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RI World Congress**26 October 2016****Plenary 3 – Ageing and rehabilitation**

CHAIR: Good morning, everyone. I think there are still some people drifting in, but we have a limited amount of time. We have four really interesting speakers this morning. I think we should get started. My name is Chris Ball. I'm now the Specialist Adviser on the Ageing Workforce in Shaw Trust. For the past eight years, prior to joining Shaw Trust, just 18 months ago, I was the chief executive of TANE - the age and employment network - which is now part of Shaw Trust. That's a little bit of my background. I have been following and writing, and talking about issues of workforce ageing for most of that time. Earlier this year, I was in Japan speaking at a conference organised in Fukuoka, Japan, talking about ageing women, or older women in the ageing workforce. Many, many interesting aspects of this broad subject, talking also to the AARP - the American Association of Retired Persons - which with, to for a number of years, we have collaborated in an international Best Employers For Workers Over 50 Award. There are lots of parallels, I think between the interest that we have had had, and many others have had, in workforce ageing, and the whole issue of ability, disability, rehabilitation. My own daughter, who is now 31, is disabled and lives independently, so I guess I have some insights into her life and the problems and issues that disabled people face as well.

Well, I'm not going to say any more this morning. I'm hoping that our four speakers will help us bring together these two streams of ideas, the ideas around rehabilitation and the ideas around active ageing - maintaining activity, maintaining dignity in ageing, and all the issues around health and participation in society, in the broader society, and, indeed, in work. I'm going to pass you over to our first speaker in a moment. He is Lord Filkin - Geoffrey Filkin. I've known him for a couple of years myself. He found it an innovative and really interesting centre - a foundation called the Centre For Ageing Better, which operates in the UK, and I'm now going to hand him over to you. Thank you very much.

LORD FILKIN: Good morning, everyone. It's great to be here, and great to be back in Edinburgh as well. I'm going to set the scene for this session. I'm not, as you will find out, quickly an expert on disability, but I'm going to talk about what is happening in your country, in your society, and in our own selves as we are increasingly an ageing world. It's our biggest social change. It affects every one of us, and it affects every

country, and it particularly affects people with disabilities, or the risk of disabilities. So that is, I think, my job.

First of all, the bit that I'm sure you know: many more older people. In ten years' time, there will be 230 million more people aged 65 in the world. In 15 years' time, there will be an increase of 60 per cent in the number of people aged 65-plus. This is happening in all countries. It varies at the speed with which it is happening in different countries. As you well know, some are already very old societies; others like Africa are only beginning on the transition to ageing societies. Let me just give you a glimpse of how that looks. If you look at that map of the world, the blue shows countries which have more than 20 per cent of their population 65-plus. Now, wake up, put your coffee down. Watch what happens. That's it in 35 years' time. You can see the difference, can't you? How quickly the world is shifting to a much more ageing society. That's the first point which I suspect you know.

The second point is that we are living longer. To give you an illustration. My mother died when she was 69. My granddaughter, I will be very surprised if she doesn't live to be over 100. So, just in one family, in two generations, you can see an enormous increase in how long people are living.

Life specific tansy is still increasing in many societies, and there is big differences in individual countries. There is big difference between life expectancy between rich and poor people. If you look at the detail, some people are benefitting from longer lives; others are living shorter lives. Probably even more importantly, for this discussion, is when people get unhealthy in their lives or when they get disability, matters massively. If we can delay ourselves getting ill-health or disabilities that limit our lives as long as possible, it obviously makes it possible to have more independence, more autonomy, and inclusion. There are very big variations of how quickly get disabilities or ill-health in their lives for very important and complex reasons.

Before we talk about some of the challenges of ageing, let's just look at the opportunities. We say at the Centre, and I think most people who work in ageing say, this is the most fantastic opportunity our society has had, and we as individuals have had. I say it myself: I know I'm no longer 60, more is the pity, but my sixties were probably the best decade of my life in terms of the things I did. So living longer has the potential but not the certainty that we can get much more value and enjoyment in our lives.

The interesting fact also, though, is there are big differences in individual well being and well being between different countries. Some countries have relatively high levels of well-being and happiness; some have lower ones. Within societies, you see again the social gradient: people who tend to be healthier and well off tend to have higher happiness levels than those who are in serious poverty and serious ill-health. That's not surprising, but it's quite a significant issue. You get this great variation. Of course, we've got some of the world experts on well-being sitting in the front of our conference from Bhutan who measures its gross national happiness as opposed to its gross national income. It would be good to learn

more from Bhutan later on. That's the bit I want to hold in our heads that, whilst we know there are challenges with ageing, there is fantastic opportunities for us as individuals and societies. These changes of more people, and longer lives, are creating very different societies. They're caused by smaller families and later deaths, so we are going to have more older people and fewer younger people in most countries in the world. We have it now, and it's moving relatively rapidly. If we are thinking about how the opportunity of longer lives, we need to look at what the evidence shows seems to make for a better later life. This is data and evidence from England, so it would be good to know whether the same factors are true for you in your countries as well. But in Britain, there are five factors that seem to make for better happiness and well-being in later life. Enough money. You don't need to be rich, but enough money, good enough health, good social relations, meaning and purpose, and a home and neighbourhood that supports us. I think of specific relevance to this, we know that most of us want to sustain our own independence and autonomy in later life, so, absolutely relevant to disabled people. We want to feel that we are part of society, included, rather than stuck away in a corner and ignored. So a big question for us as individuals: how do we prepare for a longer, later life? Certainly, in England, the agenda is pretty clear: if we are to have enough money, we've clearly got the challenge of how build up enough savings, and that frequently means many of us will need to work for longer than we had previously expected to do so. So working longer, saving more - hard things to do but necessary. Doing what we can to keep healthy, keeping socially active, and preparing with our family for what may be later frailty in our lives. These are some of the things that individuals can do. Clearly, we can't always have any control about whether we have disability or not. And although old age doesn't cause disability, it's caused by many other things, the rates of disability increase with age. So, more older people means pretty obviously there will be more people with disabilities, and that's a profound challenge to the attitudes of our societies towards disabled people. We're talking about the rates, for example, of heart and lung disease, cancer, stroke, depression, dementia, et cetera. The increase in people with disabilities is bound, therefore, to increase the demand for health and social care, and, clearly, that requires us to face up to that. And this, I think, poses big challenges for governments. They're quite good at putting their head in the sands as you well know, but governments need to recognise this enormous social change that's happening and assess the potential growth in disabilities, and I would suggest there are four key issues governments need to think about: prevention - how we help people living healthier lifestyles, ensure there's less pollution so fewer people get disabled or they get disabled later in life rather than earlier in life; how we help people to help themselves by their lifestyle choices, their planning and the environment; how we develop home-centred support, and how we reshape our health and care services for managing chronic illnesses and disability rather than dealing with acute illness, which is what many health services traditionally have done.

