

**CENSIS Conversations**  
**Home telecare**  
**Conversation transcript**

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Gemma Milne:

Welcome to CENSIS conversations my name's Gemma Milne, science and technology writer and I'm here to host some of these brilliant conversations around technology innovation brought to you by CENSIS.

Now, CENSIS is Scotland's Innovation Centre for sensing imaging and Internet of Things technologies. CENSIS normally holds lots of events throughout the year gathering people from across different market sectors to network and share ideas, however the challenges we've all faced around COVID-19 has meant they had to pause their regular event schedule and find new ways to engage with their communities; so while you may be unable to attend a CENSIS event just now they found a way to bring it to you in a new online discussion panel format.

Now our conversations will touch on innovation, engineering and technology from the perspective of technology developers, service providers and end users we're going to be looking at examples of what's happening just now, challenges organisations are facing, and how sensing, imaging and IoT are being used to overcome technology barriers.

For this conversation we're going to be exploring some of the challenges and opportunities for change in telecare; that's technology that's used to help older or vulnerable people to live independently in their own homes, and we're going to look at how new IoT technologies and digital infrastructure can be used to introduce new practical solutions in this space.

This conversation won't try to address all of the challenges associated with social care and caring for people at home, it is really going to be focused a bit more on what technology can do to enhance the quality of people's lives. So with that over to the conversation.

Gemma:

Hello everyone thank you so much for joining us for this conversation all about telecare and telehealth before we get started let's have a round of introductions.

David:

My name is David Brown, I'm Business Relationship Manager with the Digital Office for Scottish Local Government and I lead the analogue to digital directorate programme for the office. Prior to moving in to this role, I managed a range of frontline services for the health and social care partnership in Edinburgh including the telecare service.



Glenda:

Hi, I'm Glenda Cook and I'm a Transformation Manager in the Older Person's Service at Glasgow City Health and Social Care Partnership. One of my more recent tasks is looking at telecare and the transformation required for the digital age.

John:

Hi, my name's John Griffiths. I'm founder of Secure Sensory Innovative Design who built SafeHouse, a LoRaWAN-enabled telecare next generation digital telecare service, and we were good enough to have won both phase 1 and 2 of the Glasgow Can Do challenge and really looking forward to the next year working on telecare in Scotland.

Stephen:

I'm Stephen Milne working for CENSIS. I lead on the healthcare and life sciences themes within CENSIS, so am involved across a number of different programmes to do with telecare, so looking forward to the discussion today.

Gemma:

Thank you all so much for joining us today. We're going to get into the current status status quo a little bit, about what the opportunities are and then thinking a little bit about the future, but before we do all that I think we should do a little bit of scene setting for those who are maybe slightly newer to this topic, or needing a little bit of a crash course. David I'm going to turn to you, wonder if I could have a little telecare 101. What is it and why are we talking about it right now? Why is it important?

David:

Yes no problem. So telecare in Scotland's been around for nearly 30 years. It currently provides services to about 180,000 people in Scotland and these are provided by local authority health and social care partnerships and third sector organisations. They're a really vital cog in healthcare system in Scotland. I can talk to the service I managed in Edinburgh well obviously and in terms of performance, data from last year, Edinburgh supports about 9,500 people across the city, they handled nearly half a million calls in that time in a year and physically attended 12,000 people that year who needed some sort of emergency help, and the transfer rate to hospital was 0.3%, so for me that really kind of demonstrates the preventative function of telecare across Scotland.

However, if you speak to most people operationally involved in telecare, I think there's an understanding that, whilst the teams do a fantastic job and the service is really important - and I say that as somebody who is really passionate about the sector - it still is very reactive. So there's an opportunity with digital telecare, to shift services from this reactive into a proactive preventative model. So digital telecare - it was announced by all of the main telephony providers in the UK around about 2017, that they would be switching off, decommissioning, their analogue telephony infrastructure.

So that's all the old copper lines that go underground and have been the kind of main route of connectivity for telecare services for decades, and these would all be replaced with a digital solution, an all IP solution.

