

Technology-enabled lives:

Delivering outcomes for
people and providers

MARCH 2023



CHALLENGE PAPER

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Clenton Farquharson MBE

Co-Chair, TEC Action Alliance and Chair,
Think Local Act Personal (TLAP)

Everyone has the right to lead their life in the way they want, with meaning and purpose, creativity and connection. That means doing those things that matter to them, every day. Yet, for large numbers of people, living a 'gloriously ordinary life', where they are treated and valued equally to others, just isn't a reality.

There is an important debate taking place now about how to reshape care and support so everyone can flourish, no matter what their circumstances.

I believe that technology – in its many forms – can play a part in achieving this vision. But this will only happen if we reposition and reset how we frame technology-enabled care.

Currently, we talk about digitising social care, health and housing: re-engineering systems and processes. What I don't hear about are 'technology-enabled lives', where the ambitions and aspirations of the individual come first, made possible by digital.

Technology must serve people who draw on care and support. It is an enabler, not a driver. I think of it as an operating system to our lives – something quiet, in the background, helping things run smoothly, so you can get on with the important things – working, socialising, studying and living a full life.

This paper is a welcome opportunity to rethink technology-enabled care and what people actually want from it. It's a chance to step back from the equipment, solutions and systems and re-evaluate what really matters.

For me, it has to be about making things better for people.

Technology must uphold our rights and choices and reaffirm our existence and identity. It must respect our homes and relationships and connect us to our communities. It should offer convenience and empower us to control our lives. And it must be available to everyone.

But we know that we start in a different place and inevitably the paper partly reflects where we are now.

We want it to act as a catalyst and spark rich conversations about the role of technology in care, health and housing, which help move us closer towards the destination where meeting the needs and aspirations of people who draw on care and support coincide with how personalised technology-enabled care is designed, developed and implemented at scale.



Alyson Scurfield

Co-Chair, TEC Action Alliance and CEO,
TEC Services Association (TSA)

The challenges facing people who draw on health, care and housing services feel overwhelming right now.

Workforce shortages, long waiting lists, huge ambulance delays and a cost-of-living crisis are just some of the factors preventing people from accessing the care and support they have a right to.

Amongst the many varied solutions being put forward, there is one recurring theme: community.

I've heard people describe networks of local groups and micro-enterprises that strengthen social care. Healthcare is being boosted in the community via virtual wards. And I've seen the power of creating resident communities that co-produce the housing services they draw on.

Whatever form it takes, this approach is focused on helping people, their families, and carers to live the best life they can, in the place they call home, across communities where people look out for each other.

To make this happen we must build new models of care, woven from a creative web of relationships, not just across health, care and housing but also in neighbourhoods via informal groups and charitable organisations.

Technology is an essential part of this web, stitching together services and data at a system level. But, crucially, it helps on a personal level, proactively pinpointing and communicating people's needs, connecting them with the things they love and the services they want, freeing up time for meaningful human interactions and providing peace of mind for families.

There is a tension here, of course, between technology unlocking personal outcomes and then the delivery of this personalisation at scale, across systems and regions.

We hope this paper begins to address this tension, providing practical ideas on how we can commission and cultivate care models that support individuals to thrive, on a national basis.

Importantly, this paper must provoke debate about the common purpose of technology-enabled care. In today's society, surrounded by countless challenges, how can technology support people to live really good lives? I look forward to hearing your thoughts.

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Clenton
Farquharson MBE

Executive Summary

Our experience of technology as consumers is a far cry from most of the technology which people who draw on care and support access to support their day to day lives. Equally, the systems which are used by professionals, whether in social care or health, to make decisions and to support people in the best way, are often old and do not reflect modern work styles or modern technologies. This must change.



Under the influence of demographic changes, consumer trends, and policy reform, we are experiencing major shifts in the demand for social care and health, where virtual or technology-enabled care (TEC) are increasingly seen as critical components of a modern approach to the delivery of joined up support.

However, despite the fact that technology is central to our everyday lives, all too often we separate it out for special treatment when it comes to supporting our care or health needs, as opposed to viewing it as a core tool which can help us live the lives we want to lead on our terms, making the services we draw on more efficient and effective.

To change this mindset, we must amplify the voice of people with lived experience so that we deploy technology to support what they want rather than what suits the system.

Personalisation and scale

There is a delicate balance to be struck between ensuring that people who draw on care and support can craft and shape services to meet their individual needs, and the requirement to operate and manage health, care and support services at scale.

What has also become increasingly evident is that data and 'digital' can help us bridge this apparent divide. Without listening and acting on the needs and wishes of people drawing on support, and what good looks like for them, it is difficult for a complex system to ever rise to the challenge of personalisation, or to measure its success.

Equally, if integrated health and care systems are to work in an efficient and joined up way, they too need good quality information to enable them to deliver services which are personalised and preventative. An integrated approach to the way services operate across health and care, together with an integrated approach to the technology they use and the data generated, is key to achieving this critical balance between personalisation and efficiency.

Drivers for change

Whilst we pursue this new approach to technology across social care and health, we cannot ignore the immediate drivers for change. The social care system is broken. People can't get what they need in a timely and effective way. There are 500,000 people awaiting a social care assessment or review, 165,000 social care vacancies and demand for social care services continues to climb. Too much is often expected of family care givers and all too often people end up in hospital when that could have been avoided.

The NHS, too, is facing intolerable pressures as waiting lists for treatment grow, A&E waits and ambulance delays are at their worst levels on record and winter pressures have seemingly become a year-round issue. The health service was already

pressured by the needs of our ageing population, where half of over-65s have two or more health conditions and are linked to two-thirds of all hospital admissions. Against this challenging backdrop, we face the incremental challenges of Covid, flu and workforce shortages in the NHS as well as social care.

People who draw on social care and health services are not being best supported and there is growing unmet need.

500,000

AWAITING A SOCIAL CARE
ASSESSMENT OR REVIEW

165,000

SOCIAL CARE
VACANCIES

Policy direction

In 2021 the government committed to a ten-year vision for social care: 'People at the Heart of Care'. It provided funding to get some of the basic building blocks for technology-enabled care in place over the first three years. The same year, the Welsh government published 'A Healthier Wales: our Plan for Health and Social Care', outlining a future vision focused on health, wellbeing, and preventing illness. In 2021, Scotland published its refreshed Digital Health and Care Strategy 'Enabling, Connecting and Empowering: Care in the Digital Age'.

Now is the time to start delivering at scale on these visions. The potential of technology to support people who draw on care and support, care staff and family care givers must be realised if people are to live better lives and if we are to have affordable health and care in the 2030s.

A key enabler of delivering on technology's potential is the digital infrastructure in both health and social care. Much remains to be achieved, with an expert panel report to the Commons Health and Care Select Committee in February 2023 noting progress in the NHS to date has been inadequate.

Options for new and integrated care models, where technology can play a role in reducing health inequalities and keeping people safe and supported in the community have never been more important to our population's health. Examples of this include the expansion of NHS care in the community through virtual wards and TEC responder services partnering with Urgent Community Response (UCR) teams.

In social care, some local authorities and housing associations are developing commissioning strategies that put care technology and innovation at the heart of care delivery. But much more work is needed to move these pockets of good practice to the mainstream.

The role of the TEC Action Alliance

The need to shift to effective and more proactive models of care, in part inspired by innovative responses to the challenges during the COVID-19 pandemic, has led to the creation of the TEC Action Alliance.

It uniquely brings together people with lived and learned experience, TEC companies, commissioners, care providers and voluntary organisations. The Action Alliance is examining the benefits and barriers to the community care and support options that are enabled by technology. And it is looking at how these can be integrated within the broader social care and health technology ecosystem to deliver services at a local level. The Action Alliance believes that putting the voice of people with lived experience at the forefront of this exploration is key to success.



Our vision and goals

“ Technology-enablement of care and support that helps people to live fulfilling lives

The TEC Action Alliance believes that technology can be better used to support people of all ages to live really good lives. This includes older people and also younger individuals with disabilities, and it also includes unpaid carers.

Technology-enabled care helps people to be better supported at home and in doing so, it reduces the potential for admission to hospital and residential care. It can also enable people to be safely discharged from hospital, back to their own homes, and close to the people and things they love.

Our methodology

In preparing this paper we have:

Engaged with people who have lived experience of using technology to support care services

Conducted a quantitative survey of the general public about their attitudes towards and use of technology

Researched evidential exemplars that point the way to new and effective care models

Our evidence

To develop this paper, we researched social care and health projects that use technology to reshape the delivery of support. We have only included a selection of exemplars that provide hard data to evidence a significant impact.

As we researched a wide range of technology-enabled care and health projects, we noticed that much of the quantitative data focused on NHS outcomes and benefits for health systems. There was far less quantitative data on the benefits to social care systems and even less information on the benefits to people and their communities.

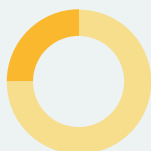
This comes from the fact that data, resources, media coverage and public attitudes are often over-focused on the needs of the NHS.

We want to redress this imbalance through the TEC Action Alliance's work, changing the debate around technology-enabled care. That means capturing robust results from many transformative and digital projects to prove their impact, not just on systems and resources but, crucially, on people's lives.

In parallel with this quantitative research, a new and accessible narrative for TEC must be crafted, showing how digital can support people to live really good lives rather than focusing on how it can plug health system deficits.