There will be significant fiscal challenges for government because a bigger older population and fewer people in work will mean you've got more demand but potentially less taxes coming in at the same time. So big debates by government as to how we, as a society, are going to manage to support the increased number of people who will need health and care in later lives. I wouldn't pretend that the UK government has got that right for a second as yet.

What should we say to government, the increase in our lives and with people with disabilities. First of all, face up to it, assess what is happening now, and what will happen in ten years' time. Consider the social changes: in many societies around the world, the family has been the welfare system for old age in the past. But that is changing because urbanisation and migration leads to more remote families. Older people wish to have a more independent life in their later lives, and therefore we are seeing that what was the traditional model of social support may not be appropriate for the future. Clearly, the family always will be crucial, but we can't automatically assume it will always be there. So that's a further big change I think we need to reflect on for the future.

Going on, what should governments do? I would suggest they should have a plan for their changing society, their ageing society, and the growth of disability. They should have a vision for it as well. A great opportunity as well as a problem - they should be promoting the benefits, encouraging later working and more saving and doing what they can do to help people recognise that if they can stop smoking, not ghetto bees, have a decent diet and address smoke pollution in the city and in the home, then the chances of delaying ill-health with better. And they have to review their welfare settlements for the rising demand. So recapping: there is a lot that we know we have to do ourselves. None of us expect governments will make it right for us all by ourselves. That's probably an agenda - I won't repeat it because I've said it already. Those are some of the things that we as individuals can do that will increase our chances of having a good and happy longer later life. The problem with all of those things is that we are not very good at them. We're not very good at shifting our behaviours and planning and preparing for our longer, later lives. So that's a critical issue I think for the Centre, and for all of us.

In summary, I think a key question, whether we have disabilities or not, is to address how we can enjoy this potential great gift of longer lives. How do we make it possible for fewer people to get disabilities or to get them later? And for society to support them with disabilities in a way that is inclusive, even though they are living longer with disabilities? Fundamentally, big challenges for society. Let's conclude with the fact that this is an enormous opportunity. The fact that you and I will live longer is potentially a fantastic gift. It is, in a sense, more time with family and friends; it is more chance to live, to learn, and to give to society. I think that seizing that prize and making it real is a fantastic goal for all of us. Thank you very much. [APPLAUSE].

NEW SPEAKER: Good morning, I'm Joseph Kwok from Hong Kong, chair of this session. Now a council member of the Scottish social services council, and a patron of care, and the floor is yours.

DAME ANNE BEGG: I was delighted to be here until I saw the title of the session - disability and ageing! I don't think I'm old. I don't think I've aged. I still think I'm 21 inside. I was worried that I was being outcast when I was invited to speak to you this morning, but I am delighted to be here, and delighted to see so many of you here.

But we all get old. We maybe don't like it - I don't like it - but we do get old. And, with old age, there are a whole range of issues which begin to affect our bodies, making the life we lead just a bit more difficult. The speed that that happens and the extent of the deterioration is different in everyone. But, for everyone, the ageing process does eventually take its toll. There's no escaping old age - well, unless you die young - but you don't think we really want to go there, so the ageing process can be hard for people who have led a healthy life with all the bits working. If it's hard for them, it's so much harder for those of us who already have a disability. As Lord Filkin has just said this morning, more and more people acquire a disability as they go through life. In the UK, by the age between 65 and 74, 36 per cent of people have a disability. Once people are over 75, then that proportion rises to 56 per cent. A large proportion of that cohort has a disability. So, even if it's only for naked self-interest, everyone - and I mean everyone - whatever their age, whatever their abilities should take an interest and challenge the discrimination suffered by many disabled people. Tackle the inequalities disabled people face now because some day it may be you. And you never know when disability might hit, so the sooner we get it right for all people with disabilities, the better it will be for those who acquire a disability through the ageing process. But we need to do more. Getting old has particular challenges for those who were either born with a disability or acquired one before they reached pensionable age. The ageing process on top of a pre-existing disability represents extra challenges. It's a double whammy. However, it can be difficult to get over to those providing care that the difficulties faced by those with a long-term disability are not the same as those affecting older people. Disabled people often don't have many choices in life. They can't always exercise their free will over where they live, where they work - even if they work. But, as they get older, the choices can be limited even further.

I know examples from my own area where some in the local council felt it was perfectly acceptable to move disabled people out of their supported accommodation, which had been their homes for decades, into an elderly care home. They were moved out not because their disability had deteriorated - they were moved out not because they were finding it more difficult to live at home, but purely because they had reached the age of 65. Now, while this policy was dropped, and, as a member of parliament, I was very strongly against it, but I suspect it's still happening surreptitiously. Disabled people reaching old age and

moved out of the more expensive accommodation into cheaper elderly care. There is a common view, and it's a wrong view, that just because a carer knows how to care for someone with dementia, that qualifies them to be an expert on how to support someone with a learning disability. Or qualifies them to understand how to support a person who has a learning disability and who now has dementia. It doesn't. They are very different. Agnes Stewart, who was a disability activist in Aberdeen where I come from, for many years, summed up the situation perfectly when she reflected on her own situation. She said that, at the age of 65, she was no longer seen as a disabled person by the authorities but was now own regarded as an old person. It was as though her disability had disappeared and now she was merely old. And many of the services she had relied on as a disabled person were no longer available to her as an old person. I think that view is widespread.