That programme of work doesn't have a significant impact on standard telephony users, but for telecare users, for telecare services, it does. So, at that time Scottish Government tech programme commissioned the Digital Office to start a programme of work to support some early adopters and health and social care partnerships and telecare services through that journey.

So at that time, three or four partnerships joined the programme and that number has grown over the last couple of years and these partnerships have been working extremely hard to move through lots of new activities, so lots of new elements that were never considerations for existing analogue telecare services. So these services have traditionally being very locked down, very little risk around loss of data, cyber security for example, so these partnerships have been working through all the kind of key activity to learn more and to kind of collate and condense this learning down into an online digital repository which is the digital telecare playbook.

And the digital telecare playbook is really a step by step guide for services on how to progress from an analogue to digital model. So some of the feedback we've had so far from partnerships who have started to use some of the resources in that playbook has been that is really kind of shortened and streamlined their journey. So the plan for the coming years - so we know that telcos have advised they will be will be completing this work by 2025 but actually we're hearing recently some of the timescales have been accelerated to 2023, so we've got a couple of years for services to get through this process.

So first and foremost, this changes about support services to keep the lights on and keep delivering services, and I've mentioned already the number of people it supports and how important it is in terms of the wider system but actually, probably, one of the more exciting bits of the programme is not just about carrying on doing what we've always done, it's about actually the opportunity to innovate and do something a bit smarter; and a bit preventative as I said and when you talk about your innovation and operating about a bit more smarter, it's about joining telecare in a much more can effective way with the healthcare system.

Traditionally telecare services have maybe sat off to the side of health and care and all the kind of data, all the really rich data these services hold isn't used effectively, so digital telecare gives these services the opportunity to use data better, start to get into things like automation, predictive analytics, and actually to start to intervene before people fall, or before people need kind of crisis help. That's the programme in a nutshell.

Gemma:

Amazing David, thank you so much about for that 101, that's given a really brilliant overview, and there's so much there were going to dive into in this discussion. Before we do that, Glenda I want to turn to you and sort of ask the question about - what it currently looks like more from a sort of user perspective. What are the current challenges, whether it's to do with the current system or the current kind of technology that's there, that perhaps this kind of shift, this kind of opportunity might be able to address.

Glenda:

I think I'd echo what David says about telecare hasn't changed much in 30 years and that that's one of the experiences of the service users now, it looks exactly the same as it did 20 years ago.

I was an occupational therapist 25 years ago and I remember hearing about these fantastic devices that opened doors and shut curtains, and so when I got involved in telecare 25 years later I thought we would see huge progress, but in actual fact it's the same button and box scenario and I think that reflects some of the differences for our care groups who tend to be marginalised already and quite vulnerable.

I'm sure we'll talk about the demographics and some of the social and digital exclusion, but for most of us we are already using digital IT for our banking, our shopping, all of that, and when you contrast it with this button and box it is really desperately old fashioned. So it's hard I think to gain traction in younger people and I think it's been a little bit forgotten for some of the older people. And one of the biggest challenges I think we have in the public sector is that to move from analogue to digital is potentially extremely expensive and given the current economic climate, we really only have one shot at this, and if we spend all our capital making the wrong choice, or buying something very basic or just repeating the analogue system but digitalised, we will be stuck with that for 15 years and if you look how much over the last five years digital has developed, our client base, our service users, will lose out another 15 years of innovation and development. So I think for the service users just now, it's something that tends to make themselves and their families feel a bit securer, but it is notoriously... it's not efficient or efficacious.

We did a study in Glasgow and as part of the Can Do challenge, we discovered that over 80% of call outs for certain pieces of telecare equipment were false call outs - and that actually mounts up to hundreds of visits a month of people visiting people in their homes. Overall I think it does a good job in making people feel a bit secure. Undoubtedly it helps keep people at home, and I think one of the most interesting stats that we came across was that, if you press your telecare button and one of our responder services goes out to see you after a fall, there's a 90% chance you will stay in your own home. If the ambulance is called there's a 90% chance that you'll end up in accident and emergency.

