Mind the Gap!

Delivering digitally enabled change to the NHS

BT Health Report 2023

Contents

Foreword

The NHS is the people who work within it – it is made up of our families, friends and fellow citizens. They have worked harder than ever before during the last three years, stretching every fibre to keep our population as safe as possible. However, as the NHS faces some of its biggest challenges in a generation, as a long-term partner of the NHS, BT is determined to support it more than ever.

**Professor Sultan Mahmud
Director of Healthcare
– BT Enterprise**

As I reflect on my twenty years within the NHS, and now look at it from my new position – as the leader of BT's healthcare team – I realise we can do much more to help create an environment within which NHS staff can flourish and enjoy their work. As they struggle to recover from the impact of Covid and face into the headwinds around waiting lists and long ambulance delays, we need to up our game and provide useful technology and enhanced connectivity where the staff need it most – on the front line. This is an opportunity for BT to prove our commitment, supporting our NHS in its journey to recovery.

The NHS is not alone in the battle for our nation's health. Private healthcare providers, community associations and not-for-profits are striving for better models of delivery, and we are working alongside them, combining efforts and taking the best solutions that exist and using them to tackle the biggest challenges. BT has the size and strength to oversee the rapidly changing technology and help the NHS and others pick the solutions most likely to deliver the best outcomes for them.

During the pandemic we saw a pivot in delivery models. Virtual care became the norm, self-booking and the opening of multi-channel digital solutions for our citizens was

championed. The Health Foundation reported that 97 percent of citizens used some form of digital tool to communicate with the NHS. The change has been dramatic, and it was necessary for the NHS to survive. But, as the dust has settled, the NHS risks reverting to old ways of working and losing focus on the digital opportunities that remain untapped.

We need to support the NHS to embed the changes that worked, particularly virtual care and the data solutions that directed resource more effectively. We need to coordinate these episodes of innovation into linked journeys of care with supporting command centres, driving better outcomes and service improvement. Data, and safely accessing the insights derived from it, remains a core focus for both BT and the NHS. For example, our healthcare teams at BT embed data ethics within our propositions and we securely safeguard patients' data and privacy.

Necessity may have forced a digital revolution in healthcare, but an enlightened vision and strategy is now needed to sustain these changes and unlock the benefits for the service in the longer-term.

One of the biggest challenges many foresee in the next ten years is the continued movement of focus from secondary care to community and home care. BT has been supporting connectivity in our homes for as long as we have existed and, since 1948, we have been underpinning the movement of information and data across our NHS. I see the next decade as time to unify the care continuum; I want to reimagine how our world-leading digital infrastructure for healthcare can be used to deliver care in patients' homes as if it was a seamless extension of today's hospitals and primary care services.

We excel in connecting people and providing networks and security which protect citizens and our key national services, and I believe this is the core foundation on which to build a truly integrated care service.

The NHS is a treasured national asset that we need to support and protect. BT is committed to working collaboratively with the NHS, and as a long-term trusted partner, to help it to navigate the many challenges it faces. To do that successfully, it's crucial to listen to those who are working at the heart of the NHS – this survey and report is our chance to learn and respond. I hope you enjoy reading it.

Executive summary

We first surveyed UK healthcare providers in 2021 to understand how they're transforming the delivery of patient care – especially in the aftermath of the COVID-19 pandemic. We have now repeated that survey, reaching even more NHS professionals to understand what has changed, where innovation is delivering results and where it needs a boost.

Many of those taking part in the survey believe that digital tools can have a positive impact not just on patient care, but on staff wellbeing, and even recruitment. Advocates of more remote working and delivery of care are confident in the transformative effect technology can have on waiting times.

Many also recognise that a more collaborative approach to developing solutions for real-world problems is far more effective than a solution imposed without consultation or engagement with users and patients. It is clear that responding to end-user experiences and expectations, and engaging all stakeholders in developing innovative solutions, are key success factors. People are willing to embrace innovation if it meets these conditions.

However, there is evidence from the survey that some departments are struggling to achieve successful collaboration. Training, and the underlying connectivity and infrastructure, is not always delivered or implemented successfully. Communications about new technology solutions can be intermittently effective. And some workers have responded to this by finding ways to work around new technology they find unhelpful or unintuitive.

There is also evidence that a shift in mindset and improved change management is needed in certain areas, and that there are some important lapses in security protocols meaning some don't feel comfortable sharing patient data securely, placing it at risk of compromise.

As this report shows, the BT approach of opening up our resources, spaces, people and technology to both clinicians and technologists in the health service and empowering them to build healthcare solutions is the right way to support healthcare digital transformation. It also shows how our Clinical Advisory Board of leading NHS professionals, who work with us to make sure our new healthcare solutions meet NHS needs, can deliver real value.

Methodology

BT's Healthcare team commissioned an independent survey of 197 staff at 136 different NHS and Integrated Care System organisations within the NHS. The survey was carried out online between the 8th – 30th November 2022.

About our survey partner

Surveys in Public Sector collates information and insights on behalf of both public and private sector partners, covering a range of subjects that directly and indirectly support public service delivery. Its research team interprets what clients need to discover, and then turns this into digital surveys that enable granular reporting and analysis of market trends.

Acknowledgements

We would like to thank all of those who were kind enough to take part in this survey, as well as our partners, Surveys in Public Sector and Aspectus Group, for their hard work putting this survey together.

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Making the NHS a positive place to work

Technology has a key role to play in making the NHS a positive place to work.

The majority of participants in this year's survey see a positive relationship between technology, care and quality of work. Technology has a key role to play in making the NHS a positive place to work. Around three in four survey respondents believe that digital tools help deliver better care and feel confident using the technology and systems provided to them.

However, the converse is also true. When technology doesn't perform as expected it has the opposite effect. Just under half of the survey respondents agree that the standard of technology at work, is a source of stress, suggesting a real need for improvement in both the usability and performance of digital solutions.

Thinking about the technology that supports your daily work, to what extent do you agree/disagree with the following statements?