Now, the UK government recognises there is a difference between old age and disability, and this is reflected in the welfare system. In the UK, we have a social security benefit which is paid to people who have extra expense due to their disability. It was called the Disability Living Allowance, or DLA, but the DLA is presently being replaced by a new form of support called the Personal Independence Payment or PIP, as we call it. The rules governing the age you can apply for PIP remain the same as it was for the old DLA: you can only apply for the payment if you're under the age of 6, 5 although if you're awarded it before you reach the age of 65, you keep receiving it, so long as you continue to qualify. So this suggests there is some understanding that a lifetime spent with a disability is different from the normal ageing process, although I actually think there is the 65-year cut-off for PIP has more to do with the cost involved rather than any philosophical understanding of the needs of older people with a long-term disability.

So what happens in the world of work as people with disabilities get closer to retirement age? Over recent years in the UK, the state pension age has been rising, particularly for women. Since 2010, the age women qualify for the state pension has been on the increase, and, by 2020, the state pension age for both men and women will be 66. I'm one of those who was caught in the middle. The increase in the pension age is throwing up problems for many women who had expected to get their pension at the age of 60, but are now having to work longer. But many of these women have already retired or already made plans to. How much worse, then, for the disabled people who have already been squeezed out of the labour market long before their 60th birthday, far less their 66th. If it is increasingly difficult for people in their late fifties and sixties to get another job if they're unfortunate enough to have been made redundant or have lost the job they have had for some reason, then it's more than doubly difficult for a person of the same age who has lost their job because of ill-health or an acquired disability. Even if the disabled person hasn't lost their job to due to the disability, it's still far more difficult for them to get re-employed than people without the health issues. We already know that there is a high level of discrimination in the workplace against older workers. We already know there is a high incidence of discrimination in the workplace against disabled

workers. Put old age and disability together - well, you get the picture. It's yet another double whammy. I was fairly lucky when this happened to me. In the early hours of 8 May 2015, I was rather publicly sacked from my job. Until that date, I had been an elected member of the British parliament for 18 years. But, in the election to the House of Commons in May last year, I lost my seat. There are few jobs where you have to stand on a stage in front of the media's cameras to hear that you're now out of a job, all the while smiling and appearing magnanimous to the person who has just defeated you. And no-one likes a sore loser. But it's very public, and very brutal. But, because we are politicians, no-one - and I mean no-one - feels sorry for us! However, I did have to decide, at the age of 60, what I was going to do for the rest of my life. While I had been an MP for 18 years, I had been a secondary school teacher for the 19 years before that. I had to decide if it was time for me to take early retirement, or whether I would look for another full-time job.

Now, I could say that my disability, which is slowly progressive, played a part in the decision I made to take my occupational pension and to fill my time with new challenges, but it didn't. Most of my ex-colleagues have retired at 60 saying that after almost 40 years in the classroom, they were burnt-out. I didn't feel burnt out, but, after 18 years of travelling every week from Aberdeen in the north of Scotland to London in the south of England, and working 70 hours-plus a week, I was just needing some sleep. Now, I haven't found a full-time job but that's because I haven't been looking. However, I have been appointed non-executive board member to a couple of the Scottish public bodies; my diary has also been filled up with unpaid things I've taken on, I'm the trustee of a charity here, a patron of a couple of charities there. But I have been lucky enough to be able to afford to do this. Having a nice secure occupational pension, and not having to worry about earning money is a sheer luxury. But this luxury is not open to most disabled people who are made redundant at the age of 60 or even younger. My previous life also gave me the skills, the knowledge, and the public profile could be able to do the things I am now doing. But for those disabled people who were never able to fulfil their full potential because they never managed to get a job, or had worked below their capabilities, or were never paid more than the minimum wage, they will never have been able to gain the experience needed to secure the positions I have - so yet another double whammy. With people living longer and longer, it's becoming more and more of an imperative for people to keep healthy and active for longer - exactly what Lord Filkin was saying. It's not just because it can be very expensive if people have a long period of ill-health at the end of their lives, but it negates the whole advantage of living longer. One of the reasons why we are speaking about disability and old age today is because many more people with disabilities are living into old age than was the case even 20 years ago. Many disabled children outliving their parents, so there are new challenges in providing supported living for those who, in previous generations, would have died young. And with the advances in medical science, the number of people living into old age will continue to increase. And also,

with the advances in medical science, a number of people with the most profound disabilities living into old age will continue to increase. The advances of medical science should also mean that it will be possible for people are very sphere disabilities to have active, fulfilled lives, for many more years than they enjoy today. I think we are still a long way off from achieving that goal of that fulfilling, long life for everyone with a disability.

While there are examples of some people with disabilities who have achieved great things in their life, it is still too often the case that the mere fact of having a disability means a life lived in poverty, a life of dependence, and a life with few opportunities. That is the challenge facing us all. How do we make sure that the opportunities are there for younger disabled people so that when they do reach old age, the double whammy of old age and disability is not so disabling? I put that challenge to all of you. Thank you. [APPLAUSE]. Expectancy expectancy.licenceure. So efficacy so ourselves self-. So this is self- self. So this isself selves your own self. Soselves. So your own your ownselfes.so Saipan and Puerto Rico. So there.

CHAR: Our next speaker is Professor Graham Stokes, Director of Dementia Care at Bupa.

GRAHAM STOKES: Good morning. As has been said, I am Bupa's Global Director of dementia care, and I am a Professor of dementia studies, and a one trick pony. Dementia is what I live and breathe and I want to bring to life what that means.

I will start with some slides that are heavy on data which just capture the significance of dementia to the world today, tomorrow and over the coming decades.

As our first speaker eloquently showed us, we are being pressed now with the scale of the challenge, and as I progress through these slides, this is the state of play today. These are the numbers of people living with dementia across the world. You will see that there are major geographical differences.

If we now look at what happens between now and 2030, and then on to 2050, this is the scale of the challenge, based on the numbers living into old age. Old age is the greatest risk of getting dementia and that commences once you are past your 30th birthday.

Around two thirds of people with dementia are over the age of 80. Now, at that point, they need to put a caveat in. What that means is that those people have been diagnosed and knowingly are living with dementia; two thirds over the age of 80. Those people (indicates) have been living with dementia between 25 to 30 years and approximately 80% of that time with no clinical signs at all. The pathology of dementia grows in the brain throughout the 40 and 50s and becomes manifest in one's 90s and 80s.