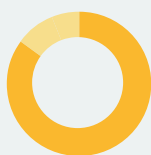
Our findings

The initial findings of the TEC Action Alliance are dramatic. Programmes which are making greater use of technology, often within an integrated health and care environment, are variously reporting:



75%

drop in alarm calls directed to ambulance control



85%

of people remaining at home when their fall call-out is handled by TEC responder teams



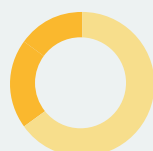
30 MIN

typical response time to emergency calls, day or night



68%

reduction in conveyances to A&E



68%

reduction in hospital admissions for someone who has suffered a non-injurious fall



5 DAY

reduction in the time people waited to be discharged from hospital



5 X INCREASE

in the number of people referred to services in the voluntary and community sector, rather than formal social care

These figures highlight the critical role that care technology can play in transforming social care and health care. In each case, the new care programmes that cite these outcomes are identifying shifts to proactive, personalised and technology-enabled care models as the drivers for change.

EXECUTIVE SUMMARY

People who draw on care services have also told us how they would welcome more person-centred, co-produced technology services and solutions to enable them to live well.

Two quantitative surveys of the potential users of such proactive services both identified a strong appetite for further use of technology within care:

- Daily use of mainstream tech such as smartphones, tablets and fitness watches is high, with usage of TEC predictably lower and less frequent
- 62% of people surveyed, who had used technology for care and health purposes, were positive/extremely positive about their experiences
- 56 - 86% are likely/extremely likely to use technology to support with health and care in the future
- Accessing TEC for social connection and independent living were the most common reasons given for future usage
- Barriers around cost, confidence and safety with regards to technology still need addressing



Our next steps: an Action Paper

We need to build on these findings as a matter of urgency. The TEC Action Alliance will begin further engagement, with the aim of collating evidence, guidance and standards in an Action Paper, to determine how we can:

- Embed co-production in the development of all TEC services and solutions
- Identify in detail, and prioritise, what people want from TEC
- Identify the features of proactive services that deliver beneficial outcomes
- Test new care models with people who draw on care and support
- Identify barriers to personalisation and scaling of services and create action plans
- Evaluate costs/benefits to people and providers
- Make recommendations on changes to policy, funding and regulation

Listening

All too often, the voices of people with lived experience of using technology to manage their own wellbeing and health, or to access health and care services have been ignored. Pockets of co-production exist across the social care sector but not at scale and not as a norm. It should go without saying that a better understanding of the needs and aspirations of people means that products and services can be developed that are more successful in meeting their needs.

The engagement activities that are promoted by the TEC Action Alliance aim to prioritise listening to the voices of people with lived experience.

Perspectives on people's needs

Focus group discussions have been held with people who draw on care and support services and also with family caregivers. This work resulted in a set of personas, with the intention of stimulating further discussion and exploring the potential for technology to support and enable people to live well.

These personas, or perspectives, summarise the positions shared by many individuals. They are not fixed or representative of all experiences. However, many people will be able to connect with some elements of each perspective and identify with their circumstances. The intention is to capture the essence of how people regard the use of technology in the context of their health and care and, crucially, identify what is possible.

We noted that the initial perspectives created within the focus group tended to focus on a health deficit model, rather than looking at individuals, their strengths and the assets around them, and what is needed to support them to live well.

We trust that the following perspectives illustrate some of the scenarios to focus on if technology is to genuinely enable personalised support that improves lives rather than just increasing efficiency or productivity in health and care.



GEORGE

George is 77, a white British retired army officer who lives alone but has a great relationship with his daughter Carolina. He uses a smartphone and tablet for lots of things including connecting with Carolina and his grandchildren. He loves music, is a season ticket holder at his local football club and is actively involved with his local church. He doesn't do online shopping or banking as getting out and about is part of the social interaction he loves. George has cancer and feels optimistic about his life and the outcome of treatments. He is also in receipt of a direct payment for low level support.



Care needs scenario

George will be admitted to hospital for surgery

George's good life

involves getting home quickly from hospital and continuing with the activities he loves – football, church and socialising in his community. He wants to remain connected to his family and see his grandchildren thrive.

Ways that TEC could support George:

Seamless pre-admissions screening

Virtual appointments

Remote monitoring of health conditions

Managing multiple appointments and information

Managing multiple medications

Cancer treatments at home

Managing and using his direct payment effectively to support his own needs

Staying connected to family, friends and the community while he recuperates

HASHIM

Hashim is 62 and proud of his Pakistani heritage. He works in retail and is looking forward to his retirement but isn't quite ready to do so yet. He loves food and is devoted to his faith. He's widowed and his daughter Alize lives with him – she is in medical school. Hashim uses a smart phone and laptop at work. He doesn't like to spend much time online in the evenings as he's at the computer screen for much of his day.



about his recovery. He also misses his wife.

Hashim's good life

involves recovering well from the surgery, following the rehabilitation plan and developing healthier habits. He wants to get back to work and be around for Alize to complete her studies.

Ways that TEC could support Hashim:

Connecting with his family, friends, faith and wider community

Diet, exercise and rehabilitation

Ongoing remote observation

Smooth and seamless discharge back to GP and integrated community health and care services

Connecting to voluntary and community sector activities to help with loneliness and grief

Participating in a clinical trial

LOU

Lou is 55, a black British Caribbean woman who juggles her part time job at a supermarket with caring for her son Josh who has complex long term needs. On the rare occasion that Lou gets a break, she loves to dance, plays bingo and volunteer with her local church. She uses a smartphone and tablet regularly but financially things are so tight she has to manage her budget closely.

Care needs scenario

Lou is a lone parent and unpaid carer. She is exhausted mentally and physically, supporting Josh to the best of her ability. But she worries what will happen to him if she's not around. Her latest



mammogram showed up some abnormalities and she needs further tests.

Lou's good life

involves supporting her son and planning for his future needs, ideally more independence, choice and control in a way that works for him. She would love more free time and to feel less stressed. Her part-time job is important to her, financially and socially..

Ways that TEC could support Lou:

Lou is open to trying any technology that helps support her and Josh, as long as it eases her burden of care and make things run more smoothly. For example:

Virtual appointments

Managing multiple appointments and information

Managing multiple medications

Staying connected to family, friends and the community

JAKS

Jaks is 18, white British and a keen gamer. Jaks' preferred pronouns are 'they/ them'. They love computers, coding and mixing music. Jaks has autism and an intellectual disability. They are non-verbal with sensory issues and routine is very important. Transitioning from school age services to adult social care is daunting for Jaks who is currently living at home with their parents. Jaks is also keen on watching sport, particularly football.

Care needs scenario

Jaks is transitioning to adult social care services. They are exploring support to attend college on a



part-time basis and also support so they can manage, day to day.

Jaks has developed social anxiety during Covid and this is affecting their behaviour. They need social prompts for tasks they had managed in the past.

Jaks' good life

involves getting support to manage their day-to-day life while doing the things they love, along with starting college.

Ways that TEC could support Jaks:

Help to manage day-to-day activities such as tasks and reminders

Self-managing social anxiety

Accessing sensory respite

Finding appropriate college opportunities and support

Finding valued work placements

PHYLISS

Phyliss is 78, white Irish and she lives alone. She lost her husband Peter, three years ago. Phyliss loves to read, she's passionate about local history and used to work as a schoolteacher. Phyliss has rheumatoid arthritis and osteoporosis and she's fallen a few times in recent years. This has knocked her confidence and made her cautious about enjoying her garden, meeting friends for lunch or attending talks at her history society. She has a smartphone, a smart meter and a digital photo frame but is cautious of other technology.

Care needs scenario

Sometimes Phyliss feels unsteady on her feet, particularly when she goes to the toilet at night. She's also concerned about falling if she goes out and about. This makes



her wary of leaving the house and she's been seeing friends less. Both her sons live over 50 miles away and she worries about who would help if she fell.

Phyliss' good life

involves seeing friends regularly – particularly for pub lunches and at her history society. She wants to continue reading, despite finding it tricky to hold hardback books. Phyliss is proud of her garden and wants to walk around it independently. She also wants assurance that if she trips at night, someone will help.

Ways that TEC could support Phyliss:

Kindle that is light and easy to use for reading

Tablet that allows her to zoom with friends and join an online book club

GPS personal alarm and falls detector

24-hour emergency support package

Motion sensor night light to prevent falls

Home improvement agency visit to remove trip hazards



“ Technology must serve people who draw on care and support ... I think of it as an operating system to our lives – something quiet, in the background, helping things run smoothly, so you can get on with the important things – working, socialising, studying and living a full life.

Clenton Farquharson MBE

People's attitudes to use of technology in health and care

Our 'perspectives' led on to further work, where structured surveys examined people's use of technology, their attitudes toward it and what they want from technology to support their care and health in the future.



Survey One

Survey one was conducted through organisations participating in the TEC Action Alliance, by gathering the views of frontline staff and people drawing on care services. People completed the survey in February 2023.



Survey Two

Survey two was conducted through YouGov, also in February 2023. Here, a total of 2,016 members of the general public, of all ages, were asked how they use technology in their lives with a focus on health, care and support.