So what I'm keen to see is us being able to grasp the best potentials of digital while trying to keep the lights on from the analogue switchover. And it's coming closer and closer and it is, it's a national situation so we're all very much in the same boat, but I think we've we are cognisant that most of the main telecare players haven't really changed their offering much in the last 20 years and we need to work with them.

We were introduced to the Can Do challenge from actually doing / trying to make our own service more efficient. From that our colleague suggested we apply for Scottish Enterprise money and from that we met people like John and SafeHouse and that was really a game changer for us because it's the first time that we began to understand the industry perspective and the commercial aspects of telecare. And then we were involved with CENSIS as well - so it's a new experience actually for health and social care partnerships to be going to industry in this way and I think it's a new experience for us trying to understand what drives and motivates them and how we can actually all work towards the best goal for our service users.

Gemma:

This switchover that you're speaking about as you say could just be a 'keeping the lights on' moment, hopefully if it goes well that would be the kind of minimum, but of course this is

about opportunity, right, in being able to say OK digital opens up so much more that we can do. It's not just about going from a button to phone someone or a button that you know sends an email to someone, it is something so much more.

So Steven, I'd like to come to you to just give us a little bit of a flavour and CENSIS perspective. What does this opportunity look like when you start thinking about integrating sensors and IoT systems? What's the sort of vision that this could look like maybe give us some examples?

Stephen:

Yes I guess the first phase as we were saying, is replacing like for like. There's a lot of challenges around cyber security, around communications. One of the major themes at the moment is switching over from the analogue phone lines to digital, so predominantly looking at kind of using cellular networks for communications but at the moment cellular networks don't cover the whole of Scotland geographically, so there is going to be challenges there as well. So, we see a kind of, this being the first stage whereby there is some innovation around potentially the comms area, around how the hardware can communicate back and actually send the messages back to the responders, and then long term once that problem starts getting in place, there's lots of new and additional services can get built on it.

At a high level at CENSIS we kind of breakdown technology into kind of the hardware, the communications, and the software elements. I would say almost everyone of those elements touches telecare and is going to move into telecare in quite a fast way I think. I think you're going to see the commercial market move really quickly whereby new technologies, a lot of them are driven by kind of power efficiency on the hardware side, so you're starting to get new devices, new types of wearables that will start emerging. Sensing technologies that mean that you just go about your daily activity in your house, you don't have to be aware of the fact that you've got sensors monitoring activity, looking out for, like, trend data on how you're living. Everything like that will start to gather that and then that will build up and be able to kind of give a picture of how you live and what your longer term health is in your house.

So if you do start to deteriorate, it will get picked up early, it might identify things like potential fall risks. There's a few companies already started to provide products in that space using a new digital technologies. Just by measuring what you class as fairly simple metrics like kind of step counts, how often you are getting up and down from a seat, things like that. You can start to build up a picture and a profile of someone from a falls perspective. But like, longer term, it just seems this whole telecare being used as a kind of fundamental infrastructure for in home monitoring, so will lead to loss of other different types of healthcare. They thought for a long long time about this co-vision of telecare and then telehealth - you see them kind of moving together and starting to get kind of combined types of services you can provide through that.

Gemma:

It also makes me think of the conversation around smart homes.

Stephen:

It can mean many things to many people. A smart home could be everything from having a kind of Alexa device, or it could be just a kind of smart alarm system or things like monitoring how

often you are opening doors, if there's windows left open, fire alarms, you might have connected fire alarms, if there's a fire alarm goes off you'll get an alert, you might have a connected doorbell. So it's really anything that gives you more information than you would have about your home and you can start building up that profile longer term to understand how to kind of be in your house more effectively.

There's also there's also a big push at well the moment around healthy ageing. So a move away from just having services purely targeted at people when they need it, to having people having devices in the house beforehand, and then as you age, you can kind of build in a bit of the wellness type aspects around living at home, so things like indoor air quality, understanding maybe energy, heating, humidity about the home, having that type of information. So that can start kind of maybe telling people actually - your humidity in the house is really high all the time, so maybe start opening windows, that will give you potentially better wellness from your house. So you start to see a lot more of that technology, which will kind of naturally lead into more kind of care based services as you age or potentially need new or different types of services.