It's a disease and condition associated with old age; it commences in late middle age.

Those are the numbers and this is the health economics and this is what Standard and Poor have said: that it's probably the greatest threat to sustainable sovereign debt. It's probably the greatest contributor to the disabled and need among older people.

Currently, it's estimated that the overall the cost of dementia care to society globally is over 800 billion US dollars, a profound economic health impact. In the UK dementia costs more than the combined care costs of cancer, heart disease and stroke. Huge numbers, huge health economic consequences.

If I just bring it more local: you can see the scale of the global challenge, the numbers increasing from close to 50m today to 130m to 2050 and in the UK that figure is 850000 people living with dementia, and that will grow to approximately 2m by 2050.

I give these type of presentations regularly. I don't know about you, but, roughly, around this point, I start to glaze over. I am somewhat minded of the words of Joseph Stalin: saying that a single death is a tragedy, and a million deaths is a statistic. That is a load of numbers. We are talking about people.

Every single one of those statistics is a person. That person is a mother, a father, a grand parent, a sibling, a best friend. Dementia has a huge impact on other people. People nowadays are living with dementia than ever before post diagnosis and it depends on the age you are diagnosed but it's around 5 to 10 years of progressive decline.

It's not about the dementia; it's about the person who is living with dementia.

I used to work in the National Health Service here before I joined Bupa. Over the recent times I have been working with Bupa, I have been doing my best to inform the Company for those that live with dementia. It's person first and dementia second; it sounds a neat marketing strap-line, but it's taken from a paper I wrote in 1995 when I was trying to say what do we mean by putting the person first?

When we talk about putting the person first, we are not talking about simply asking somebody or the person themselves what are their hobbies and interests: we need to know. It's far more meaningful from that. If you are talking about people, you are talking about rights; the rights of people with dementia to live a life as well as possible. It's about respect, dignity and empowerment.

The questions we ask is how can we help the person with dementia to live well and communicate and understand their needs of a progressing disability?

Dementia is a disability caused by untreatable brain disease. The more demented you are, the less you are aware that you have it. The disease will take away the capacity for its self-awareness. When a person with dementia knows they need us, they need us least because that is the beginning. When they need us most they know they don't need us at all. I have huge respect for care workers and nurses who are intimately caring for people living with dementia who don't know they have those needs. It's bad enough to accept the care where you need it, but what is it like to accept care when you know you don't need it? These people present with very complex challenging behaviours, but they need to be understood as people first, living in a world that could demystifies frightening and insecure encounters rather than degrading that fear to symptoms and simply saying: "that is simply because they have dementia".

We are talking about people: we are not talking about pathology. We need to put the person up-front and centre in a most meaningful way.

In 2012 we worked with Alzheimer's Disease International, the global Body of all Alzheimer's across the world to come up with a global dementia charter.

Ten basic Human Rights for people living dementia: we presented in Taiwan, at the Conference, and since that time it's been heartening to know that around the world now there are approximately 25 nations that have national dementia plans and some of those nations have taken this charter to be the heart and soul of their dementia plan.

This was not a charter imposed from above: this was about talking to people who are living with dementia and getting their authority to say "this is what the charter should be. These are the fundamental Human Rights". We have people that speak to that Charter. I did not have the time today, but we have the most compelling video of 10 people living with dementia.

The charter has been around for about three or four years and time moves on, and we are refreshing this Charter at the moment. So, when I speak to my students, they often me: "Well, you have just projected forward the people with dementia to 2050", and we know there is an increase in elderly people, but what about the disease? About what Alzheimer's? Will there not be a treatment/a cure? What can we say? For those people living with dementia today and, as I said, people are living with the condition silently, what can we do with those people and for those that will succumb to dementia? Is there a medical way on the horizon? The answer is no.

All we can say is looking into the short to medium term future that there is no eloquent treatment with those that are living with the silence of dementia, as one day will dement.

Looking to the pharmaceutical companies: they are going to get bigger and yet there is no treatment. Doom and gloom is good to be your companion. I am encouraged then ever before, because we have changed the narrative.

I will talk about one in detail: I will gloss over another. The one I will gloss over is the one I faded out, personal responsibility to be risk aware.

If we look back in the UK, look at the documents, Government paper's policy statements that have been made about risk, very little was said before around 2010. Over the past couple of years we have been increasingly aware that there is something we can do to reduce our risk. And, in essence, it's a healthy heart, healthy brain. Look after the heart, look after the brain, it will reduce the risk. That is the message for high-income countries. For lower middle income countries the message is: improve your education system. The greatest protection against dementia is to spend a long in formal education. We called it a neuro protector. The young brain stimulated by education. It does not matter what society you look at, the longer you spend in education, the lower the risk. There is not much you can do in high income

countries about improving access to education, but the greatest health benefit in terms of preventing dementia will come in the low income countries if they improve their education systems.

The other reason why - oh no, just one other thing - I asked a very influential epistemologist if people fault this advice to reduce their risk; how many numbers would not get it by 2050? He estimated 10-15% because that is approximately the numbers that follow public health guidance. I was not impressed but I know he was right.

Basically he is trying to get people to just look into their own future. Whenever I am in a room and I talk about those who one day will dement, those people in the room will know who one day those people will be.

They are very confident. They know the names of these people. They are very curious because they share the same name: they go by the name of somebody else. If you believe it's somebody else that will get dementia you don't change your public health happens, because he was right when only 10-5% will change their life styles.

Civil responsibility: we all own dementia to enable people to live well: that is something I want to concentrate on.

It's about times that are moving fast. We wrote a paper in 2013 that we presented at the world Alzheimer's Conference in Australia in 2014. This is one of those pages. It talks about by a 2030 living in a dementia friendly society. We are talking about education, schools. Little children don't have prejudices; they don't have stereotypes, and they have open minds, and you can go into schools and educate them about a person with dementia. An aspiration I have is to drive out the stigma of dementia by working in schools, and I am hope young children will come out from schools and say there is a career for me for caring for people living with dementia. It's the schools and work place. It's open design. We must not shut dementia away into hospitals and care homes.