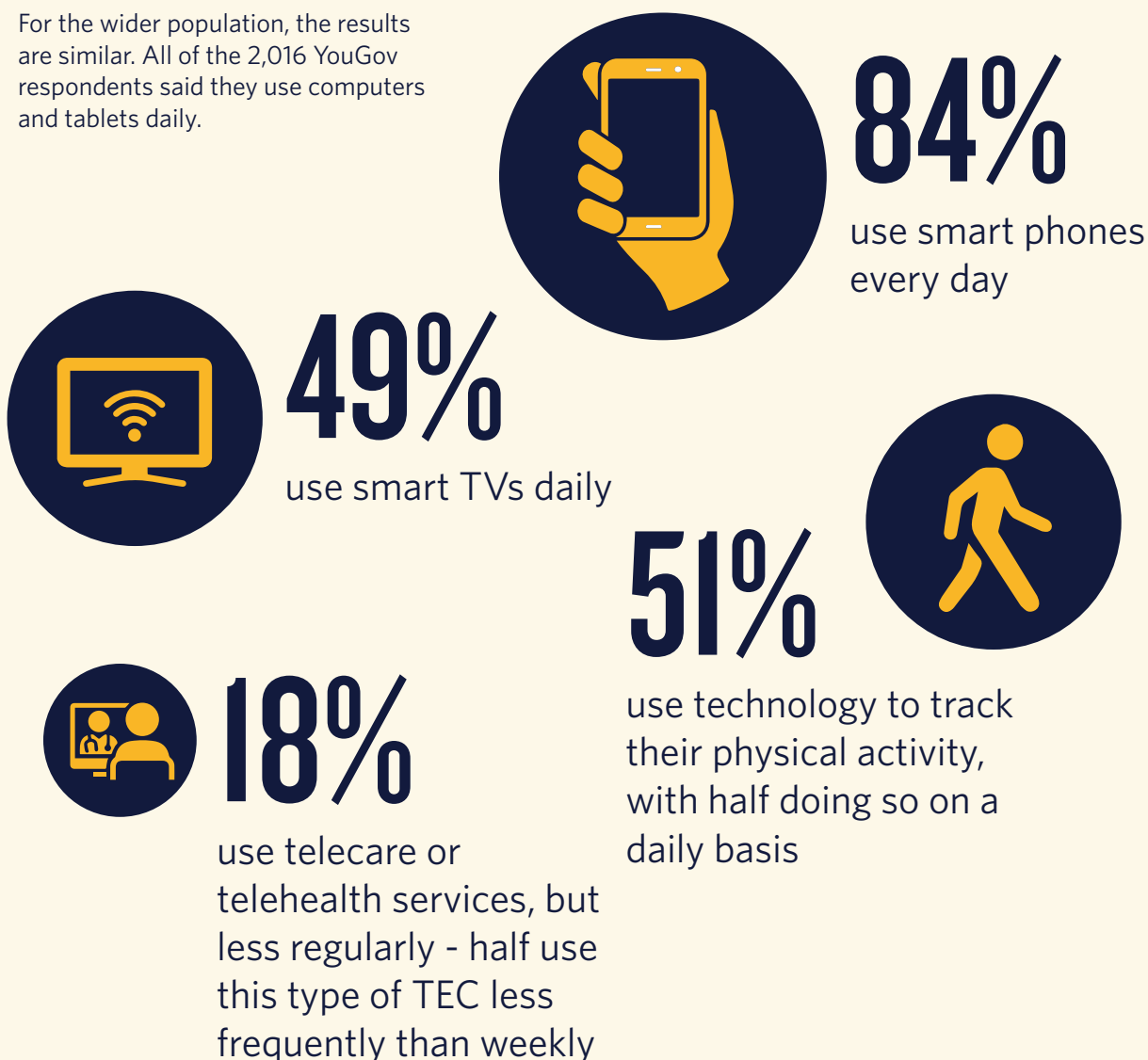
This second survey builds on the findings of two earlier [YouGov](#) surveys conducted by the monitoring service, Taking Care in 2021 and 2022, which looked at attitudes and buying habits around technology-enabled care.

LEVELS OF USE

Both surveys showed there were high levels of technology usage in everyday life, including for fitness. Some respondents said they use telecare and monitoring devices but much less than other types of technology.

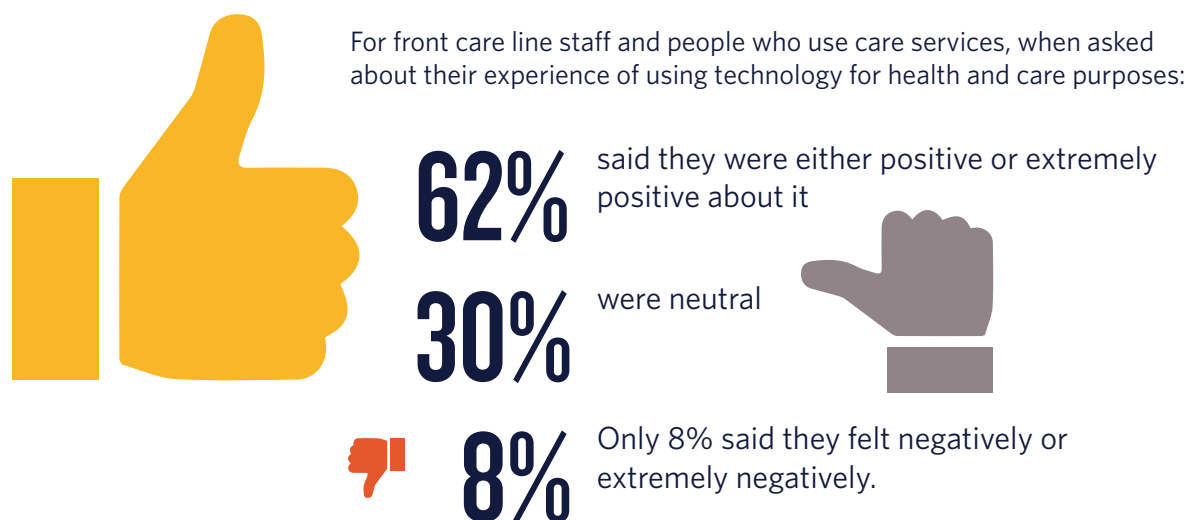
Front line staff and people drawing on care said that on a daily basis they use smartphones (92%), computers (89%) and smart TVs (66%). Over one third use smart watches to maintain their fitness and 14% use a monitoring or personal alarm.

For the wider population, the results are similar. All of the 2,016 YouGov respondents said they use computers and tablets daily.



EXPERIENCE AND EASE OF USE

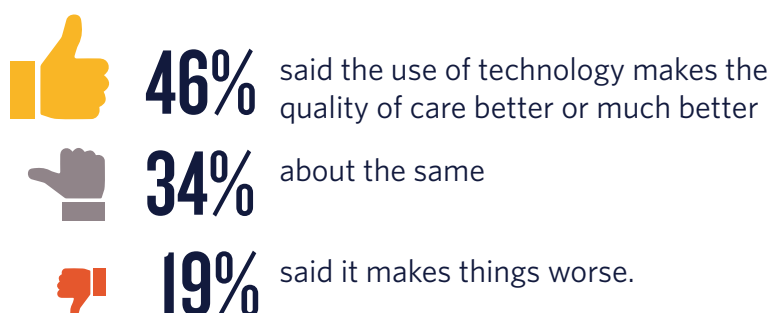
Responses on use and confidence with technology-enablement of health and care were generally positive. Where barriers were perceived, they related to cost, skills and confidence.



When we asked frontline staff and people drawing on care services about their confidence in using technology, 58% said they were very confident, 33% felt 'somewhat confident' and only 8% said they weren't confident at all.



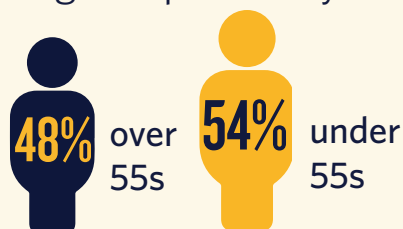
Compared to more traditional ways of receiving care or communicating with care services:



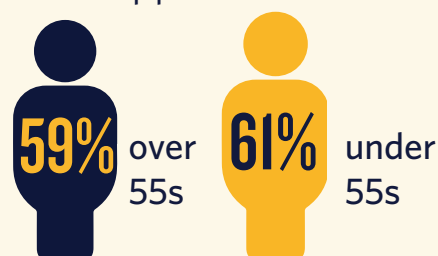
AGE AND USE

The YouGov poll showed little variation with age on the current use of technology and potential future use. Over 55-year-olds, in comparison to younger age groups, were a little less ready to use technology for a range of purposes including:

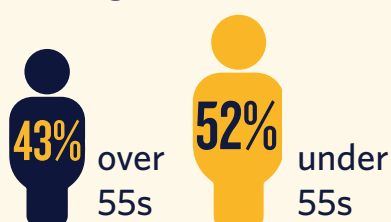
Living Independently



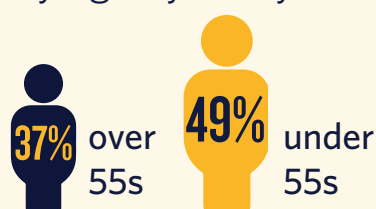
For Health Appointments



Monitoring Health And Wellbeing



Staying Physically Active



DISABILITY AND USE

32% of respondents told us their daily lives were affected either a lot or a little by a disability or long-term health condition.

58% of those respondents affected a lot were prepared to use technology to improve their independence.

52% of those affected a little said they, too, were likely to use technology to improve their independence.

64% of all respondents (those who are affected either a lot or a little) were likely to use technology for health appointments.

Respondents whose daily lives are affected a lot by disability and long-term health conditions are slightly less likely to use technology for monitoring their health and wellbeing than those whose lives are only affected a little (46% compared to 51%).

There was a similar pattern around attitudes to using technology to stay physically active: 36% of people affected a lot compared to 45% of people affected a little.

FUTURE USE

In both surveys we asked respondents how likely they are to use technology for independence, social connection, health, care and wellbeing going forward. Overall, people said they were most likely to use technology to stay in touch with friends, family and their community but a significant proportion said they will use it for living independently.

The front line carers and individuals that we spoke to were generally positive about technology supporting them with their future needs.



Depending on the purpose of the technology, between

56-86%

of respondents told us they were likely or extremely likely to use technology to support with health, care and wellbeing in the future.

Most respondents said they were extremely likely to use technology for either living independently, connecting with family and friends or staying socially connected.

The YouGov poll of 2,016 people, revealed similar results:



Depending on the purpose of the technology, between

49-79%

said they were likely or extremely likely to use technology in the future to support with health, care and wellbeing.