Legend:
- ● Strongly Agree
- ○ Agree
- ● Disagree
- ● Strongly Disagree
- ● Don't know

**The standard of technology that I receive at work is a source of stress**
- 12% Strongly Agree
- 37% Agree
- 37% Disagree
- 11% Strongly Disagree
- 3% Don't know

I feel confident using the technology and systems provided to me
- 22% Strongly Agree
- 55% Agree
- 16% Disagree
- 4% Strongly Disagree
- 3% Don't know
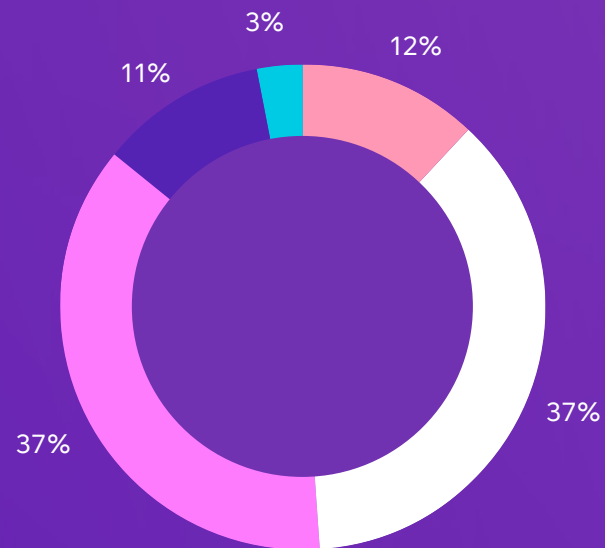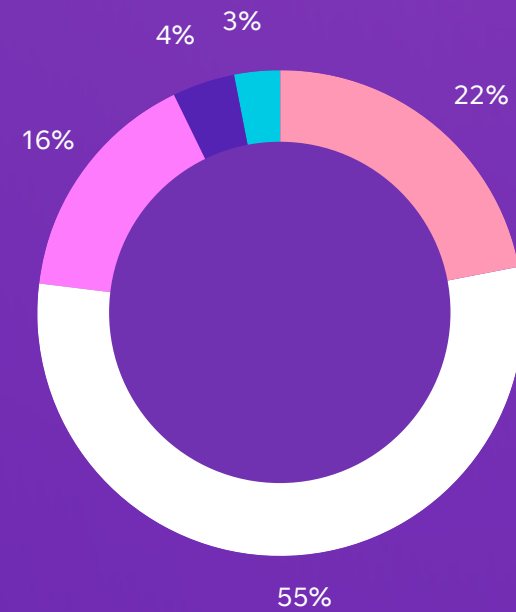
I feel technology and tools help me to deliver better quality care
- 22% Strongly Agree
- 52% Agree
- 11% Disagree
- 4% Strongly Disagree
- 11% Don't know
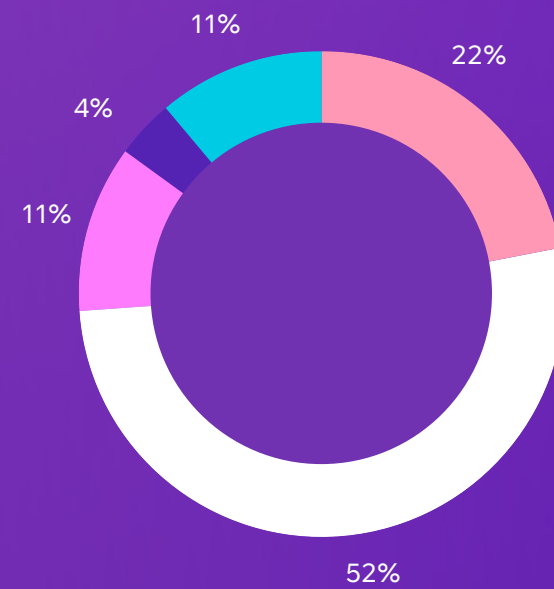
My organisation should invest more in new technological solutions and software to help attract new staff
- 38% Strongly Agree
- 36% Agree
- 13% Disagree
- 3% Strongly Disagree
- 10% Don't know
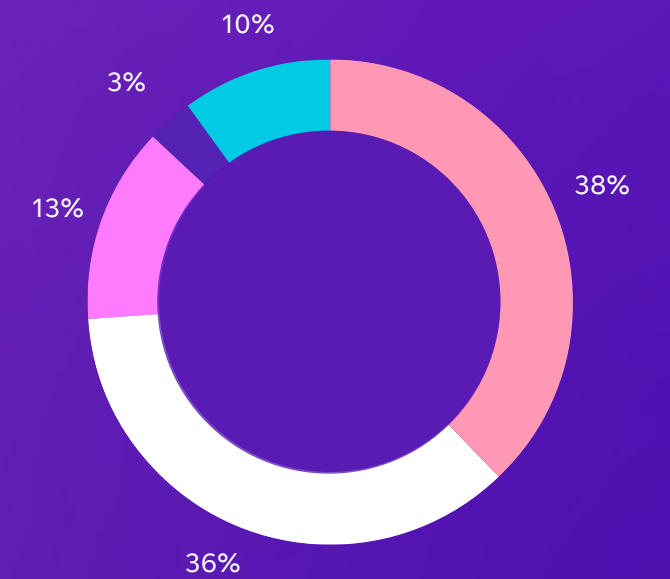
83 percent agree that investing in technology can help the NHS to attract a younger workforce

Approximately three in four also believe that technology has a role to play in mitigating one of the biggest challenges facing the NHS at present: staff shortage. Most respondents agree that the NHS should invest more in new solutions and software to help attract new staff.

In particular, 83 percent agree that investing in technology can help the NHS to attract a younger workforce from digitally nurtured generations who conduct much of their lives on technological devices and interoperable applications.

In your opinion, how much do you agree/disagree with the following?

'Investing in technology can help the NHS to attract younger workforce.'