But that was written in 2013.

I am not happy with term, "Dementia friendly". We should not have to teach people to be friendly. Kindness, friendliness, it's a human quality. We are talking about dementia inclusive communities. It's about including people in the communities they live in. I talk about people who are affected by a dementia, to include those that are caring as well. Most family/carers have with somebody with dementia who is an ageing wife or a daughter or daughter-in-law who is caring for her own children working, but also having a responsibility an ageing parent.

In Japan there are 4 million dementia friends contributing to dementia friendly and societies and this has been a Movement in the UK since 2012. There are over a million dementia friends in the UK.

In Bupa I launched dementia buddies: it's a 20 minute E-learning platform about awareness and information, to build-up knowledge of 20 minutes. It is not about disease. I don't believe that statistics

and knowledge add to care and compassion but it's about hearts and minds. You build-up a sense of the person and what those people who are going through; the pledge; there is a non-realisation they will have to think about their own pledge on the final slide. They make a commitment. They make a commitment to improve somebody's life, who is affected by dementia.

What I say to our people is don't leave your skills, talent and passion at the front door of the work place; take it back home with you and do something in your communities.

Our Secretary of State for Health, Jeremy Hunt, stated in 2016 that the UK will be the most dementia friendly. Look at the language; it's about dementia inclusiveness.

Our previous Prime Minister, David Cameron said by 2020 there would be additional 3 million dementia friends and people would live in dementia friendly communities.

Is this a health economic solution or the right thing to do? In part, it's a health economic solution because there is less crises of health care and premature admissions to health homes. Is that the only reason? I think not. I think it's the right thing to do. To refer back to what is dementia: it is an intellectual disability, and you need to listen to them and say "What makes my life better?" They want to be respected and have a life that is meaningful and a community that acknowledges their strengths. And we want to bring those words to dementia care so I am more optimistic, not because of the wonderful medical breakthrough, but because we are changing the narrative.

Thank you (Applause).

CHAIR: Our next distinguished speaker is Anja.

Your floor now (Applause).

ANJA HOTHKER: Good morning.

Thank you for having me here. I would like to present products developed by Toyota and used in health care.

I would start with an outline of my talk; a short background of the partner development, and then I will present 3 robots for health care that Toyota has developed: the GAIT and the balance and patient transport robot, and then I will show some future human support robot and then I will finish with a tentative implementation plan.

So, a few words about the history of robotics in Toyota: Toyota started to use industrial robots in the 80s and used the underlying technology to develop partner robots, so robots that are supposed to be friends for the people, and the concept was presented in 2005 in Japan. Two years later we announced for the first time an implementation road map.

Okay this is a slide with a vision of partners we have, and I will not go into detail, but the key idea is we want to provide mobility for all, not just in the car but in all situations of life and we want to have self reliance for people living in our society. This we can apply in different areas like senior life, and also in the home environment.

The reason for that has been explained earlier by other speakers that we are living longer and it's going to be increasingly difficult to take care of the society, so we want to make sure that they can be self-reliant. So these are the 3 robots I want to present today. We have the Gait and balance and patient. I will start with the Gait exercise assist. These are videos or GAIT training that have leg paralysis and you can see there are different solutions and you can see the Knee Ankle Foot, and on the opposite side you can see the Ankle Foot Orthesis, so in some cases stand and some swing easier. So we want to combine the best of those.

We developed this robot unit which has a stretch of the knee-ankle-foot, and this is communicating, and will just give enough support that is needed for helping the person do their training.

You can see a picture of the whole system. You have several screens for feedback and there is a tread-mill walking. I will show you a movie so you can understand how it works.

The person can look at herself when she is walking. There is a screen that the Doctor is using to monitor and the data is collected on the sensor which is displayed on the screen so they can see how exactly the patient is progressing. It's very easy to wear. You can strap it on in just a few minutes.

We have done some evaluation and actions in hospitals in Japan to get user feedback for us to understand how well our system works from a medical point of view and user point of view, so we want to really understand what the patient needs, what the care giver/s need, and develop further based on this feedback.

Next up is the balance exercise assist: if you look at traditional balance training, there is a lot of different ways to do that and they are quite simple so you could have a balance board where you stand and try to balance or you could stand on one leg to exercise that. But often these exercises are too hard or too easy and there is no feedback on how the person is doing. Most importantly it's quite boring. It's very difficult to keep motivated to follow this type of training.

This is the device that has been developed. This robot has a self-balancing base that the person has to stand.

This is the set up, previous to the set up one, and the game is set up and the person is looking and trying to control that. You can see the training history here and some guidance for the operator of the system.

So we can adjust the difficulty to each user depending on how well he is scoring and the user gets feedback and it's motivating for the user.

So we'll look at another movie.

Here is the person is controlling a tennis game by a balancing on this device. If he wants to go left, he has to move a little bit left. Depending on the Games you play you can train different types of muscles.

At the moment we have 3 games: there is tennis, skiing and rodeo.

Again we have brought that to hospital to get the feedback of the users and we are now trying to evaluate how well it works with different patients and get doctors' feedback to see how we can improve this device.

Here is a result. If you look at how the person was walking before using the training and then after 8 weeks of training you can see that there is already some significant improvement by using this device.

The last robot I want to introduce from this is the patient transport robots.

As you know in hospitals, in care centres, lifting patients is a very important task and there are many issues with this task. Care-givers might get backache and there is a high risk of accidents and it's uncomfortable for the patients as well as the care-givers. It's not a very nice thing to do. So the no lifting policy is becoming increasingly common in hospitals and care centres.

We have developed a patient assist robot to lift patients to the chair and the toilet etc in the room. This is supposed to reduce the burden, and to treat patients with dignity.

I have a very short movie that shows how the patient leans into the robot and then is lifted up and then the care-giver can easily lift him in the room.

The future robot: this is the human support robot and we would like to make a robot to help disabled people and elderly people at generally to make people's life easier to be self-reliant. We have an independent self-support robot that is picking up objects, and then there is preventative health management and how to do health care assistance.

Here are a few videos. So the left two videos were recorded with a patient that had muscular dystrophy. There are easy tasks here: it's quite easy but for a disabled person they can't do it by themselves but they are happy to get this support.