Most respondents said they were extremely likely to use technology for connecting with family and friends and other social networks.

Living independently and health and appointments also got strong results.

CONCLUSION

These surveys provide snapshots of public attitudes to technology, particularly around health and care.

There are many commonalities across the two polls and the results also align with findings from the earlier TEC surveys conducted by Taking Care. All results show there is interest in using technology to support living well that extends far beyond current usage.

There is little variation in this interest by age group. Overall, we see very positive views on the use of technology within health and care provision, and where perceptions of barriers to wider uptake relate mainly to safety, confidence and cost.

We also noted that perceptions of barriers often derive from a lack of awareness. For example, in Taking Care's surveys, cost was highlighted by respondents as an issue, as it was in the TEC Action Alliance's polls. Yet this concern was based on limited knowledge, with 70% of all respondents to Taking Care's 2021 survey not knowing how much TEC will cost (this figure rose to 80% amongst people age 65+).

This evidence indicates a strong appetite amongst people of all ages to use technology in health and care. Yet the evidence also shows that this potential isn't being realised - many more people are open to embracing TEC than are currently doing so.

Our experiences of COVID-19 have normalised some aspects of digital health and care such as booking GP appointments, accessing wellbeing support, finding care services and ordering repeat prescriptions. To mainstream the technology-enablement of care more widely, more work must be done, particularly around understanding how technology can be personalised, to help individuals. This can only come about by co-producing the future role of technology.



“ This evidence indicates a strong appetite amongst people of all ages to use technology in health and care.

“ People said they were most likely to use technology to stay in touch with friends, family and their community.



Lived Experiences

In addition to our focus group perspectives and surveys, we spoke to individuals who draw on care and support to ask what they want from technology-enabled care. Kay, Rich and Debra explain the role technology plays in their lives.

Kay Smith

“ Technology should be personalised... that's what's missing



Kay Smith, 58 is a nurse practitioner and keen scuba diver. She lives on the west coast of Scotland. For the last 20 years, Kay has had lupus but she is severely allergic to the medication that would cure her. In recent years, Kay has used virtual reality to distract from her pain. She believes technology can have a transformative effect on physical and mental health.

We've just gone through three years of isolation, and I think a lot of lessons have been learnt – particularly around loneliness and the benefits of smart technology on people's mental health.

One way I think technology could be used more is in welfare checks. I know people who have weekly phone calls to make sure they are OK but what if this was done on a video call?

The person doing the check could tell, not just from the sound of someone's voice but from the look of them and their body language, whether they are looking after themselves, or if, mentally, they are starting to feel depressed. That ability to see someone and for them to see you would be so valuable, but it's not really happening.

My dad is 80 - he has a sensor system that monitors him at home. He calls it his 'squawk' box because if he hasn't walked around his flat by 8am, he hears this anonymous voice that squawks at him, asking if he's ok. But what they don't realise is he's been up since 6am, had his breakfast, watched the morning news and now he's lying on the couch with a cuppa.

If dad had video welfare checks, too, it would give a more personal interaction. They would see him and know he's ok. They could ask if he's lost weight, has someone been to visit, does he have food in the fridge? It could link to the system that lots of sheltered housing schemes already have in place, where if the doorbell rings you can see the visitor on the TV. That system could be tweaked to make it more personalised and holistic and that's what's missing at the moment from smart technology.



Rich Amos

“ TEC can't be used as a stand-in for human support

Rich Amos, 35, is a trustee of five charities across Gloucestershire and Shropshire, an associate at Think Local Act Personal (TLAP), and a member of the West Midlands ADASS Regional Co-production Advisory Group. Rich has cerebral palsy and is a wheelchair user. He lives in Shropshire.

I have direct experience of how TEC can enhance someone's life. I studied at a specialist college in Cheltenham that invested in TEC. They had living spaces and bedrooms fitted out with different appliances activated by computers, head switches and prompt commands.

I had friends there with varying physical impairments, which meant they were unable to speak or had limited movement. They had grown up using voice activated computers – it was second nature to them – and when software was installed and appliances fitted they could finally do the things a lot of us take for granted. Being able to close your door, have privacy, turn on the TV, open the curtains. And that technology has advanced now so you can do lots of those things with mainstream devices such as Alexa. A world has opened up in which for some people, they have possession of control in their life.

There is, however, a fine balance between TEC giving you control, and TEC replacing human support. Often social services see TEC as a 'stand-in' for care from a person because it's the cheaper option. I've had TEC forced on me in a situation when my local authority thought it could replace human support and it couldn't.

We need to change the narrative about 'what independence is' and see TEC as an enabler that gives people the freedom. Independence, therefore, is not a notion that because someone can do something themselves, local authorities get to relinquish responsibility. Independence for me is opportunity, autonomy and having control – a lot of what TEC can provide.

Co-production can help here. If it's done properly, it can improve care services and it's a more efficient way of designing outcomes – you share power with individuals, so they get the TEC services they need. I would question how legitimate a TEC service or product is if it hasn't been co-produced with the people who might be using it.

“ Cost is a barrier – you need to buy more and more up to date devices



Debra

Debra, 54 is a former midwife and keen sewer. She has five children, seven granddaughters and one grandson on the way and lives alone in a supported housing scheme in north London. Debra has two autoimmune diseases, lupus and rheumatoid arthritis and she uses a wheelchair due to spinal surgery.

My independence is everything to me. I raised five children on my own – I’m used to looking after myself. Aids and technology help me do that.

My flat was adapted last year. Doing things like turning a key in a lock had become very painful and difficult but now I have an adapted front door with a fob lock and my kitchen has rise and fall worktops and pull-down shelves. The way I suffer with my limbs and fingers means that using the phone is difficult, too. But someone loaned me an Echo during lockdown, and I was able to communicate with the grandkids, rather than having to use my phone. That really helped with the isolation I felt.

Cost is a barrier though. People with a disability often want to use technology as an aid, rather than having the latest gadget and it becomes expensive – you need to buy more and more up to date devices.

Not knowing how to use technology is a problem too. For example, the majority of GP appointments are made via the internet. A lot of older people are just about getting used to the phone so to put in the amount of information required to make an appointment online, they just can’t do it and it puts them off accessing certain services. I often have to help elderly residents in my building to contact the management team – I send emails for them.

We need more education around how to use technology, evening classes or in communal rooms, once a week where someone comes and shows people different devices. Those of us who know how to use technology could be involved – helping each other. That would take the age restriction away from technology.

Karen McCormick

The importance of lived experience and co-production – listening to hear



Karen McCormick, parent of a young adult with a disability and founder of self-directed care technology service, inCharge

Lives are complex. We juggle family relationships, childcare, work, exercise, friendships and all the other ingredients each of us have in our lives. Add caring responsibilities, perhaps learning disability or neurodiversity, physical or mental health problems, access (or lack of) to services, housing issues, frailty of older age and so many other things, and life can be that little bit more challenging.

In my experience, for people who draw on social care and support, the complexity of life makes them natural problem solvers, solutions focused. Adversity and resilience are quiet companions, sometimes one more dominant than the other. Resilience is a valuable skill and a finite resource. It is exhausting. If we lose resilience, bigger problems are afoot.

Technology is not a panacea in social care. It does however offer potential to support that natural resilience in everyday daily lives. It must be developed and used in a way where the knowledge, experience, needs and aspirations of those with lived experience is central, irrespective of whether they are direct or indirect beneficiaries of it. If it affects their lives, they should be involved.

So let us problem solvers help. See our resilience as a resource. Let us be part of the social care solution.

Don't consult, co-produce! Co-produce at every stage – product design, service design, space and place, reviews, strategic commissioning, technology, community – every point in the process and everything that helps towards living that ordinary, less complex life.

Co-production, like lives, is complex. It takes time, time to build relationships. This requires trust. Trust must be earned and respected. Relationships should be reciprocal and valued. Like any good investment, it should be rewarded.

Listen to hear. People become weary of re-telling their story and not seeing any change. Be completely clear on the shared purpose. Ensure everyone is bought into the process. Be prepared to change, insist on it. This change may be small, it might be a change in attitudes. That's ok if it's tangible and for the better.

For me co-production is a mindset rather than methodology. It is agile and iterative with different understandings and perspectives on what it is, where to start, how to do it. Purpose and intention is always a good place to start.

We talk a lot about innovation. I wonder if we understand the fundamental needs? Are we solving real and pressing problems first for real people or are we in pursuit of "fast"? Do not confuse expediency with efficiency. Faster processes don't necessarily deliver better outcomes.

I believe we have lost focus on a human level. We must ask ourselves, "if we do this, how does it impact on this life or this person?" not this system or this budget.

Technology **will** have a crucial role across the social care sector.

Technology **can** enable good lives.

Let's start by putting people at the heart of the technology.

National exemplars of technology-enabled care

Participants within the TEC Action Alliance and other stakeholders are well-connected to a wide range of health and care providers that use technology to deliver their services. Our aim was to find innovative, effective care models that are enabled by technology and data



We have examined these 'exemplar services' to find hard evidence of beneficial outcomes, but also to pinpoint any barriers that need to be addressed if these new care options are to be replicated and rolled out at scale.



