

Digital technology puts NHS at cutting edge

Using advanced technology is a vital element of integrating health and care services in Cornwall and the Isles of Scilly. **Jackie Butler** finds out why it is so important and what initiatives are dedicated to transforming connectivity and improving safety, efficiency and quality of care

IMAGINE you have an appointment with your GP and during the consultation she dictates observations into a voice recognition device that inserts those spoken words onto your medical records and actions any directions.

Before you've even left the surgery, an email referral is in the inbox of the specialist consultant you need to see, your new medication is being prepared by the local pharmacist ready for collection and you have an appointment booked with the practice's social prescriber to talk about becoming more active.

Without having to transfer scribbled notes onto the computer or write a referral letter to the hospital, and happy that all your immediate needs have been dealt with and recorded, your doctor can call in the next patient straight away.

A decade ago that mutually beneficial scenario would have been pie in the sky, but it is now well within the scope of available technology and could soon be the norm in an integrated system that is hungry to embrace digital advances.

Health and care partners in Cornwall and the Isles of Scilly are currently in the thick of a massive digital transformation programme that should put them at the cutting edge of innovative use of technology. While helping to tackle challenges the county's unique rural geography and ageing demographic present, it is focused on addressing the needs of both patients and clinicians. A long review stage is now blossoming into a time for action.

Amanda Stratford, chief executive of Healthwatch Cornwall says: "Digital technology forms part of everyday life now, for people of all ages. Innovation is truly valuable when it addresses people's needs."

"Recently we asked people across Cornwall and the Isles of Scilly what they would prioritise locally in the NHS Long Term Plan and it was clear there is a real desire to see technology used more across health and social care."

Technology advances swiftly and keeping up is the tricky bit. In an age of burgeoning development of artificial intelligence (AI), augmented reality (AR), voice recognition, face recognition, robotics, remote monitoring and use of video, the possibilities for clinical and administrative solutions are myriad.

Nailing down what will work in the system and testing out alternatives – with the emphasis on "cloud" based storage and accessibility – is the remit for Kelyvn Hipperson, chief information officer for Royal Cornwall Hospitals Trust and Cornwall Partnership NHS Foundation Trust, as well as Cornwall and Isles of Scilly IT services lead.

Working closely with Paul Lidder, clinical lead for IT, Kelyvn's job is to find strategies using technology to tie health and care more effectively together. He comes to the task surveying a landscape of applications that have evolved over time. Some were truly innovative a decade ago, but are now reaching the end of their life as more dynamic developments offer better solutions.

"We want to reduce the complexity, use integrated solutions and make it easier to share information to improve patient safety," says Kelyvn. "Part of the way we do IT these days is the 'agile approach'. Rather than develop a huge programme, we work on the basis of trialling something first, then building it. We get hold of something interesting and build up from there."

One of the most common complaints from patients journeying through the system – from initial GP consultation through to acute hospital intervention or out into community care – is the number of times they have to repeat their story to different practitioners.

The major stumbling block to fixing this is that the hotch-potch of computer programmes used by the different NHS and local government organisations which don't talk to each other. Streamlining these necessary connections is, naturally, one of the top priorities for digital strategy, particularly the quest for an electronic patient record system that allows secure access to everyone who needs to refer to them.

"Only people with the right authorisation will be able to see the data," explains Kelyvn. "It is as much about good and safe operation of that solution as it is about technology. Our job is to make sure all the protocols are in place so people have confidence that their personal information is being protected."

Nervecentre and eNotes are the core pieces of specialist clinical software that will underpin the transition from frequently disjointed to simple and seamless in terms of a patient's journey through the system.

While the system-wide solution is in development, significant pockets of innovation are already happening. At Royal Cornwall Hospital, for example, records are currently being digitised and shifting files of paper notes from department to department will soon be a thing of the past.

Clinicians are carrying iPod devices to record notes at the patient's bedside that can then be shared by others on site delivering an individual's care.

In the community, nurses who go out to treat people in their homes are starting to use smart phones with the same capability as a laptop to look



► **Top: Amanda Stratford, chief executive of Healthwatch Cornwall and Paul Lidder, clinical lead for IT**

up and record patient notes, eliminating the need for them to keep returning to their office base.