This video shows a person in a wheelchair and the robot is helping to pick up things from the floor.

This robot is very much in the beginning phase and the feedback we got from the users was quite enthusiastic because for us developing this robot is easy but for us, people that need this robot, it's such a difference if we would not have to ask people to help for these small things that are so easy for people with no physical problems.

I am finishing with a tentative implementation plan. We have now got 3 clinical robot trials started in Japan and we hope to soon start to sell this robot in Japan and hopefully the robot will be exported to US and Worldwide. We are doing trials and facilities but the development is not that far yet. We have provided as a platform to Universities to speed up the development and we will start probably around 2020.

This concludes my talk. Thank you very much.

(Applause)

CHAIR: Could I use this microphone here? Yes. Thank you very much. I think we had four really speakers there, combining different aspects, both informative, insightful in a personal way, and also powerful and fascinating in the sense of some insights into the technical possibilities of robotics, and so forth.

Questions: let's see if we can begin to have a debate. We have a little less than 30 minutes. I'm looking for the first question. This lady here? The lady at the front here.

FROM THE FLOOR: Thank you so much for your attention. I really appreciate it. So the world is ageing, so, accordingly, the number of [inaudible] is - it's not only one country's problem, it's now all of our problems, so, I would like to know is there any perfect preparation for that? Or we should go with this programme? Actually, what can we do? That is my question. What can we do in a very practical way?

CHAIR: Okay, let's see if there are some more questions, but, in the meantime, someone wanted to have a go at that? It's now all of our problem, and you want to know if there is a perfect preparation for it. Is there a perfect preparation?

LORD FILKIN: No, but there are a number of things that we know matter a lot. It requires change at probably three levels: at the individual level, the societal level, and the government level. At the individual level, I think it's getting across some of the ideas that we're going to live much longer than we expected, that later life can be very good indeed - it's not something to be frightened about - and that we can do quite a lot ourselves to increase the prospects of having a better later life. Those are easy to say, but it is very difficult to make those shifts in attitude and behaviour that people need to make, to save more, to work longer, to adopt healthy lifestyles. But that's the first block of changes that we know if we, as countries can make that happen, and help individuals to do that will make a big difference. The second one in society, we have to shift our attitudes, that we are less negative about disabled and old people, that we see we have to change how we think about them, keep them in employment, and ensure they're part of society in an inclusive way. Lastly government, as I was touching on, there are massive changes in attitude and planning needed by government. Most want to ignore it, and not face up to it - including in the UK - but governments recognise this is happening, it has great potential but requires big shifts both in thinking how we support people financially, on pension policy, how we shift the way that our health and care systems work, and how we recognise that old people are potentially, or more of them, a great asset for society. Now, we really need a conference to answer your question, but those are some of the three big areas of change that we know need to happen.

CHAIR: I'm going - Graham?

GRAHAM STOKES: I agree with everything that's been said, and my own worthwhile addition is that it's always said that dementia is the greatest challenge of old age. I actually believe it is the greatest challenge of middle age. Everything that we know about reducing one's risk means that we have to change our lifestyles and habits, and diets in our thirties and forties, to help us avoid chronic disease and dementia in particular in old age, but also because of the numbers, and the great challenges to government, most care is delivered by informal family carers. We have to do far, far more supporting family carers who are in their forties and fifties who are caring for their ageing parents in their own homes who are living through their 70s, 80s, and 90s. I see it primarily as a challenge of middle age, not confining it to a challenge of old age.

LORD FILKIN: He's fundamentally right. If we think about having a better life when we're 65, it's too late. Whole shift of attitudes and preparations well before that, and the family point is critical, because many societies are changing, and the family has a different position. How do you support more extended families to support older people?

CHAIR: Excellent points. Shall we see whether there are more questions rather than simply dwell on that one question, big though it is. The lady at the front over here.

FROM THE FLOOR: You said that education is important in mitigating -

CHAIR: Would you like to tell us who you are and stand up when you speak if you can so people can see you?

FROM THE FLOOR: Sorry, my name is Irene Hood, and I'm a person with mental health problems, and I'm just here as a member of the public.

CHAIR: That's great.

FROM THE FLOOR: Sorry, I need to read it. You said that education is important in mitigating the effects of dementia. Is there a specific positive tripe of brain actor use, or is it just general use of the brain that helps?

GRAHAM STOKES: That's a really good question. It's the latter. We don't fully understand the mechanism. The probability is as you expose a young brain, that it's a growing organ, to stimulation within a formal education setting. Either the brain literally ends up being larger, or it functions better. In likelihood, it is a combination of both. The evidence is clear: it is robust, that the longer you spend in education, the greater your chance of not getting dementia. The evidence is not quite so robust when you look at an intellectually stimulating lifestyle for adults. Now, I think common sense is outstripping science at this point. I think probability we will one day find those who live more intellectually stimulating lifestyles do reduce their risk of getting dementia, and by an intellectually stimulating lifestyle, it doesn't mean that you have to go to evening classes and adult learning experiences; it means using Europe imagination, listening to the radio, music, getting out there, having conversations, keep that brain active. That probably does

reduce your risk, but, scientifically, the evidence is not as robust as formal education as when you're young.

LORD FILKIN: You did make a strong point about physical exercise as well.

GRAHAM STOKES: Yes.

LORD FILKIN: Taking an interest in education alone isn't really the recipe that we you had - we should live healthily throughout our lives as so far as possible. We are talking here about the life course approach to both avoiding the onset of conditions that disable us in some ways, and actually is really, really important to understand the points that, whilst we are living longer, life expectancy is increasing. Disability-free life expectancy is not increasing at the same rate. The widening gap between those two is a really important point for pretty well everybody to take on board. I can see a hand going up at the back there. There are several. First of all, the person at the back, and this lady at the front, and then the person at the front here. The person at the back?

FROM THE FLOOR: I'm Jim, from Inclusion Scotland. Is there a link between epilepsy and dementia?

CHAIR: I tell you what, Jim, can we hold that question? Graham, that will be one for you. The person at the front here? That lady there, yes?