Bield Housing and Care

How proactive intervention is substantially reducing pressure on emergency services in Scotland

Warrington Borough Council

How integration of rapid response health and care services in north west England is reducing pressure on emergency services



Leicester, Leicestershire and Rutland

Developing virtual wards to manage long term conditions



Carmarthenshire County Council

How proactive care services are helping people to maintain their independence in West Wales



South London Partnerships

How monitoring is identifying people's needs early so timely support can be put in place

In particular, we have highlighted the need to address:

- the impact for the person drawing on care and health services
- the impact for frontline staff
- the impact for health and care systems
- existing evidence of where technology has contributed
- existing evidence of attitudes to the use of technology in the home
- constraints on the greater use of technology
- key evidence gaps

What follows is a set of cases studies, along with a summary of the evidence and learning that emerges in each case. Whilst we have focused on these examples, there are many other service developments that help to build the case for the role technology can play, and references to some of these are included on the [TEC Action Alliance website](https://tec-action.org.uk).

tec-action.org.uk

BIELD HOUSING AND CARE

How proactive intervention is substantially reducing pressure on emergency services in Scotland

An intensive 'proactive telecare' trial by Bield Housing and Care's digital alarm monitoring team, Bield Response 24 (BR24), has revealed astonishing results about the impact of proactive intervention for older adults.

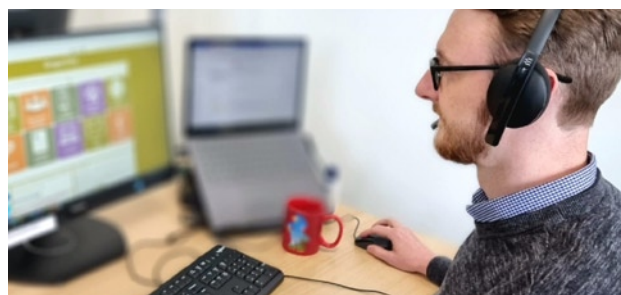
BR24 revealed a 75% decrease in ambulance calls and a 68% reduction in A&E visits as a direct result of early intervention and preventative support methods over a three-month period.

These took the form of regular outgoing calls to individuals' homes to maintain or improve their health and wellbeing and anticipate and prevent crises – known as proactive telecare.

Customers in the Renfrewshire area of Scotland were screened to take part in the 'Inspire Phase 2' project and split into two groups – those who were new to technology enabled care and those who were recent hospital discharges.

From those groups, 45 individuals opted for interventions via proactive telecare in the form of weekly calls (the intervention group) and 20 did not. The latter created a monitored control group – allowing for a direct measurement of the intervention impact.

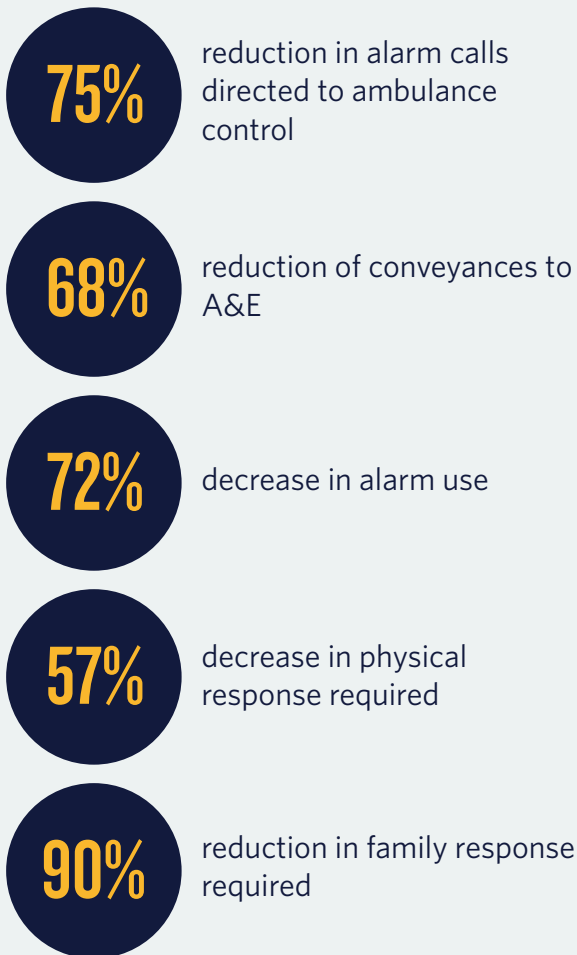
The trial established that regular communication with customers in the intervention group resulted in a decrease in action required across the board.



As part of this project, Bield wanted to explore how early intervention could improve integration with other health and care services (particularly Renfrewshire Health and Social Care Partnership). They tested changes resulting from preventative and proactive calling where:

- Falls were a feature of a referral to support services or where reactive calls from fall alarm triggers exceeded two in any month.
- A hospital discharge care package included a referral to remote monitoring services, or where such services resumed because of a hospital discharge.

OUR FINDINGS



“ The figures have highlighted that intervention support, whether that is through calls, monitoring trends or helping to create connections within the local community, has worked incredibly well and is vital to help reduce the pressures on public services. One customer taking part in the trial went from being completely house-bound to a regular gym-goer in a matter of months thanks to regular catch-up calls from the Inspire Phase 2 team to support her.

Gary Baillie,
BR24 Service Manager

The University of the West of Scotland carried out an independent cost-benefit analysis of the three-month project. Researchers looked at reductions in:

- the number of calls escalated to the ambulance service

TOTAL COST SAVING: £7,348

- the number of people conveyed to A&E

COST SAVING: £2,550

- hospital bed days required

COST SAVING: £71,248, or £1,583 per person over the three months

These figures clearly highlight that large scale adoption of proactive telecare has considerable potential to alleviate pressure on, and provide cost savings for, health and social care services, particularly given the high levels of demand at present.

2

WARRINGTON BOROUGH COUNCIL

How integration of rapid response health and care services in north west England is reducing pressure on emergency services

In 2019, the NHS Long-Term Plan outlined clear expectations for an 'increase in the capacity and responsiveness of community and intermediate care services.'

Warrington Borough Council's Urgent Community Response (UCR) Service was one of seven national accelerator sites chosen to trial the integration of rapid response health and care services.

NHS England's £2 million investment brought together a range of statutory agencies, including acute and primary care professionals, Warrington Council and the Northwest Ambulance Service, to provide effective 'step-up, step-down' support and tailored, responsive and rapid (two-hour turnaround) care for patients, avoiding unnecessary hospital attendances and admissions.

Uniquely, the local UCR service was connected with Carecall, Warrington council's community alarm service and also the council's Falls Response Service.

During the day, falls responders are now based within the UCR service. By night you'll find them a stone's throw away at the Carecall alarm service where soon the overnight nursing service will join them too.


Social care responders, TEC installers, care colleagues, occupational therapists, physiotherapists nurses and other professionals mix and match when it comes to home visits to provide the most appropriate response so people can live well and independently at home.

Working in partnership, these integrated services deliver:


- a reduction in avoidable ambulance conveyances and acute admissions
- a rapid escalation to ambulance services, supporting access to emergency care
- improved speed of discharge (for those who require admission)
- discharge to the right place for therapy and support
- a reduction in the number, length and complexity of domiciliary care packages
- a delay in the onset of bed-based care
- a significant improvement in quality of life outcomes

OUTCOMES

For the person

 **30 mins** is the typical day and night response time to emergency calls

85% of calls for falls handled by Carecall, the Falls Response team and the UCR service result in the individual being successfully lifted, treated and remaining at home



For those receiving re-ablement support:

- **One third** have **no** further care needs
- **Two thirds** have **reduced** care needs
- **85%** of people remain at home **91 days** after support

For the system

Partnering TEC and UCR services, 25% of UCR's workflow is generated by TEC services. Warrington's approach, rooted in its Home First philosophy offers an alternative to an ambulance call. In doing so saving:

£250 per person for each ambulance attendance and conveyance avoided

£300 per person for each emergency department conveyance avoided

£400 per person for each one-night hospital stay avoided



4 weeks of intermediate care at home costs around the same as 4 days in an acute bed

CASE EXAMPLE

Situation

A woman activated her Carecall pendant because she had been stuck on her sofa all day, unable to mobilise. Usually, a sudden loss of mobility would call for an ambulance, but UCR dispatched responders alongside a physiotherapist.

Intervention

On arrival, the FAST test and observations were taken to assess the likelihood of a new stroke, infection or illness. Once confirmed that her observations were all within acceptable parameters, the responder, physiotherapist and occupational therapist helped the woman move using furniture and mobility aids.

Outcome

The woman had capacity and did not want an ambulance to attend - the thought of this caused her significant emotional distress. Our service made a huge difference to her, and she was incredibly grateful to remain at home.

3

LEICESTER, LEICESTERSHIRE AND RUTLAND

Developing virtual wards to manage long term conditions

The COVID-19 pandemic helped to drive forward a rapid expansion of remote monitoring schemes in the Midlands which is allowing clinical teams to keep track of patients with chronic conditions safely and in the comfort of their own home.

Inspired by efforts to establish 'virtual wards' for heart and lung patients after the pandemic began, the service has upscaled and extended the use of technology across four care pathways:

PHASE 1

Heart failure and COPD patients

PHASE 2

Digital rehabilitation for heart failure and COPD patients

PHASE 3

COVID-19 virtual wards for supporting hospital discharges or 'step down'

PHASE 4

Virtual ward for supported hospital discharges extended to include patients on weaning doses of oxygen

“ I feel really fortunate to have the technology during the pandemic. Without it we would have felt totally isolated and adrift. It has kept us calm in a difficult time and has been supportive to me in my role as a carer.

Sandy, whose husband Bob received care from a heart failure nurse and started using the digital pathway during lockdown

Project overview

Using a new web-based platform, clinical teams collected and analysed data that helped them remotely monitor patients' health. The technology also supported clinical assessments via video calls, allowing clinicians to message patients directly with further advice and support.

Over 1,000 patients have been supported across four care pathways since the technology was first implemented in April 2020.

Robust governance with clear clinical leadership helped to drive implementation, with ongoing clinical and patient feedback helping to shape and improve the project.

Cross organisational working was also key as Irene Valero-Sanchez, Consultant Respiratory Physician and Clinical Lead for Integrated Care, University Hospitals of Leicester explains:

"We realised that creating new, dedicated roles or adapting existing administrative roles within our hospital wards to support the virtual ward process was, and continues to prove to be, critical to the success of the patient onboarding process."