Gemma:

Amazing. So you've touched on, well all of you have touched on, both this idea of innovation and trying new things, coming up with new products, new ideas and also I guess the commercial opportunity. So I'm going to turn to you John, to give us a little bit of a feel for what it is that you guys are doing at SafeHouse and how you view this moment, this transition that we're in right now, as as an opportunity for new ideas and new kinds of businesses

John:

Yes thanks Gemma. We've been looking at this particular area since 2013, so we are quite mature in looking at IoT and how that works. We were originally very much interested in IoT Scotland's roll out of Low Power Wide Area Networks, in that it was an opportunity to roll SafeHouse, which works on the low power wide area network, at scale without having to build a network. The difference in cost is significant. On a monthly basis, it's about a 20th of running a normal cellular system. So when you start with that platform and that data being able to be transferred back, you can then build devices which are relatively sophisticated.

So what we did was we looked at producing a product which took standards of standard communications in the home which everyone knows, called Bluetooth, and allow an open standard, and in that open standard, we can allow people to build their own sensors and they could then connect them directly to the network, and the data could be collected en masse in a geospatial way. So you could start looking and using this great power of AI and computing. We were very lucky to win the Can Do challenge which Glenda mentioned earlier and what that did was enable us to look at the next generation of telecare, not being a dumb button, but actually being a conduit of sensors feeding back into a central AI type environment. And because it was geospatial, you could then build very complex models on top of that so you could predict healthcare issues. Even on the very basic things, of people switching the heating on, you could pick up dem, depression.

Technology is going forward. In the phase two of the Can Do challenge, we're building something called SafeHouse AI, to say how can we keep people safer at home without visiting

them, if they are we know they're at risk. And we had to assume there was no Wi-Fi, no cameras, and no wearables. And that was very tricky because you then had a problem so how do you know without without a camera that somebody's moving around their house or fallen over. And what actually came of it was, we used thermal imaging, and using some very clever AI and thermal imaging, we were able to identify people who had fallen at 99.9% confidence.

Amazing really, when you think about it. So the technology in IoT is moving ahead leaps and bounds, and more recently with Covid what we've been requested to look at is, using the same thermal technology, is to take the temperature of the individual while they're sitting in their home, and then identify if they actually become, are becoming ill before they even really are ill, which is quite a big difference from the 20 year old button.

David:

I think Glenda made the point earlier about the devices available at the moment have not changed significantly for a long time, and one of the interesting things for me in this role, and engaging with partnerships across the country, is that there is lots of appetite at operational level to improve that offering. So health and social care partnerships are really keen to start getting in to things like wearables, like citizens connecting their own devices with networks like consumer technology. And I think users want something better than what they have at the moment, you know, I mentioned consumer technology - you can now purchase an iWatch which has much better falls technology than most of the devices in the field in Scotland at the moment. So I think the two things are happening together and I think there's lots of really good appetite and energy. I think the responsibility in the programme is to make sure that we as I said, be kind of building things like procurement frameworks that encourage innovation and support innovation.

Glenda:

I think what I personally see is this possibly more of a kind of a public and a private offering emerging. So consumers in their own right can purchase a lot of very good equipment and technology, and they can do that because they don't need to worry about the kind of governance and ethical side that a large local authority needs to.

They'd also, and David mentioned this, they don't have to worry about the procurement challenge at that gives. And I suppose, from an equality basis we want to make sure that the public offering is as good as that is what people can go out and buy, so we actually want to see consumers taking a bit more control and ownership of what they can purchase. But to do that we have to have a market and the market's been pretty niche up till now, and I think there's a cultural element as well, whereas lots of people are really happy to have Alexa in their house, iPads, iPhones, and all the technology there that we know is doing a lot of listening, but it's trying to then sell a technology that's listening to your breathing or checking your temperature, checking your humidity - that is quite a different step, and I think we have to try and overcome that. Because if you look what people share on Facebook, on Twitter, people share their entire lives without any issue whatsoever, so I think again it just comes back to, it's a balance of expectations.