- 43% Strongly agree
- 40% Agree
- 7% Disagree
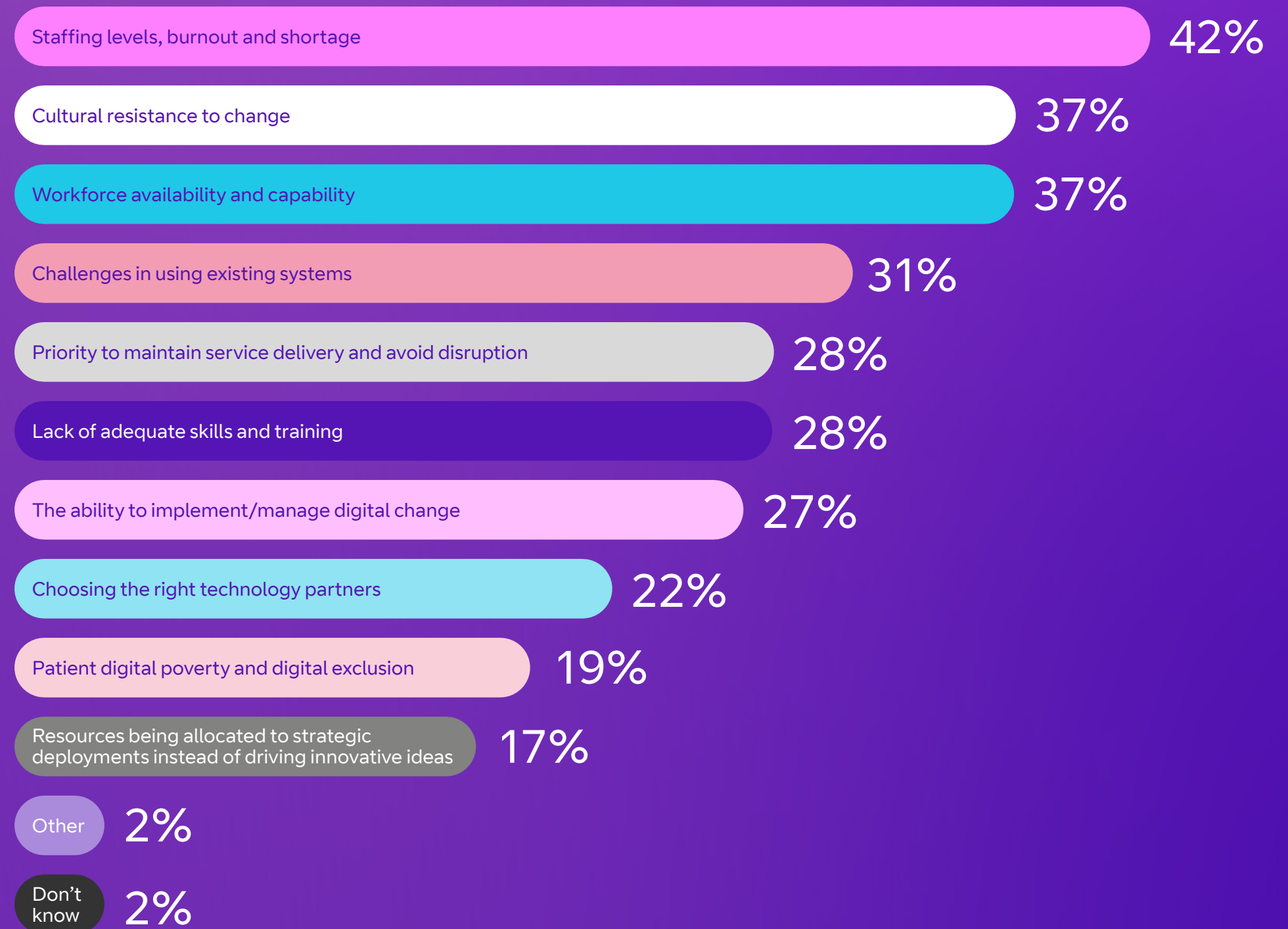- 2% Strongly disagree
- 8% Don't know
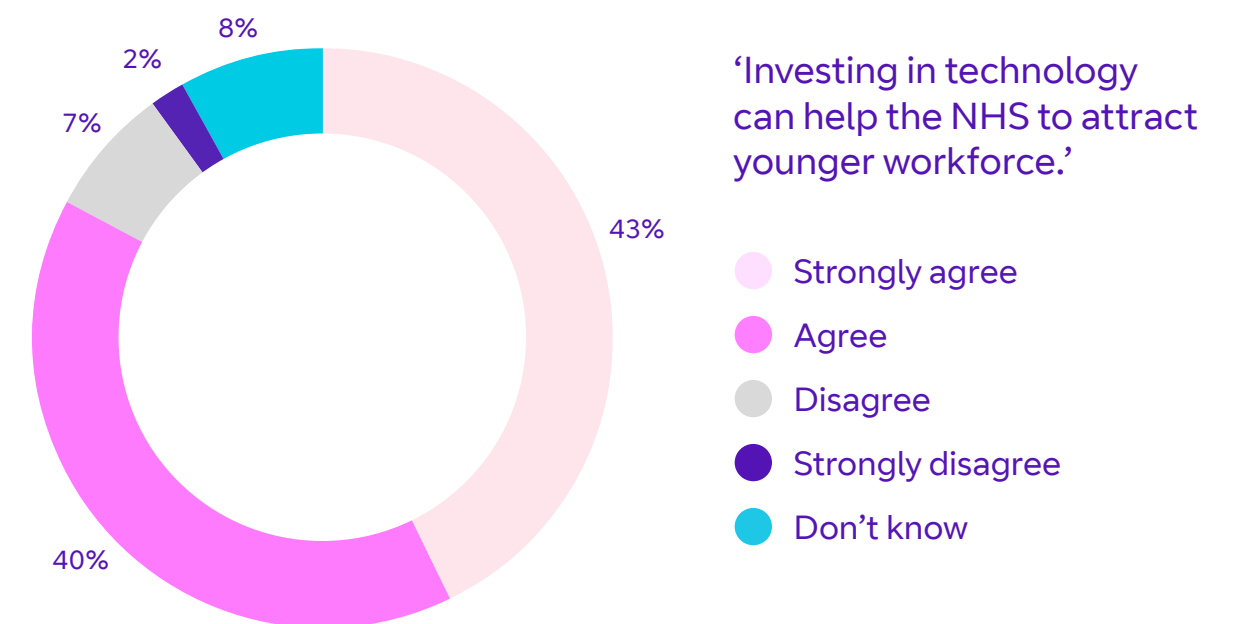
The relationship between staff availability and technology can be more complex and incredibly dynamic. Although the overwhelming majority believe good technology is an essential recruitment aid, 42 percent believe that staffing levels, shortages and burnout will hold back digital transformation. Another 37 percent say a lack of workforce availability and capability will do the same.