The project team established 'digital champions' made up of clinicians who acted as the collective voice of frontline staff and helped to guide the project.

OUTCOMES



1,780 bed days have been saved since December 2020, when the first virtual wards for Covid patients were established. This is the number of days where a patient is at home when they would otherwise have been in a hospital bed.

Feedback from health professionals suggests there have been further clinical benefits in terms of identifying undiagnosed conditions.

“ This service is a prime example of our 'home first' approach to delivering care. Care providers should consider if there are ways that patients can be treated and cared for in their own home rather than in hospital. We want to make sure that people get the right care in the right place...

Dr Gurnak Dosanjh,
GP and ICB clinical lead for virtual wards

4

CARMARTHENSHIRE COUNTY COUNCIL

How proactive care services are helping people to maintain their independence in West Wales

In 2018, Hywel Dda University Health Board based in west Wales published its health and care strategy, A Healthier Mid and West Wales. Prevention was a central theme and technology-enabled care was identified as a key enabler; improving people's wellbeing, helping them stay independent and reducing demand on long-term or acute care.

Carmarthenshire County Council's Local Authority Trading Company, Delta Wellbeing and its CONNECT service has played an important role.

The CONNECT service comprises five elements:

1. Bespoke technology-enabled care packages
2. Community Wellbeing Officer (CWO) assessment and wellbeing planning
3. Community Response Service: a 24/7 Welfare Response Team (registered with Care Inspectorate Wales) that responds to non-medical emergency calls, avoiding inappropriate hospital admission or use of ambulance services
4. Proactive calls: Clients receive a weekly, monthly or quarterly call
5. Links to community pathways: People are directed to early preventative services, rather than statutory care

The service's key goals are:

- To deliver a coherent model of prevention and supported self-management
- To use technology to monitor community-based pro-active care pathways and escalate to statutory services only when appropriate
- To provide people with psychosocial support and coaching to increase resilience
- To support early identification of risk and appropriate integrated responses
- To promote and support chronic condition management
- To reduce loneliness and isolation
- To reduce hospital admission and emergency services demand through a 24/7 response service
- To address the wider determinants of health in a pro-active and coherent way



OUTCOMES

80%

of clients say the service has improved or maintained their outlook

5X
increase

in the number of people referred to services in the voluntary and community sector, rather than into formal social care

68%

reduction in hospital admissions and associated bed days for someone who has suffered a non-injurious fall

6%

Only 6% of call outs needed escalation to emergency services

£2.16m

of costs have been avoided for fall activations visited by CONNECT service (based on client responses that were not escalated to emergency services inc. conveyance to hospital, attendance and triaging at A&E, bed occupancy)

Delta Wellbeing is developing the care model further with Carmarthenshire County Council and Hywel Dda Health Board through two new services. The 'HomeFirst' service; supporting earlier discharge from hospital facilitated by their Blue Army teams based in the local hospitals, as well as delivering a telehealth service that monitors patients with long term conditions remotely from their homes using equipment paired to an app.

Initial outcomes are:

- Clients **discharged from hospital on average 5 days earlier**
- **1,295 bed days avoided** for 259 clients
- **£587,707** avoided (based on £454.60 per bed day)
- **Over 700 patients** monitored via the telehealth service in the first year of operation.

Delta Wellbeing is driving an ambitious agenda for digital transformation through the recent appointment of CGI as partners, to provide an enabling infrastructure so as to harness the power of technology and data to improve the health and wellbeing of the population.

Huw Thomas

Whole-system digitally-enabled transformation



Huw Thomas is director of finance, with executive lead for digital and performance, Hywel Dda University Health Board

Care is increasingly delivered as a continuum: where historic boundaries between the NHS and social care provision, clinical pathways and professions are blurred.

Alongside this, the long term demographic trends in our communities are becoming apparent. A growing elderly population in west Wales is matched by a reduction in our available workforce.

These challenges were at the forefront of our long term strategy for “A healthier Mid and West Wales”, and our digital response developed across four pillars:

1. Citizen engagement, allowing a citizen or carer to have a single digital front door through which to access and interact with health and care services.
2. Health and care co-ordination and collaboration, ensuring that colleagues across health and care services have access to data, schedules and actionable work.
3. Digital operations and control centre, supporting new models of care through scaled remote monitoring, availability of resources and regional case and system management.
4. Regional data fabric, supporting integration and interoperability, and improving data sharing through an integrated health and care record.

With our operational and clinical teams working under immense pressures, we wanted to plan as effectively as possible, bringing clarity to the link between the decisions we take and the outcomes they create. While we have a huge amount of data, it is often fragmented and unconnected.

We are working on the data science overlay to our digital response. With key commercial partners, our response utilises machine learning and AI to create a computational twin which:

1. Minimises administrative tasks for users by surfacing data which already exists in our systems
2. Plays and rewinds the state of our system, to understand what is likely to happen and allow better planning
3. Understands the drivers of change by unpicking the root causes of performance
4. Uses simulations to find the optimal allocation of resources
5. Supports continuous service improvements by allowing ex post evaluations of decisions

We are currently developing a route to market to attract commercial partners to support our transformation journey. We want to position west Wales as an exemplar in whole-system digitally-enabled transformation, offering exciting new roles.

Our digital response is crucial in supporting colleagues to be targeted, focused and risk-based in delivering care. This will, ultimately, lead to better, more timely interventions and improved outcomes to support our population to live healthier and more independent lives for longer.



“ We wanted to plan as effectively as possible, bringing clarity to the link between the decisions we take and the outcomes they create.

Huw Thomas



5

SOUTH LONDON PARTNERSHIPS

How monitoring is identifying people's needs early so timely support can be put in place

In response to Covid, South London Partnership (SLP) approached IoT Solutions Group in 2020 to co-produce a discreet monitoring sensor for vulnerable, independent residents. Supported housing services and adult social care teams wanted to identify and prioritise residents in need of assistance in between their care and support visits.

Now that services have returned to normal, these sensors are notifying care teams of residents most in need with daily red-amber-green notifications. Alongside triggered alerts, care staff can prioritise their efforts. This solution has now been adopted by 14 UK local authorities.

The red-amber-green status of the resident is determined by a single sensor in the kitchen. Typical activity patterns are identified based on ambient environmental conditions, influenced by activities such as boiling the kettle, cooking a meal or washing up. This data is relayed to a cloud dashboard, and deviations from typical patterns trigger email alerts to the residents' care provider.

“ The data provided by these sensors has enabled us to have conversations with the residents to establish what support they need. On the back of this, we have referred residents to Sutton Connect, some for help with bills and others for help with benefits, etc. The fuel poverty alerts have enabled us to identify those who need support, but not necessarily from social services.

Lisa Lakatos,
Independent Living Officer, Sutton Housing Partnership

OUTCOMES

1 Emergency intervention

People who become ill or fall at home without access to an emergency button or pull cord can now receive help before it is too late.



Five lives were saved in the first 12 months of SLP adopting the technology

Owing to this early intervention, all five residents have been able to stay at home, living independently

“ When they found me, I was very, very ill, and if I'd been left longer, I don't know what would have happened.

**Maureen,
Elderly Sutton Resident
who fell and broke her
hip during the care
sensor trial.**

**The ambulance service
stated that Maureen
would not be alive if it
weren't for the sensor.**

2 Preventative care

Residents showing a decline in activity levels now have their needs prioritised before their condition deteriorates further, reducing pressure on the NHS and care staff.

- 149 fuel poverty alerts in January 2023
- Nutrition and hydration concerns highlighted

3 Service improvement and efficiency

This Internet of Things technology enables SLP care staff to prioritise their high-pressure workloads. Additionally, care providers are reassured that residents are active and following their usual routines.

- Falls can be detected without relying on user interaction
- Residents feel better supported as a result of the sensors
- Fewer residents referred for full carer support
- Ongoing monitoring helps to ensure that current care and support continues to be a good fit

“ It's reassuring knowing that if anything goes wrong, someone will make contact with me.

**Sutton resident with care
sensor**

Sir David Pearson

Realising the benefits of TEC



Sir David Pearson, Chair of TEC Quality

These are turbulent times.

The impact on the social care and health care services of this situation are profound. It is easy to become overwhelmed by the sheer scale of the challenge. Just some of the issues are:

- Not enough people receiving timely and appropriate treatment, care and support that addresses their needs quickly
- Need and cost are rising beyond the capacity of the services to respond or respond quickly enough
- Workforce challenges which involve high levels of vacancies in health and care systems across the UK

The TEC sector is also rapidly changing with the advent of digital platforms and the phasing out of analogue platforms.

As national governments and organisations grapple with some of the major issues and strategies to address the challenges, what can we do? One of the defining features of our time is the potential to use technology to enable personalised and proactive approaches, helping to address people's needs and aspirations effectively and compassionately.

What does technology enable us to do?

1. The best health and care systems in the world bring together electronic records from across health and care to provide faster responses, prevent duplication (and the need for people to continually recite their needs and history) and give the most appropriate care, support and treatment.

2. Utilise data to improve population health and wellbeing (prevention in its broadest sense) and population health management (dealing with today's risks - identifying those most at risk to, where possible, prevent crises).
3. Use medical and health devices to monitor and support people who have health conditions to recover, be safe and thrive.
4. Last, but by no means least, technology-enabled care (TEC) which as part of "an internet of things" helps people to live as independently as possible with as much choice and control over their environment.

In a highly pressurised world, these are things that can make a real difference. We know that TEC can work as part of wider services to provide proactive, preventative care.

What will it take?