Gemma:

I think as well, I mean, there's so many different discussions around privacy and consent and data ownership, you know while you're scrolling on Twitter you see all these conversations going on, how do you think about in balance this a little bit more emotional side to thinking about tech adoption, when we think about telehealth?

John:

Gemma, I think that's a really good point and it's one that's being addressed by the fact that IoT normally has a very anonymous link to personal details. But it's going to have such little value to it for the person, it's really not of any great interest. However, the value really comes when you consolidate that and compare it to other people who may have had a fall, or may have fallen ill with some type of, some type of early stage dementia, which are treatable. And the idea of addressing something which is treatable is obviously - and catching it early - is very much high on the list of people's priorities you know.

In many cases I think that's the Holy Grail of having these systems at home, is it not the same sort of data that Facebook would have or indeed the value of the data is very low, but when you have 128,000 people and it goes into a central point and you can do analysis on things, you can address the problem very rapidly, not for the individual, but for everybody. And once you do that, you can greatly improve healthcare overall but you need the tools to do it.

Glenda:

What we've seen during Covid is that there's been a tradition of very long and a dearly held tradition within care and healthcare of what I call 'person-to-person' care and it is an absolute expectation that somebody will come to me, to my house, and care for me. And when we talk about technology, there's a kickback against that, because the immediate thought is - you are just trying to save money, and I want a carer, a person. And of course what the pandemic has demonstrated is that the person is actually the most dangerous thing to come into your house because of the risks of cross infection, and we did see a real drop down in vulnerable people asking for help.

With our telecare response service the calls dropped considerably, as family stepped in to look after loved ones, just to keep carers out of the house. So I think it will have helped to change some, some of the culture around it, and I think what it's opened up, is realisation that this pandemic could be with us for a long time, we could have another pandemic, but we will be in a cycle of no longer being able to rely on person-to-person care. Now aside from that, demographically there aren't enough carers in Scotland to meet the demand, and there certainly isn't enough money to keep on paying for it. So I think the cultural aspect is still massive, because people see technology as 'taking away a person', but we've now had the experience of a person not being the best thing for you.

Stephen:

In a number of projects we have been involved in, around and collecting data whether it's in people's homes or in an office space or somewhere like that, what we've found is it's just the most important thing is to be very transparent about what you're collecting. Lots of companies we work with have faced these questions around what was it you're measuring and they found that if they can have some form of kind of app or software that can let them see exactly what is



they're collecting, they seem to be a lot more comfortable with that as data and if they could understand how that data might benefit them. So for example, it might be that you've got fuel poverty in your house and you can't afford to heat, then if they can detect that and see that there is potentially issues within your property, then that can help you as a tenant, potentially go back to your landlords or housing provider, to actually give evidence of -this is an issue I've got, this is a problem. So yes, it's definitely one of the most important things, having that transparency of what you're collecting data-wise and I think you will see that move into telecare as well, people will be quite interested to see additional data.

With telecare, it's quite heavily regulated, I'd say it's almost splitting into two different sectors for telecare – one's the kind of critical care which is all around, kind of alarm buttons, falls, getting people to come in, but there's a second one more about just understanding how relatives are moving about the house, and if there's issues with people falling over, and so that relatives can deal with it. And that would be classed as non kind of critical care technology. And what you seeing with them is that evolution - and think to an extent the less regulated stuff is driving the market a little bit to show what's possible - but within the telecare standards they now are in place to be more open. They are actually allowing kind of different types of sensors to move in, things like videos have started to be specified that you can use that as part of the telecare standard, so you will start seeing that evolution. And I know we talked about getting rid of the human contact, but you might start having a kind of friendly face you see if you've got trouble on a regular basis. So you're not completely removing the human contact, you will still have an element of it, it's maybe just delivered in a different way in future.