Functional, usable, high-performance technology is becoming a pressing issue in terms of staff retention and wellbeing – and it is one that has to be addressed before increasing rates of burnout create a vicious cycle of lost staff and lost productivity.

Figure 2:

Aside from 'funding and cost', what else do you feel could be barriers that may prevent your organisation from progressing forward with digital transformation in the next few years?

Barrier	Percentage
Staffing levels, burnout and shortage	42%
Cultural resistance to change	37%
Workforce availability and capability	37%
Challenges in using existing systems	31%
Priority to maintain service delivery and avoid disruption	28%
Lack of adequate skills and training	28%
The ability to implement/manage digital change	27%
Choosing the right technology partners	22%
Patient digital poverty and digital exclusion	19%
Resources being allocated to strategic deployments instead of driving innovative ideas	17%
Other	2%
Don't know	2%

A new era of engagement

One of the themes running through this year's report is that neither NHS managers or suppliers can expect to deploy new solutions with immediate effect on productivity, staff wellbeing or patient care.

Instead, digital deployments deliver results when they are developed within a co-creation framework that involves consultation with, and engagement of, front-line clinicians and patients. It ensures that solutions are developed to solve actual, real-world problems, with usability, accessibility, and cost-effectiveness taken into consideration. The survey supports this view, and makes it clear that top-down imposition of new tools without the input from front-line users will only partly alleviate the problems they are designed to solve.

When asked how technology adoption could be improved to enhance their own role, for example, the majority said that they wanted a clear road map to support delivery. Around half said that they wanted improved evidence of outcomes and impacts of technology solutions, and a similar number wanted regular feedback sessions that ensure opinions are heard and used to optimise solutions where this is necessary.
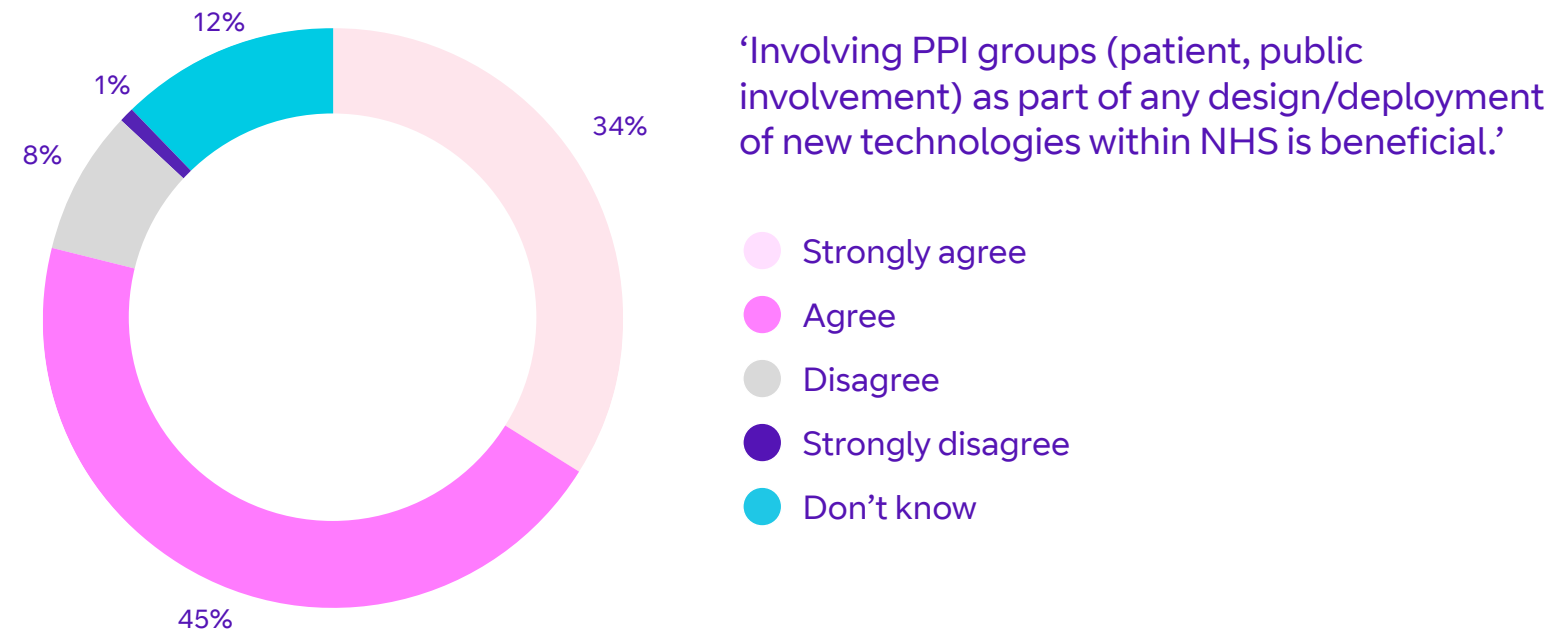
Figure 3:

How do you think technology adoption could be improved to enhance your role?

| 55% | 51% | 50% | 35% | 34% | 32% | 10% | 3% |

Having a clear road map to support delivery (change management processes)

Improved evidence of outcomes and impact of technology solutions

Regular feedback sessions to ensure our opinions are heard and solutions are optimized

Accessing examples of benefit use cases from other organisations

Regular training from outside experts

Regular training from peers

Other

Don't know

That extends to patients, with 79 percent of respondents agreeing that it is beneficial to involve patient-public involvement (PPI) groups in the design and deployment of new technologies in the NHS. Solving societal problems around digital exclusion is not just the role of the health service, but it is something that developers of health technology must be aware of if they are not to perpetuate digital inequalities.