- A sector that is determined to embrace digitisation
- Providers who are prepared to collaborate as well as compete to develop solutions
- Evaluation and research to make further progress
- Supporting the workforce to use technology and devise solutions with people to meet their needs
- Good standards and quality improvement to guarantee safety and effectiveness

Collaboration through the Alliance and wider partnerships will enable us to realise the benefits for people all over the UK.

Tim Straughan

Shifting to a new normal for health and care



Tim Straughan, Director of NHS @home, NHS England

The pandemic has created an amazing opportunity for change and adoption of new solutions. It has also made us appreciate the value and importance of strong communities, integrated approaches and the astonishing scientific and digital innovations that can be rapidly deployed when needed.

This includes the significant increase in the use of at-home monitoring, video consultations and other forms of virtual care including Virtual Wards. The last couple of years have also seen a rapid expansion of the NHS App which now has over 30 million users interacting in new ways with the NHS including diagnostic Lateral Flow Device (LFD) self-testing by almost the entire population at home.

During the pandemic we have witnessed a step change cultural shift in attitudes to virtual care by both the public and professionals. People want to be more actively engaged and confident in managing their health and often want the choice and convenience of being cared for at home. We also know clinicians and health and care professionals recognise the size of this opportunity.

By normalising these new virtual and personalised tech-enabled approaches we can support significantly more people to monitor and better manage their long-term health conditions in their own homes, enabling them to live well and independently for longer. Not only is this more convenient but has the potential to be significantly more productive and satisfying for carers.

'Recovery' back to where we were pre-pandemic is therefore not sufficient and a missed opportunity for step change. We must lock in the learning and beneficial changes to make digitally enabled care the new normal.

Realising this ambition requires a 'call to action' and collective responsibility for Integrated Health Boards (ICBs), NHS providers and their local partners to innovate and design new pathways/solutions to allow more people to stay well and independent at home or be safely treated or recover at home, supported by integrated multi-disciplinary neighbourhood teams.

“ By normalising these new virtual and personalised tech-enabled approaches we can support significantly more people to monitor and better manage their long-term health conditions in their own homes, enabling them to live well and independently for longer.

This contribution is made by Tim Straughan in a personal capacity and not on behalf of NHS England

How can providers and suppliers meet people's needs?

The TEC exemplars that we have highlighted are beginning to meet the needs and aspirations of people by listening closely to their needs and developing care models that support prevention or self-management, through a joined up health and social care response.

This requires:

Effective co-production:

Providers work closely with people to match their needs. People's needs can be documented (with their consent) and success measured over time.

Services to be personalised AND scaled:

Service and technology providers find ways to meet individual requirements whilst enabling services that can be delivered economically, at scale. This will place demands on the design of organisations and technology platforms, in ensuring that they support personalised configuration.

Data to be shared (with consent):

to enable a joined-up response at a local level to support people with identified needs. This could take the form of a community-based control centre style approach with health and care resources working at a neighbourhood and place-based level to deliver support to people in the place they call home. Critical for this is a shared perspective on an individual's circumstances, including but not limited to their health and care record.

Work to be joined up:

(and esteem to be equal) between health and social care professionals on the ground, supported by the third sector, housing and others to deliver services which feel seamless to those using them.

Digital care technology to be integrated:

so it includes devices and applications that interoperate with each other, to deliver choice, and offer familiar and friendly user experiences, to minimise skills challenges. These technologies need to feature within broader NHS plans, that include virtual wards and 'command centres', and which operate at a community level to support people in a holistic manner, across both health and care services.

Funding to be made available for proactive and preventative provision of TEC:

that supports people proactively and preventatively at home and in the community, not just technology to support hospital discharge or in response to crises.

We have exposed key operational demands, including:

- People asking for their support network to be coordinated, which is expected to lead to better outcomes for them – and more efficient use of resources.
- Individuals using services and technology wanting freedom of choice, to best meet their individual needs and preferences.
- Service providers needing to ensure business continuity, through access to multiple supply chains.
- Service providers and people drawing on services seeking value for money, by enabling procurement in an open, competitive environment.
- A mechanism to record people's needs and wishes for the help and support they need.
- A way of sharing people's views on how and for what purpose their data can be used.



Collectively, these demands require technology and services to at least be integrated, and at best fully interoperable. This will require commitment to elements of standardisation.

TEC Action Alliance participants have noted that increasingly, local authorities and housing providers are looking at technology-enabled care as another instance of smart city style technologies, which can and should be integrated with other data sets to achieve the aims outlined above. This recognises, for example, how air quality sensors distributed across a city can play a critical role in supporting those living with COPD to make choices about their day to day lives.

A modern TEC landscape can include the integrated use of data from smart meters and other lifestyle technologies. We need to drive the potential for care that comes with the emergence of new and assistive technologies, and the analogue to digital switchover in telecommunications.

Technology-enabled care can no longer exist in a vacuum; it needs to be integrated with other core services. This requirement is driving a change in the supplier landscape to the sector, with more IT implementation partners beginning to enter the market. Together, with the rise of integrated care systems, this is driving a change in the TEC landscape with traditional providers looking to integrate into these emerging data ecosystems.

Helena Zaum

The value of data in effective care



Helena Zaum, Social Care Lead, Microsoft UK

It may seem on first looking, that an apparently technical topic like data is a far cry from the [TLAP i-statements](#). But on closer examination, it is hard to see how we can deliver on many of these aspirations without it.

How will we support the wishes of individuals who draw on care without a better understanding of their specific hopes and priorities? Supporting people to achieve the sort of life they want to lead is difficult in a highly complex environment unless everyone is on the same page. This requires easy means for individuals to explain what matters to them (and for this to be documented in such a way that it can be shared securely with those who they have given permission to). It also requires 'the system' to orchestrate support across a variety of different people, agencies and assets (for example technology and housing).

It is critical that place-based leaders (and their suppliers) are purposeful in creating ecosystems of data which allow for information to be drawn from across 'place' into one platform to support the personalisation which the TLAP i-statements call for.

Personalisation is not the only benefit. Using the same anonymised data to predict future trends in need across local populations, and for prevention focused support and services requires the same approach.

Broadly speaking, there are two different ways of doing this. The first is to pull information together from different (existing) systems into one data platform. South London Partnership is working towards this with its IoT platform bringing together data from many different use cases to establish a vehicle for joined up decision making.

An alternative is to record information about people in a platform which is built around the ability to create a 360-degree view of a person across different services – and only when they give permission for this to happen.

This path is being forged by [Aberdeen City Council as it looks to support citizens across their life course](#) and adapt to their changing needs over time.

Either way, more extensive use of data in this way calls for a robust discussion around the use of data and AI ([see here for some suggestions](#)) – a dialogue which must be driven by those with lived experience of drawing on health and care services.

“ More extensive use of data in this way calls for a robust discussion around the use of data and AI – a dialogue which must be driven by those with lived experience of drawing on health and care services.

Roy Sandbach

Five extra years of healthy living



Professor Roy Sandbach OBE, Former Director of the National Innovation Centre for Ageing and Technology for our Ageing Population: Panel for Innovation (TAPPI) Chair

The 2021 TAPPI report into the use of technology for our ageing population (funded by the Dunhill Medical Trust) was constructed by a committed, experienced and knowledgeable panel. The report included contributions from experts from across the housing, health and care sectors and was brimming with best-practice examples of technology that is making a difference in people's lives. We know "what's possible."

Sadly, there is simply no coherent, holistic, multi-agency National Strategy for Independent Living for older people that shares, replicates and scales these solutions. We are left with an ageing population that "falls" (often literally) into the health and care system, at great cost to the public purse and with associated trauma for individuals and their families.....who almost universally still don't know "what's possible".

In my view, this is a whole system issue, but at its heart is an independent living market failure. A market that could and should be catalysed by the TEC Action Alliance, with government as strategic convenor.

In the simplest terms, I advocate three things.

First, the development of compelling and well-funded messaging that builds societal awareness of, and engagement with, technology opportunities to help everyone "live better" and "live longer".

Second, the creation of an accessible public platform for living-well technology solutions.

Third, the mobilisation and training of everyone in the broader care world to equip them to drive technology adoption with common-cause innovation at heart. This must include all agencies and businesses in housing, healthcare, local government, community health and well-being, and even entertainment.

Societal care should be part of everyone's purpose, with technology as a key enabler. This is a call to action that must be heard as demographic change drives increasing needs. We have no time to lose.

“ We are left with an ageing population that “falls” (often literally) into the health and care system, at great cost to the public purse and with associated trauma for individuals and their families..... who almost universally still don't know “what's possible”.

Jeremy Porteus

Being smarter about making our living environment appropriate to our changing needs



Jeremy Porteus FRSA, Chief Executive, Housing Learning and Improvement Network (LIN)

A 21st century care offer needs to be smarter about how technology is integrated into our homes.

With smarter homes, we can improve current healthcare delivery models and address some of the system pressures in the NHS and adult social care outlined in this paper. This can transform services from a dependency model to one that promotes independence and well-being, as well as encourage greater self-care through at-home technology-enabled solutions.

As demonstrated during the pandemic, the deployment of technology goes beyond just care and support, it is also crucial in addressing environmental factors, such as adjustments in lighting levels and access to natural light, thermal comfort and controlling ventilation, accessible design and layout.

Whether new builds or adapting our existing properties, such improvements can enable people living in mainstream and specialist or supported housing to continue living in their homes for as long as they desire, promoting their autonomy and independence.

With this said, it's important to recognise that the living environment can affect a person's ability to use technology in the first place, with overcoming a lack of accessibility and poor digital literacy being crucial factors to consider. As recommended in the

Technology for our Ageing Population: Panel for Innovation (TAPPI) report, it is essential to eliminate these barriers by investing in an inclusive digital infrastructure. This includes designing smarter new builds and adapting/retrofitting existing stock to meet changing needs.

