joy. I've also been happily married for 61 years. As I said, I'm happier now than ever before. I have achieved many things that I wanted to achieve, and I am still working on more that I would like to do. I don't think I am typical today, but I think I will be much more typical in 15-20 years' time.

In my younger days I was an over-achiever – I wanted to do everything. And now I've done enough and I don't have to push myself. And the things I've still got to do are very interesting.

But when will I retire? I can see myself still volunteering in my 90s. And then again, I have that position as tennis manager to consider...

After building up his own companies for nearly twenty years, David Young, Lord Young of Graffham joined the government in 1979 and was Secretary of State for Employment and later for Trade and Industry. He served as Deputy Chairman of the Conservative Party until June 1990. That year also saw the publication of his book The Enterprise Years. He was Executive Chairman of Cable & Wireless PLC and has served on the boards of many companies, associations and charities, including the Council of the Prince's Trust. In 2010 David Cameron appointed him his Enterprise Adviser with an office in No. 10 where he served for the whole of that Parliament. He remains active in both private and public affairs.

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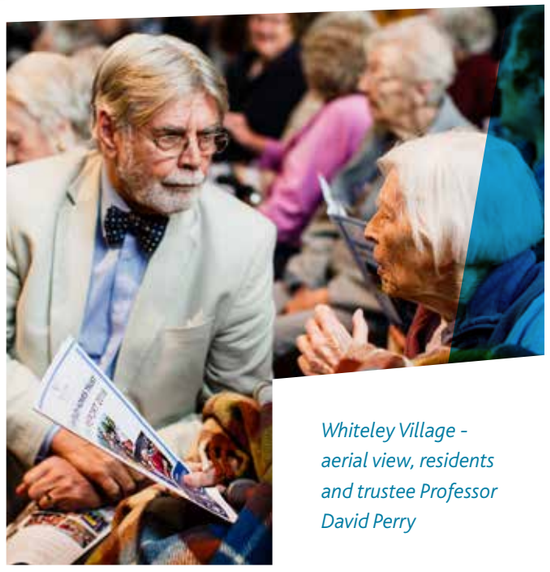

Whiteley Village - aerial view, residents and trustee Professor David Perry