"There are sometimes challenges around mobile signal but we are looking at changes in mobile networks and the way we access vital services to drive down poor connectivity," says Kelyvn.

Increased use of video consultation and conferencing, via phone, desktop or laptop, is another significant strategy aimed at saving time – particularly travel time – for both patients and clinicians in our rural environment.

Dr Tamsyn Anderson, Newquay GP and health and care system clinical lead for Cornwall and the Isles of Scilly, says: "In a system that is really conscious about climate emissions, as clinicians we spend a lot of time driving around our county. We want to still have the human connection with people. Video links are a great resource for us. We need to be able to connect with people; on video you can see the other person and be part of something even if you are not there physically."

The connectivity of online programmes like the Office 365 suite is also poised to change how people within the partnership communicate and collaborate. People can share



► **Voice-activated smart speakers are becoming an everyday norm for elderly people as they 'ask Alexa' for all kinds of information**

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content and documents, and even work on them at the same time as someone else in a different location, and meet via video.

Patient flow and bed occupancy are other areas ripe for simplification through technology. The team are looking into a robotic solution where if an appointment is cancelled, the freed-up slot is filled automatically.

Making sure everyone is trained to operate new programmes effectively is vital. Kelyvn says: "These tools are here to support decision making. We need digital skills development for every clinical setting and also for people out in the community to raise the general level. We have to find a way to help people overcome barriers and make sure solutions are simple to use. The voluntary sector can be brought into that so that agencies can collaborate through video conferencing, for example."

In such a rapidly evolving environment, Kelyvn chooses to look no more than five years ahead. He says major changes around patient record solutions should be seen within two years.

There are multiple sources of innovation to draw on, both locally – including initiatives with Falmouth University and Goonhilly Earth satellite station – and nationally, that

could come to fruition in the medium term.

In 10 years time Kelyvn envisages huge expansion of AI and automation and some fundamental changes in the way care is delivered.

ASK Cornwall and ASK Isles of Scilly Shaping health and care provision to match the wants and needs of the population depends on input from real people who use services. Making it easier to share their thoughts and opinions, and ask pertinent questions, is the driver behind a new, tech-enabled initiative from Healthwatch Cornwall that is currently on trial.

'Ask Cornwall' – and its sister initiative 'Ask Isles of Scilly' – will offer a bespoke social media conversation platform where the people and the health and care system can speak freely to each other.

Developed from scratch with the Cornish company Made Open, who design technology to help create positive social change, the project has been funded by Cornwall Council and NHS Kernow Clinical Commissioning Group.

"Anyone will be able to look at it and see what the hot topic is in terms of health. Joe Bloggs of Bude will have as much right to pose a ques-

GROUNDBREAKING INITIATIVES



► **Chris Wood of Ocean 3D (Penzance) and Heather McPherson, theatre education Royal Cornwall Hospitals Trust, at Expo 2019**
Jackie Butler

CUTTING edge technology came under the spotlight this week at Cornwall's first ever health and care Expo.

More than 150 professionals gathered to gain an insight into some of the space age innovations, such as robotic surgery, that will become tomorrow's norms, as well as groundbreaking initiatives that are already being trialled in the county.

The exhibition-style event at the Health & Wellbeing Innovation Centre at Trelliske, Truro, supported by the Academic Health Science Network, staged key speakers and workshop sessions, and was open to anyone working in the health and care system.

Exhibitors showcased initiatives using artificial intelligence (AI), virtual consultations by video link and all kinds of digital apps that clinicians and patients can use.

Ethna MacCarthy, director of planned care at Royal Cornwall Hospitals Trust, said: "The purpose of Expo is to enable practitioners from right across Cornwall to see what the future of clinical practice might look like, and how technology in particular will offer opportunities. It's a chance to talk and learn and be inspired to generate ideas for the future, on a big and small scale, as well as to reflect on good practice that is already happening."

Innovators from Cornwall included Ocean 3D from Penzance who have produced highly detailed interactive 3D tours of Royal Cornwall Hospital Trust's

operating theatres that can be explored on mobiles, tablets, laptops and computers.

One of the major aims is to ease patients' anxieties before coming in for surgery. They, and their friends and family, can see exactly where their journey will take them and even "virtually" meet the clinical staff in advance. Already being trialled at the hospital, the idea is that all patients could be given a link to the virtual tour when they receive their appointment letter.