FROM THE FLOOR: My name is Dana, Roth from Israel. You addressed the general population. If you think of people with disabilities who have less access to education, and also their lifestyle, in terms of is there any thought about their physical activities, and bringing this information to people who have been living with disability so that they can also consider these preventions to be addressed?

CHAIR: Can we deal with those two at the same time? Then we will take this person here. Those three. We will see how we go. We seem to be focusing in on dementia to some extent but let's broaden it out as welfare system. The man from Bhutan.

FROM THE FLOOR: I'm from Bhutan. My comment is for the first speaker - you mentioned about Bhutan being the land with a gross national happiness, so when we came from Bhutan we thought we were very happy and everyone was sad. As soon as we entered the airport of Edinburgh, Scottish people are more happy than us! [LAUGHTER]. Actually, we came to teach happiness to Scottish people, but now instead we had to learn happiness from Scotland! Which means people from outside think Bhutan but, from Bhutan, we think the outside world is happier. I think happiness and sadness will very much depend how you interpret and perceive. This also goes with the disability issue, because disability is a very wide - a challenge for blind people is different from challenges of wheelchair users, and being likewise, I think unless we are very specific when talking about disability, it is really complex, and we are ourselves, someone with disabilities, are getting more confused, actually.

The question from our last speaker, is that now the Toyota is making a robot that will help in the domestic service, so we are very excited that, one day, even being disabled we will be helped by robots, because

asking people to help, sometimes they have no time, even if they have time, they're not often very helpful because they themselves have their needs, so robot, we are hoping will do much better than the - but the clarity I want from the Toyota is kind of domestic things can they do, and will they instead break our neck because they can't think? It might be something that need to be taken - care. Again, going back to the GNH. A few months ago, I was reading a story in the media saying that one king saw his servant very, very happy, and he asked his - and he asked the adviser, why is he happy? He said, "Your Majesty, he has not joined the 99 club." The King was not sure what it means. Then, what is it? Then this adviser said, "Keep 99 gold coins at the door of your servant, then he will join." Then the next day he saw the servant, saw their bag was full of 99 gold coins. He was wondering why there was 99, not 100. So, from that day onwards, he was very much wanting to make the last 100 coins, so he was never happy, because he was chasing after that one coin. So maybe Bhutan is happy because we haven't joined the 99 club. That is my answer, sir.

CHAIR: Thank you very much. [APPLAUSE]. Three great contributions there. You've got common ground with the Scottish people, by the way. You notice that they wear kilts as well! Okay, so I'm going to ask Graham to come in first with the dementia-related questions.

GRAHAM STOKES: The first question about is epilepsy a risk for dementia? The short answer to that is no. It's actually the case that people with Alzheimer's disease are vulnerable to have epileptic seizures but it's not epilepsy causing Alzheimer's disease, it's a consequence of the brain damage caused by the Alzheimer's. An excellent point, the second question: nobody should be marginalised from having occupation, stimulation, education, for the benefits that accrue directly from those and also to prevent them getting dementia in later life. We just have to be more creative and more open to encourage and enable there to be access to education, occupation, stimulation, for people, regardless whether they be able-bodied or not.

CHAIR: Geoff, there was a question there which I think was related to something you said?

LORD FILKIN: I think the Bhutan question is interesting. Most of us want to feel well enough and happy enough in our later lives. We don't expect to be laughing all the time, but not to feel miserable happens to all of us. We analysed the data on that, on Begg data sets on thousands of people, basically asking them the question, how happy were you yesterday on a score of 0 to 10. They start to expose that what you would expect, that people who are really, really worried about money, not just poor itself, clearly are less happy. People who have got a health problem that really causes them pain or depression, clearly, it is more difficult to be happy. But two fundamental issues were probably how fundamentally important relationships are. Even if you are poor, and even if you've got a health problem, if you've got good relationships and a sense of meaning in your life, you're much more likely to be happy. I think that links to the inclusion point. If we put disabled people or old people away in a box somewhere and they're not in

contact with friends and family, they are more likely to be unhappy. Therefore, it is crucial that we recognise that it's relationships that fundamentally make us happy to be - my greatest joy last week was playing with two grandchildren. That's what gave me the joy last week. And that's true for many people. So recognising that the money and the health matter, but, if we can get the relationships, and keep a positive attitude, celebrate we've got 99 rather than we haven't got one, all these things make a difference.

CHAIR: Does this bring us neatly into the robotics questions? I think some people may have been wondering what kind of relationships we can have with robots, but coming in and answer the points on the robotics issues which the speaker at the front there asked?

ANJA HÖTHKER: I think the question was which tasks is the robot going to do? At the moment, we're looking at tidying up, and moving things in the apartment. So you have a big mess on the table, and the robot is going to put everything in the right place. Things like filling your washing machine, filling your dishwasher, and also to find objects like, you don't remember keys are so the robot will find them so really practical tasks. Then I think your point up had was the robot breaking your neck. You should not be worried about that because this is something we take very seriously. There are lots of mechanisms in our robot that will make sure it's going to stop as soon as there is a dangerous situation. For example, if you touched the robot base with your foot or anything, it would instantly stop. There are some sensors that would sense if there is some contact, and then the robot will not force the movement if it is not necessary. So we are really taking this seriously, and we know that, if we want to bring such a robot on the market, we have to be compliant with these kinds of regulations. No worries.

CHAIR: I would like to bring Ann in as well. I got a question that I want to put to Anne. I don't know if she will be able to answer this, but I know that she was expressing great indignation as an MP when a member of I think the Conservative MPs suggested that a good way to ensure that disabled people were more likely to get work would be to allow employers to employ them at less than the minimum wage. I think one could use that suggestion in relation to older people or disabled people - maybe it was older people that it was suggested?

DAME ANNE BEGG: No, it was disabled people!

CHAIR: I've certainly heard employers say that if we insist on banning zero hours contracts, there will be less opportunities for older many of whom are willing to work a very limited number of hours, very flexibly. Of course there are dangers in there, but any comments on that?