In your opinion, how much do you agree/disagree with the following?

12%

1%

8%

34%

45%

'Involving PPI groups (patient, public involvement) as part of any design/deployment of new technologies within NHS is beneficial.'

- ● Strongly agree
- ● Agree
- ● Disagree
- ● Strongly disagree
- ● Don't know

Managing effective change

Effective deployments of digital innovation are like any programme of change: they need to be carefully managed, communicated and incentivised, particularly when users are comfortable with the systems they already have.

However, more than half of respondents (58 percent) say that the adoption of innovation is halted by a lack of change management capabilities in their organisation, while 53 percent believe the adoption of innovation is halted by a lack of clinical buy-in or information governance acceptance – both of which are often a feature of a complex and difficult to navigate governance. It is worth noting, however, that only 37 percent agreed that cultural resistance to change was preventing their organisation from progressing with digital transformation over the next few years. (Figure 2)

75 percent think that their team's capacity to deliver, whether through a lack of relevant skills or necessary resources, is a barrier to innovation, tailing the 77 percent who suggest funding is the primary barrier.

This is further evidence that technology should be developed to fit circumstances, rather than circumstances adapted to meet technology's requirements.

Figure 4:

To what extent do you agree/disagree that the following are the main barriers to the adoption of innovation within your organisation?

- ● Strongly Agree
- ● Agree
- ● Disagree
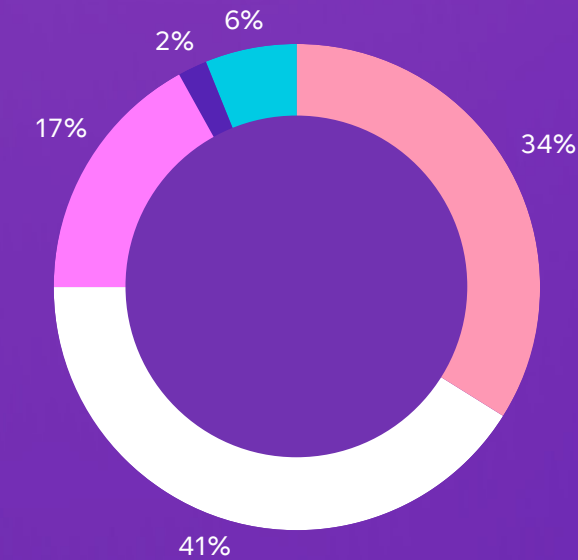- ● Strongly Disagree
- ● Don't know

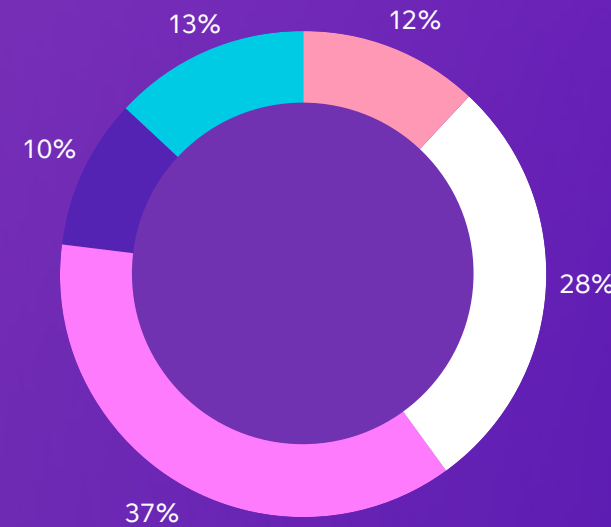The adoption of innovation is halted by a lack of available funding

6%
5%
12%
29%
48%
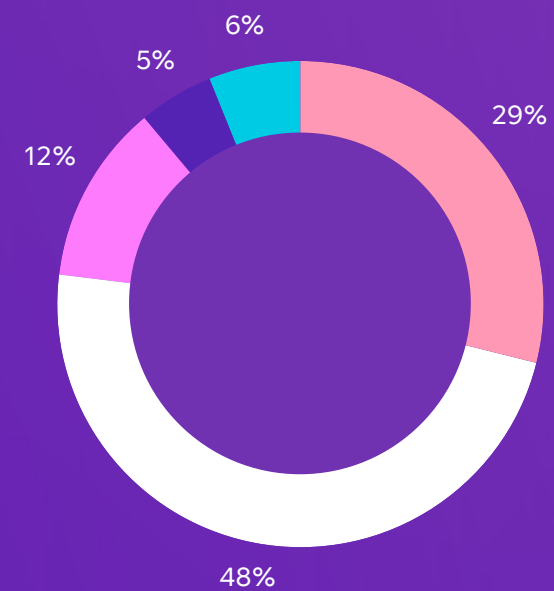
The adoption of innovation is halted by a lack of clinical buy-in/information governance acceptance

16%
15%
5%
26%
38%
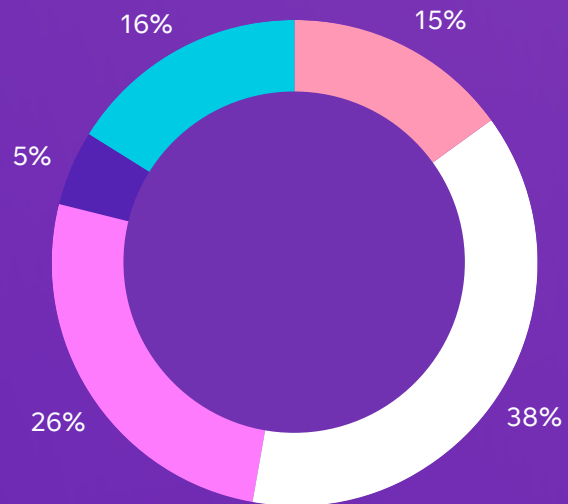
The adoption of innovation is halted by team capacity to delivery (e.g. lack of relevant skills and resources)