David:

Just going to add around data, its one of the kind of fundamental questions at the moment and you know as kind of in terms of service delivery and practitioners can see lots of really exciting opportunities around working much more preventatively and also operating more efficiently and in a kind of smarter way. And we're seeing lots of companies like Google and Facebook recently I saw have got involved in this space as well and there are rightly concerns around kind of privacy and and data sharing. And I think, I've heard some discussion recently so organisations like the DHI are looking at some sort of system where the citizen owns the data, so it can be stored potentially in their own house and a device and a kind of resource there, and they can choose the permissions and who that shared with. For me that's quite attractive prospect, not just because it gives the citizen control but also from a public service perspective it reduces a bit of anxiety around how that's managed, so I think something like that would be really interesting thing to explore.

Glenda:

To invest in this area is quite costly and we know the big providers haven't really invested, they just churned out the same equipment for 20 years and I'm just interested in what the payback is for this big investment that's required and my assumption is that big companies will invest to get the data, so I am unclear as to how it works when we so protect our data and close it down that it can't be used and therefore we won't get the investment we need. And I think that's just one of the dilemmas that I'm not quite sure we've really necessarily come across in the public sector.

Gemma:

Yeah that was actually going next question was what, you know, what does the business model look like? If you want to encourage more innovation, more competition, better consumer choice, you have to kind of give some kind of incentive for either the existing companies or new entrants to kind of seize the opportunity. I wonder if any of you have any idea of what that solution might be to this dilemma?

David:

We have seen a little bit disruption so far in this sector which has been really exciting. As Glenda mentioned earlier, some of the kind of main suppliers have been around for a long time. They've done some really good work, but it would be nice to see that disrupted a bit. Some of the, some of the new suppliers, are pretty exciting in terms of their offering but are still offering devices, more traditional telecare devices. I think Glenda and Stephen mentioned earlier, potentially what we'll see in the future is kind of tiered offering for users so it may be that they can you know, purchase their own devices or maybe purchase elements of the service and then you might get into kind of local authority provision where it's more complex needs that are being supported, and it may be some of these bigger organisations like Facebook and Google see opportunities around the kind of consumer model rather than local authority provision. Knowing what I know about local authorities, they will be extremely cautious around any kind of, how that, data is used by these organisations. So, it's difficult to say precisely what will happen, but I do think these bigger companies might see opportunities around consumers purchasing devices themselves.

Glenda:

I think just to hark back to Covid again I think the opportunity within health and within acute health and primary care has been really exposed now, and I have a slight anxiety that the health service being so big, is that is where a lot of the investment will go to, from, you know, big tech, And we've had the same infrastructure in telecare for decades. really from the start, and in Scotland. it's really just two firms that have the monopoly. And I do think they are changing their attitude towards working, and working in partnership, but I'm still concerned that it might be limited, because our procurement processes can be quite complex in the local authority. And I think that could be a big challenge, and there's also real risk aversion and we also are in a continual political cycle. So I think all these things add up to pose – I don't say they pose barriers, but they do pose real challenges and a bit like David, I would hope that if there was a really big consumer market built up, that would only be positive for the, our more niche, market, but I'm still to see the kind of explosion in that market that we might have expected. But after, or during the pandemic, you can really see the uptake in health, and their application of technology.

Stephen.

For some of the more critical care aspects of it, you'll still have some form of kind of critical infrastructure within the property that you can trust, but I think that would be able to, kind of, get combined with other types of consumer tech in the future. So you might be able to complement that with different types of technology, but I think it will struggle to get away from having that kind of core infrastructure for communications. And with the kind of new types of communications infrastructure that is going to move, then it's a lot easier now to kind of fit these types of devices at a much lower cost. And you don't necessarily need to have someone to go into a house and spend a day or two days installing equipment, it can literally be 'fit and

forget' type devices. So I know John's device uses LoRaWAN, and there's other kind of cellular technologies are starting to emerge that are very kind of power efficient, but they also can hit a lot of the brief for telecare, so they will start to kind of change the types of products that are provided. And that's when I think we'll start things start seeing some quite kind of knew exciting type products, that may be don't require the traditional hub but will still give similar functionality. So it might be, you might start seeing kind of a wearable device that you can send voice through, that replaces the need for a kind of hub within the house. The timescales for that might be a while but there's similar technology starting to be in place now that allows that; it's just how that is designed and how that changes.