DAME ANNE BEGG: I think there was a frisson went around the room when you said about disabled people working for less. I did have a spark with a Conservative MP around that. I was just thinking about getting a robot to empty the dishwasher. I can do that perfectly well but wouldn't it be great to have a robot to empty the dishwasher, it is something nobody likes doing! My point about when there was a

suggestion that we should be - the minimum wage it was, originally, should not apply to people with disabilities, I was outraged by that, because I don't think that's the right message. If we want to encourage more disabled people into work and people who can't perhaps do a full-time job, then there are ways within the law how it exists in doing that in allowing them to get that experience without the indignity of getting paid less because you happen to have a disability. And the problem with that is that we never know where to draw the line. Did that mean because I had a disability as an MP I should get paid less than my neighbouring MP who didn't have a disability? Of course not. Nobody would think that that would be the right thing to do. So within the benefit system, the social securitisation in this country, we already have something called permitted work which allows people to keep their disability benefits but allows them to be in work as well. My argument was that, if you want to encourage disabled people into the world of work, then you have to treat them like other workers. You can't discriminate, or you should not be able to discriminate against them because that undermines the whole purpose of getting into work. I was also going to say something about I think it was a lady over here who said something concerned about the basically the sedentary lifestyle of many disabled people might mean they don't get the exercise for the life specific tansy maybe is shortened, and it is absolutely right. But I'm probably the wrong person to answer that question because I use my disability as an excuse for not exercising all the time! But I get my stimulation in different ways, and it is coming along and doing conferences like this, and the other things. So it doesn't have to necessarily be a physical stimulation if that physical stimulation is perhaps in some ways potentially going to make the disability worse but it's about being stimulated. It's about expectations. I think from the Paralympics, a reason for watching the Paralympics is that you have your mind expanded on what people with limited function can do, although sometimes because one person can do it, there is a tendency for friends and relatives to say, "Well, why can't you do that?" When we can't all be Olympic athletes. I think sometimes it is about raising our expectations, raising our eyes above the horizon of where we are now to think that these are challenges that, as disabled people we can take on. If we don't have those challenges, if we're not tested in that way, then, yes, we will have a sedentary lifestyle, and our life specific tansy, and our quality of life will be affected as well. It is about making sure those opportunities are there, the opportunity to work, the opportunity to play sport, the opportunity to participate, to be part - I suppose, mainstreaming is the word that is often used, just to be part of society, and society is shaped in a way that we don't diminish the role of the disabled person by paying them less, to get back to the first question I was asked, but, actually, we are valued as full members of society, and the society is shaped in a way that you don't notice that we - you don't notice that you're having to do, or you should not have to be doing anything different or special because society is framed in a way that takes account of everybody's needs, regardless of what those needs might be.

CHAIR: Thank you very much, Anne. [APPLAUSE]. We're nearly at the end, so I'm going to look around. I'm going to take one question from the back, and one question from the front. The gentleman from the front here first?

FROM THE FLOOR: Hello, everybody. I'm Rex Khan, physical therapies from Hong Kong, Fu Hong society. It's my greater honour to say something, to stand on behalf, to extend our deepest gratitude to to you all. The question I want to direct to the gentleman talking about the dementia: as a physical therapist for 34 years, I have limited experience in dementia, especially for persons for - I want to ask you two questions: the first question is how to have early-year differentiation mechanism to try to screen out those eligible if patients so that physical therapy or any other professional can have some timely intervention. Secondly, for your dementia study, is it possible to give us some insights so that we can go abreast with the time? Thanks very much.

CHAIR: Thank you. Graham, I'm going to ask you to hold that for a second.

FROM THE FLOOR: My name is Colin Lowe, RNIB, and the UK House of Lords. Being in the House of Lords is supposed to be good for life expectancy, we're given interesting work to do, warm and well fed. Perhaps we can all learn a lesson from that. My question is this: all the speakers have been telling us that everything is going relentlessly up, life expectancy, dementia, which is associated with greater life expectancy - my question, I suspect it won't be an easy question to answer because there hasn't been enough time or data, but I just wonder whether the financial crash worldwide - nearly worldwide - and the austerity policies which it's generated have constituted a countervailing force to everything going up in up?

CHAIR: The organisers have agreed to give us another hour and a half to deal with those(!). Did you say no, you hadn't. I'm sorry. We're right up against the stops. This is your answer in a lift. Graham?

GRAHAM STOKES: The question that you made about identifying people early so they - my very brief answer that is one of the greatest challenges we have when it comes to therapy intervention, drug treatments. Unfortunately, because most people with dementia are aged, and there are so many myths about ageing, what that means is that people with dementia progressively forget and become more memory-impaired, people just think that is old age, and we only hence see people with dementia when they're quite well advanced, and, as a consequence, interventions, and therapies are going to be less effective. It gets back to what is said: it's changing the narrative, and appreciating as you age, you can live healthily and well, and anything that pertains to dependency, muddle, forgetfulness is a clinical aberration, not just to be assumed that is people getting aged.

At the risk of of offending people, I'm going to ask Geoff to answer the last question because it related to one in the House of Lords, he's the best qualified to do that, but he's only got one minute to do it at the most.

GRAHAM STOKES: It's an important question. Clearly, if we have less growth, it's more difficult to cope with increased demand. If, as a consequence of the UK deciding to leave the European Union, our growth and investment reduces, it will inevitably mean it's more difficult to fund increased expenditure on the NHS and social care. Lots of economists will say that. Similarly, if we have very low pay, and uncertain work, it will be harder for our 30-years-old to save enough money, or to recognise they've got to save enough money, to be not poor in later life. So there is a relationship between growth and later life well denying. But it's much more complex than that. The thing I always say is that if only all fuss could recognise that we could adopt healthy lifestyles and stay with them, right from our 20s onwards, we would significantly reduce our risk of exiting from the labour market too early, being poorer later on, and getting illnesses earlier. We don't guarantee we will avoid those thing, but we increase our chances, about, of course, living a healthy lifestyle doesn't cost much, so it's separate from GDP growth or economic growth. Clearly, there are some costs, but walking rather than taking the bus, not eating unhealthy food is a thing we can all do.

CHAIR: Thank you very much. That brings us to the end of this session. It's been a really fascinating discussion. I would like to thank each of the four speakers, and also my co - what do we call ourselves? - co-chairperson, moderator. Thank you very much, everyone. Thank you for the questions, and the very intelligent and interesting discussion. [APPLAUSE].