2%
6%
17%
34%
41%

The adoption of innovation is halted by a lack of senior management buy-in

13%
12%
10%
28%
37%

The adoption of innovation is halted by a lack of change management capabilities

10%
3%
18%
29%
40%
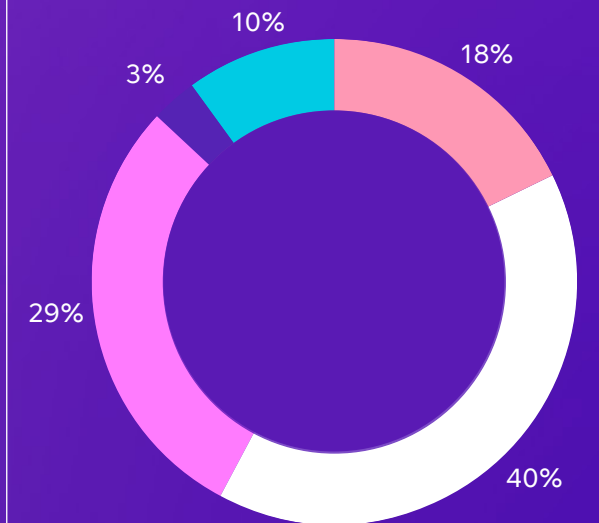
2 Building robust infrastructure

There is almost universal agreement that network, Wi-Fi infrastructure, and mobile technology are crucial to the NHS.

98%

of respondents were supportive of this statement.

Seamless analysis and sharing of data are widely recognised as central to a digitally-enhanced health service. Among respondents with insights into how patient data is accessed and shared within and between NHS Trusts, 57 percent say that the data is isolated and inoperable (non-compatible), which restricts the interchange of information within different systems.

That is a significant change – up from the 47 percent who said the same in 2021. In addition, 51 percent of this group of respondents say that patient data requests from other providers are made via systems they do not possess – up from 45 percent last time.

Developing the means for safe, secure and timely data sharing is a priority for healthcare bodies and their technology partners.
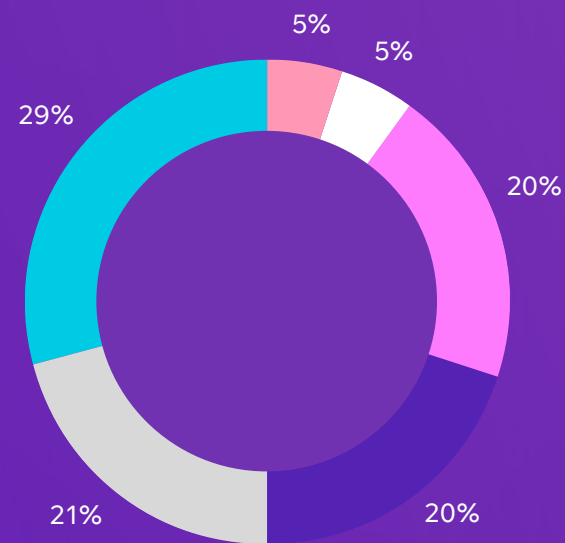
Figure 5:
Seamless analysis and sharing of data are central to a digitally-enhanced health service, on a scale of one to five (with one being not challenging and five being incredibly challenging), how much of a challenge do the following represent?
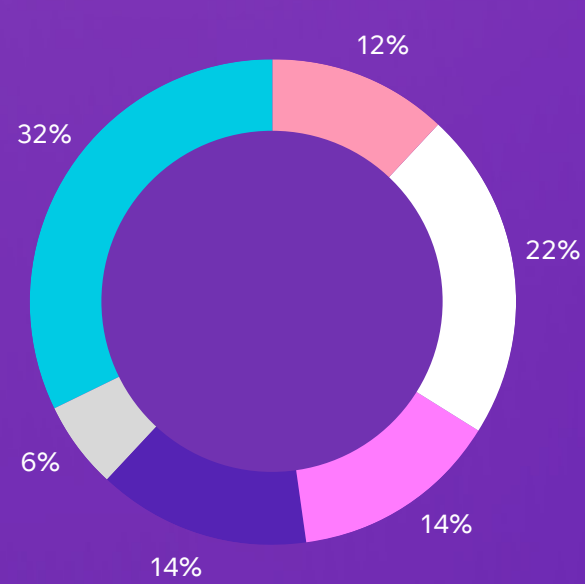
1. 2. 3. 4. 5. Don't know

Patient data is isolated and inoperable (non- compatible) systems
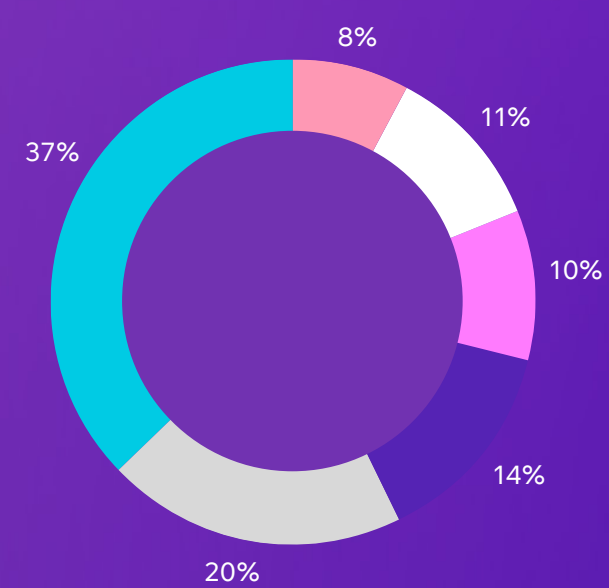
5% 5% 20% 20% 21% 29%