Heather McPherson from RCHT's theatre education, who was instrumental in introducing the initiative, says it is also great for recruitment. "It's not just for patients and staff. It means we can show potential recruits around and they can see that we have 21 theatres and 500 staff," she said.

Another local exhibitor was the award-winning Ultramed from Tremough Innovation Centre at Penryn, whose CEO Dr Paul Upton is a former RCHT anaesthetist. The company's MyPreOpp app allows patients to complete their pre-operative assessment online, potentially saving them an additional hospital appointment.

The focus was also on how systems and networks across health and care services – from prevention to primary care, acute, community and mental health – can be updated and streamlined to make information sharing much easier, resulting in better care coordination, patient flow and patient outcomes.

functions they are being used for include:

- Prompts to take medication
- Reminders for appointments
- Communication with family, friends and health care professionals
- Instant access to music, radio or audio books
- Community information resources, such as Cornwall Link, on tap.

The pilot, run by the EPIC project, (E-health and Productivity in Cornwall and the Isles of Scilly) aims to establish the impact of the devices on the everyday mental wellbeing of elderly people, particularly in terms of loneliness and isolation.

"Our aim is to raise awareness and normalise the use of video calls and voice-activated technologies among care home staff, residents and families across Cornwall, and we really hope it will make a difference," says

director of EPIC, Professor Ray Jones. "The benefits of using such technology could mean not only reduced loneliness and better connection with families, but also help reduce demands on the health and social care system. It could pave the way for more video-conferenced and telepresence consultations in care homes, which could reduce travel times and increase capacity of primary and secondary care givers."

The EPIC team will be analysing how rolling out the smart speaker initiative could promote the adoption of more technologies in future. Funded by the European Regional Development Fund to identify health and social care issues in Cornwall and the Isles of Scilly, it also aims to encourage and empower companies to provide tech solutions for specific challenges.



► **Kelyvn Hipperson, Cornwall and Isles of Scilly IT services lead**

tion as the leader of the council. It's about sharing information, ideas and responsibility," says Amanda Stratford, chief executive of Healthwatch Cornwall, independent champions for public opinion on health and social care. "Sometimes communities can fix things themselves. Sometimes the system can enable people to fix it."

Healthwatch will be moderating content and there will be a citizens' panel to work on suggestions arising. "Most citizens' panels are driven by surveys, but we will have real con-

sumer input and that is not being done anywhere else, as far as I know," adds Amanda.

Switching on to tech solutions

Coming together to discover better ways of working underpins the whole notion of integrated health and care. In terms of technology, a new regional body launched this summer is forging ahead to share challenges and find solutions to ease the impact on services.

Switch, the South West Interdisciplinary Technology Consortium for Health and Care, led by the University of Plymouth's Centre for Health Technology, offers an "ecosystem" where NHS partners, industry partners, health and social care organisations and patient groups, can connect and collaborate effectively to improve quality of life.

As a starting point they have been focusing on the particular demands of the ageing population in Cornwall, where one in four people is over the age of 65 – a proportion that will continue to rise. But the group is open to any area of health or social care that has a current issue for which technology might provide an answer. Dr Arunangsu Chatterjee, associate professor of digital health and education says: "We are proud

to be involving university researchers from science, arts and healthcare in Switch, but we want it to be self-sustaining and act as a go-to innovation enabler for service users, funders and the local businesses who can help. With an ageing population, our region is well placed to lead in the creation of projects that might help ease pressures on services. And if Switch continues as we hope, it could be an exemplar of digital healthcare internationally."

Asking Alexa

Voice activated smart speakers are becoming an everyday norm for elderly people as they "ask Alexa" for all kinds of information, interaction and entertainment as part of an academic-led pilot scheme.

Around 150 Amazon Echo Spots, supplied by the University of Plymouth, are being used by residents in care homes across the county, with a further 32 in people's own homes, installed by Age UK Cornwall and the Isles of Scilly. And there's a team of digital health champions on hand to make sure people get the best use out of the devices – which were funded by a Technology Enabled Care grant from Cornwall Council – by tailoring them to individual needs. The practical and supportive