Funded by The Dunhill Medical Trust, and in partnership with TSA, the team at Housing Learning and Improvement Network (LIN) is pleased to have recently launched TAPPI: Phase 2. Built on the principle of 'co-production', residents across six testbeds in England, Scotland and Wales are having an active say in determining how technology can play a critical role in their housing and care solutions. It aims to address the barriers that prevent the adoption of technology and provides the 'green shoots' for enhancing the lives of older adults, not only in health and care settings but also in housing.

“ It's important to recognise that the living environment can affect a person's ability to use technology in the first place.

Conclusions and Recommendations

A focus on strengths, not just needs

In preparing this paper, we have engaged with people who have lived experience: conducting surveys, focus groups and gathering personal stories. Their feedback has indicated the huge potential for technology to support individuals who draw on care and health services to flourish.

But this engagement with people who have lived experience, along with feedback from our TEC exemplars also shows that too much attention is currently placed on health deficits. Instead, we must focus on proactive, strengths-based approaches that link with community networks to support people to self-manage their own health – reducing demand for residential care and hospital treatment.

This challenge is reiterated in the opinion pieces written by the sector experts. Each of them brings different insight, but the overall conclusion is the same: we can and must do much better at harnessing the benefits of all technology in the home, and the integrated use of data, if we are to deliver what people want and help them lead really good lives.

More co-production and personalisation

We have outlined the case for sharing decision making that relates to TEC services with the people who will use them. We must also ensure that solutions are tailored to people's personal needs and wants. These two principles are central and must be threaded through everything TEC-related going forward.

We want to build on important work in this area, such as [TLAP's Making it Real framework](#) and [Social Care Future's 5 Key Changes to Unlock an Equal Life](#) - demonstrating the enabling role technology can play.

New care models

In this paper we have identified a range of innovative service models, enabled by technology, that offer very significant benefits to highly pressured health and social care services. Crucially, these exemplars also support people and families to do the things that matter to them in the places they call home.

The challenge now is to turn the evidence and views outlined in this paper into action.

Actions: For providers of TEC Services and Technology

A number of immediate actions must be delivered by TEC providers and suppliers as follows:

Deliver the technology-enablement that people want:

- demonstrate that people's needs have been heard and responded to, capturing the experiences and aspirations of those with lived and learned experience
- enable choice through integration and interoperability
- make sure that TEC solutions include technologies which offer familiar and friendly user experiences, to minimise skills challenges, and which can be personalised to individual needs and wishes
- success will be measurable through greater adoption and market growth for TEC

Joined-up working - making sure that services are coordinated and integrated:

- between health and care practitioners on the ground, supported by the third sector, housing and others to deliver services which feel seamless to those using them
- integrate TEC services with wider health and care provision
- enable the information sharing that is needed for joined-up working
- progress will be measurable through improved outcomes, user satisfaction measures, and service efficiencies

Deliver new care models, and evidence their outcomes at scale:

- meet individual requirements whilst enabling services that can be delivered economically, at scale
- deliver against demands for more personalised, proactive and preventative care and support solutions
- progress will be measurable in terms of an ever-growing body of evidence for beneficial outcomes from technology-enabled health and care

Commit to integration and interoperability of services and technologies:

- technology and services should at least be integrated, and at best fully interoperable. This will require commitment to elements of standardisation
- integration and interoperability are essential to the delivery of joined-up working and information sharing, and they are fundamental to the delivery of personalised support and choice
- reflect the drive for integration through service partnerships and the design of technology platforms
- enable integration of digital care and information technologies with broader health and care systems, to support, for example, virtual wards and 'command centres' which operate at a community level, supporting people in a holistic manner, across both health and care
- success will be measurable through greater adoption and market growth for TEC

Support workforce development:

- employ familiar and user-friendly technologies, to ease workforce adoption
- identify skills development requirements and contribute to professional development initiatives
- work with higher education to ensure that technology-enablement is addressed in course content and qualifications for health and care professionals
- progress will be measurable through improved awareness of TEC options, carer satisfaction and service delivery quality

Make the most of data assets:

- share data (with any necessary consents) to enable a joined-up response capability at a local level to support people with the needs which they have identified. This could take the form of a community-based control centre style approach with health and care resources working at a neighbourhood and place-based level to deliver support to people in the place they call home
- critical for this is a shared perspective on an individual's circumstances, including but not limited to their health and care record
- cherish and protect data, by ensuring that best practice is applied to consenting, sharing and processing of data across all aspects of TEC service and technology delivery
- commit to end-to-end digitisation of TEC, to enable access to user and service data at each link in the chain
- enable access to data for ongoing research initiatives
- progress will be measurable through improved outcomes and service efficiencies

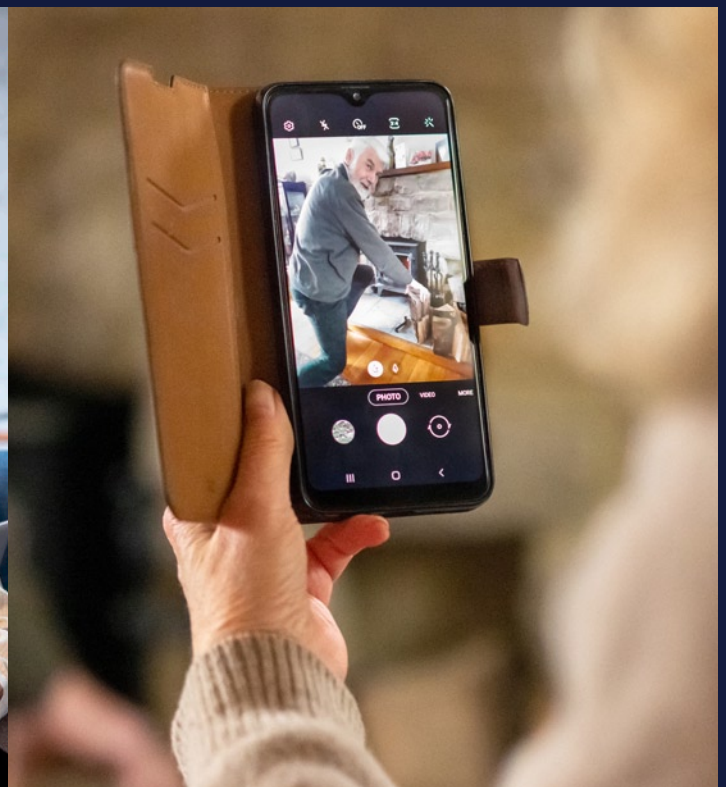
CONCLUSIONS AND RECOMMENDATIONS

Ensure that services and technologies are fit for their intended purposes:

- adapt or create standards and regulatory frameworks that ensure adequate levels of quality are achieved in digitised, personalised and proactive service delivery
- TSA, as the industry and advisory body for TEC, should help to drive the actions identified in this paper, through onward development of standards and guidelines for TEC services, and by tracking progress against the proposed measures
- progress on 'fitness for purpose' will be measurable through improved user satisfaction, measures of service delivery quality and levels of compliance

Engage in structured discussions with Integrated Care organisations to:

- demonstrate options for health, care and support that meet people's needs and desires through technology-enablement
- provide evidence of benefits from use of technology-enabled care and support, in terms of improved outcomes for people, and delivery of service benefits and efficiencies
- build shared roadmaps for the inclusion of technology-enabled care in integrated service provision
- success will be measurable through greater adoption and market growth for TEC



Actions: For all participants of the TEC Action Alliance

The TEC Action Alliance should continue to work with the TEC sector to develop an Action Paper, to be delivered before the end of 2023, that will:

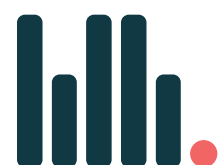
- Identify what people want from technology-enablement of care through structured surveys of people using TEC services in the exemplar projects – these surveys need to go beyond ‘attitudes’ to technology, to define priorities for technology-enablement of health and care
- Collect evidence of market demand for new or adapted services and technology – this will help care service providers and designers and manufacturers of technologies to shape their business plans and roadmaps
- Embed co-production in the development of all TEC services and solutions, by demonstrating the relationship between engaging people who draw on care and support and successful service outcomes. This will evidence to commissioners the ongoing commitment of service and technology providers to the co-production of technology-enabled care and, importantly, the results that can be generated
- Capture the features of proactive services that deliver beneficial outcomes. This should include the identification of barriers that are presented to innovative TEC solutions, along with proposed solutions, and may include blueprints for service design, guidance on planning, process, techniques and resourcing
- Define an evaluation framework that could be adopted across the UK to measure the outcomes of new care models for people who draw on care and support, and to measure the system and service costs and benefits, such as cost savings and a reduction in pressure on statutory services
- Recommend amendments to policy, funding, quality frameworks and regulatory requirements, to help embed innovative and effective TEC services in best practice health and care planning

The TEC Action Alliance calls on UK governments, local government, the NHS, along with technology providers and service providers to engage with the TEC Action Alliance’s plan of action over the coming months.

Following this period of engagement, a TEC Action Alliance Action Paper will be delivered by the end of 2023, setting out a roadmap for all engaging in the design and provision of social care and health, to help deliver the full, evidence-based contribution that technology can make to supporting the lives of people who draw on health and care services.

Acknowledgements

We are grateful to participants in the TEC Action Alliance. Their support and expertise have enabled us to gather views and intelligence for this paper.







Further thanks

We are also thankful to the many leaders within social care, health and housing who have contributed opinion pieces to this paper.

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Find out more

Insight and best practice from a number of reports, research and case studies has informed this paper. Many organisations are moving to effective and more proactive models of care, putting people at the heart of these services.

Find out more on the TEC Action Alliance website.

tec-action.org.uk

Participating in the development of this paper does not automatically imply organisations endorsing all the contents of the paper.

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