Patient data requests from other providers are made via systems we don't possess

3% 9% 14% 16% 10% 48%
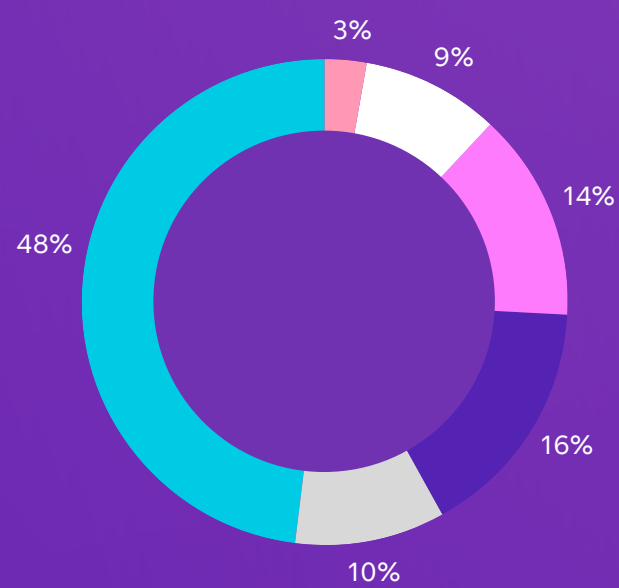
Physicians and other front-line staff can simply access patient records

12% 22% 14% 14% 6% 32%

Patient data from across the organisation can be viewed within a single pane

8% 11% 10% 14% 20% 37%

Colleagues fully understand how more effective use of data can enhance patient care

9% 17% 22% 17% 9% 26%

Many of these problems are a product of a long-time inoperability within the overall IT infrastructure. They are also linked to specific concerns respondents associate with Wi-Fi, LAN and mobile connectivity.

Nearly 60 percent say that they have difficulties implementing new technology with existing systems, while issues around coverage and connectivity issues are seen as the biggest challenges by 54 percent of respondents. In addition, 58 percent agree that their site suffers from connectivity not-spots: areas that receive no signal at all.

To what extent do you agree/disagree with the following statement?

1% 1%

11%

87%
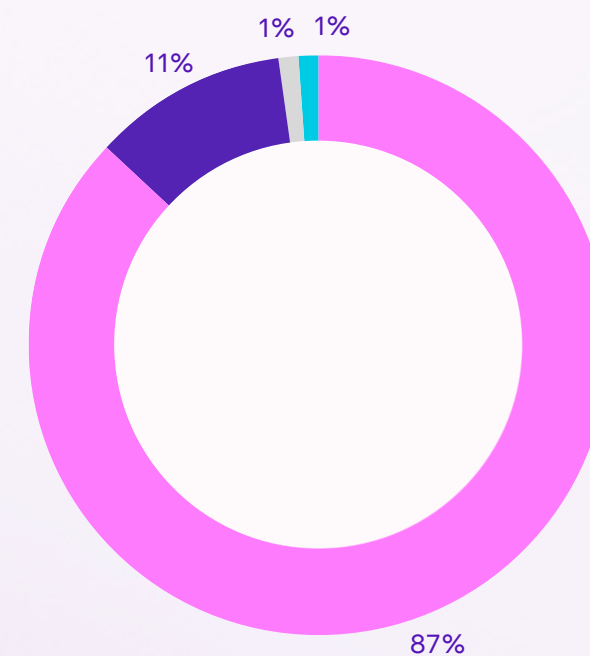
'Our network, wi-fi infrastructure and mobile technology is critical to our ability to continue future innovations in the delivery of healthcare.'

- Completely agree
- Somewhat agree
- Somewhat disagree
- Completely disagree (0%)
- Don't know

Connectivity and culture need to change

Figure 6:
To what extent do you agree/disagree with the following statements?

Strongly Agree   Agree   Disagree   Strongly Disagree   Don't know

We've tried to implement new innovation and processes but reverted to older ways due to connectivity issues
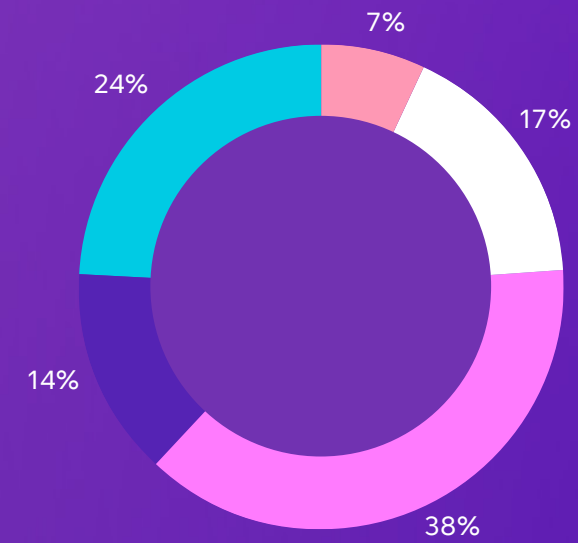
5%
19%
47%
9%
20%
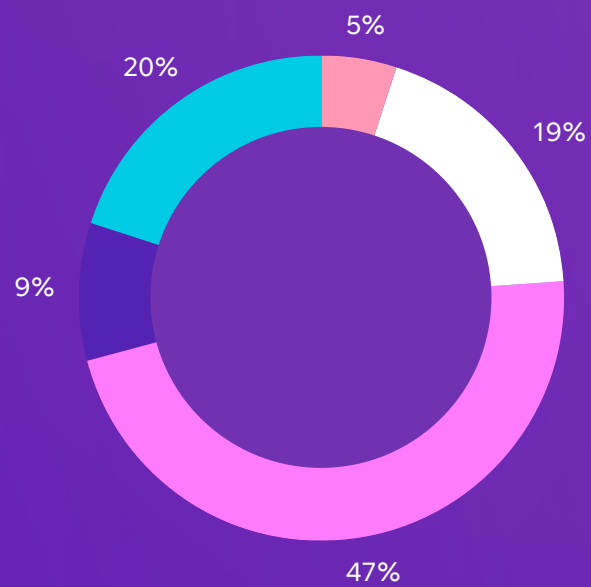
Our building/site suffers from connectivity not-spots, i.e. spots that receive no signal
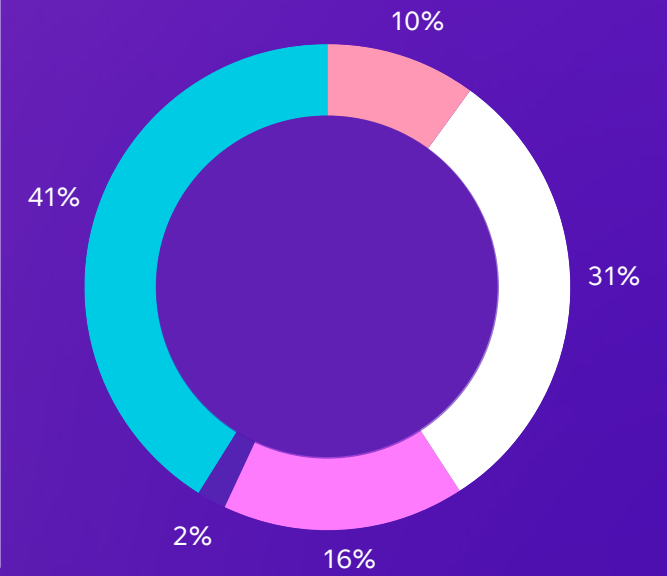
16%
22%
36%
20%
6%
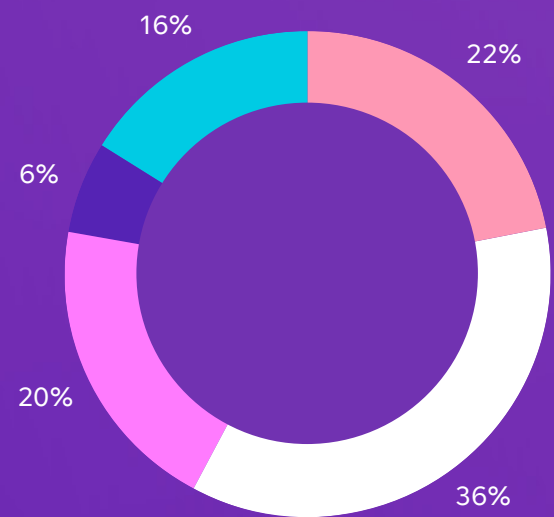
We have to regularly switch between devices, systems or networks to carry out tasks