So I mean, you mentioned the Apple watch. With Apple Watch, you can start to kind of use that as a kind of voice type device. So whether you could use that for telecare is another question, but I could see kind of more devices coming to market that maybe have that type of functionality, that are more kind of set up exactly for the challenges around healthcare and telecare. So yes, I think it's going to evolve fast, I think you're going to see it move really fast in the next., because if even now you're seeing 180,000 users: that will increase and there will be different types of users within that for different types of issues, whether it's elderly care, disabled type care arrangements you're doing, you'll start seeing that moving as well, so you start to expand into different types of markets as well, I think. So I think it'll be really fascinating to see how/what the market looks in five years' time.

Gemma:

Well, you've set me up for my next question which is going to be the last question I ask you guys to round off this discussion, which is - I would love to just get from each of you, just your kind of vision. What would you love to see in this sector? What do you hope this sort of future looks like in the sector post transition, post opportunities you know, have been taken up and the business models work, and all that sort of thing. Let's start with you John.

John:

Well I think if we go forward five years, I think it would be great to buy a small box, plug it in your mum's home and then all of a sudden have the ability to talk to your relatives or to whoever she wishes to in a WhatsApp group, which would then keep care of her without troubling the government. In many ways, the traditional way when I was eight years old in my village in Wales, where my father would never have dementia, because he would tell the family that they had to look after their mum. Doing that, but doing it digitally, I think would be the utopia on that basis.

David:

We've touched on this – both Glenda and I have kind of had the operational involvement and have touched some of this I think, but I'd like to see sort of safe and resilient service for people to access if they need it, that's well funded and well supported, and not just the kind of traditional beige box being on offer that's been around for decades, but actually some of the things we spoke about already, so you can bring your own device to the service, you can link different types of wearables, different types of device. And John's point is really good as well about it not just being for kind of critical emergency help, about linking you with your family, but making sure that you're kind of connected and stay in touch with people. And actually, I'd like to see these services be more integrated with wider health and care. I don't think they have

been for a long time and it's a huge loss. I mentioned Edinburgh before but all of the data the service holds from half a million calls and contacts with people to 12,000 face-to-face visits, none of that is integrated with wider health and care systems, and that could be used much more effectively, so just a much more joined up and integrated service.

Stephen:

A lot of the kind of fundamentals about measuring, and people's houses, are getting answered with this programme, so I think longer term you'll see that as the basis of that kind of vision of telehealth, about monitoring your own health, looking at trend analysis of what's happening. So I can see a lot of this developing into that long term, because a lot of the questions around kind of cyber aspects, connectivity aspects, plus monitoring aspects, are getting answered and so you can see that kind of moving forward and you'll start to see lots of different products both software based products, different companies offering different services, so I think it'll be a much richer space. You'll see lots of different types and interesting/ different types of service offerings getting/coming, to market so yes, I think will be an exciting area to watch.

Glenda:

I think it's probably around the normalisation of technology in people's homes. I think we are certainly there with younger generations and smart phones, but I'd love to see it being expanded so I don't really know what form that will take. I would also like to see people's own independence maximised by it. And I do think we need to see some safeguards, and there probably has to be some statutory safeguards around this, to give a some reassurance and confidence to organisations like my own, and to the general public, that allows people to just have a bit more trust. But I just think the normalisation of it, where it's not an odd thing, it's accepted, and I think once we culturally achieve that, the world is our oyster.

Gemma:

What a lovely note to end on there Glenda, thank you, and thank you guys for sharing all of the challenges, what's currently happening, but also kind of letting us into this frankly really exciting opportunity we have to massively increase the health and welfare of our ageing population.

Gemma:

Thank you so much for joining us for this conversation. If you enjoyed what you heard or you have any further questions where you think CENSIS may be able to help, perhaps that's a project you're planning just now, or a challenge that you have in this space, or you just want to find out more about what it is that they do, please feel free to reach out to the CENSIS team by visiting the website at [censis.org.uk](http://censis.org.uk) where you'll find all the information you need about how to make contact.