12%
19%
32%
32%
5%
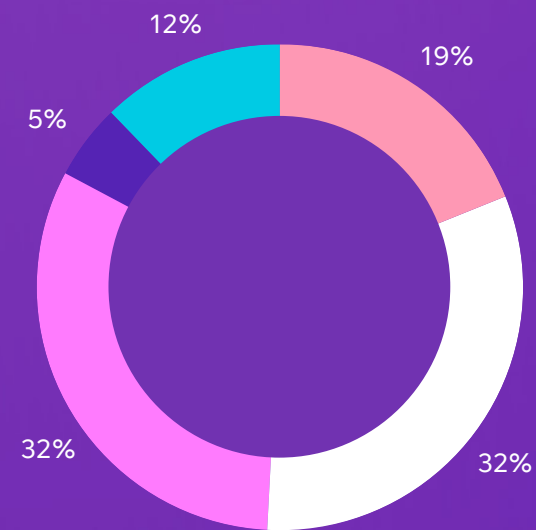
We have difficulty sharing patient data securely

7%
17%
38%
14%
24%

Patients struggle to connect devices and this is a cause of stress

10%
31%
16%
2%
41%

In an ideal scenario, connectivity is invisible – performing quietly in the background without hitch or interruption – and certainly not seen as a barrier to transformation. When it becomes noticeable, it's usually a sign of a problem – in this case that the underlying network is often not ready to support full digital capabilities. Recognising this knowledge gap is of paramount importance if we are to understand some of the issues around technology adoption.

Many respondents expressed their concern about the cultural changes needed to embed connectivity and new infrastructure into relevant processes. But even if cultural resistance were to disappear overnight, digital technology could still not be seamlessly deployed.

The top five challenges identified in this edition of the study are the same as those seen in 2021, but the priorities have changed. For example, the share of respondents who feel that cultural issues are one of the biggest challenges has dropped from 60 to 50 percent. At the same time, the percentage who think that the integration of new technology with existing systems is one of the biggest challenges has gone from 49 percent to 59 percent.

There appears to have been a positive shift in the culture which had resulted in greater acceptance of technology. This is a positive step forward. The challenges now are more focused on implementation within the current IT infrastructure.
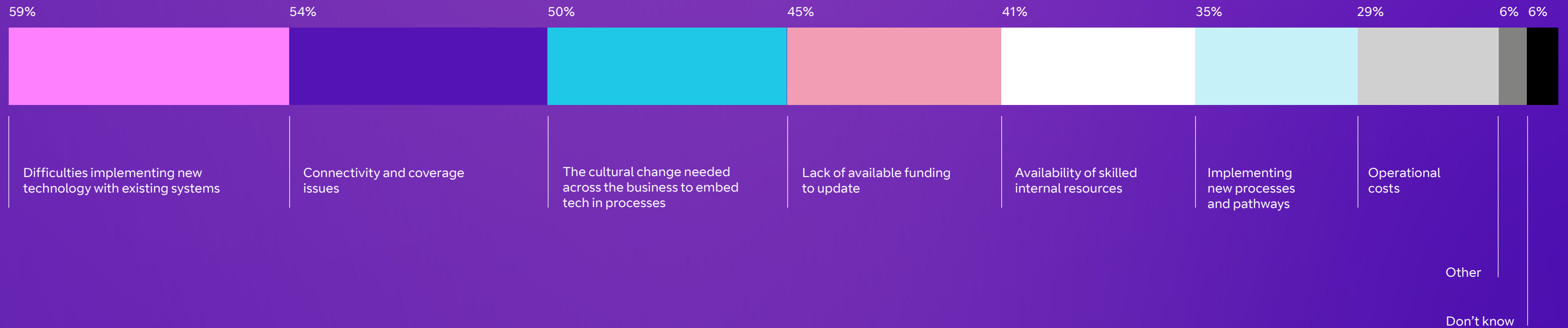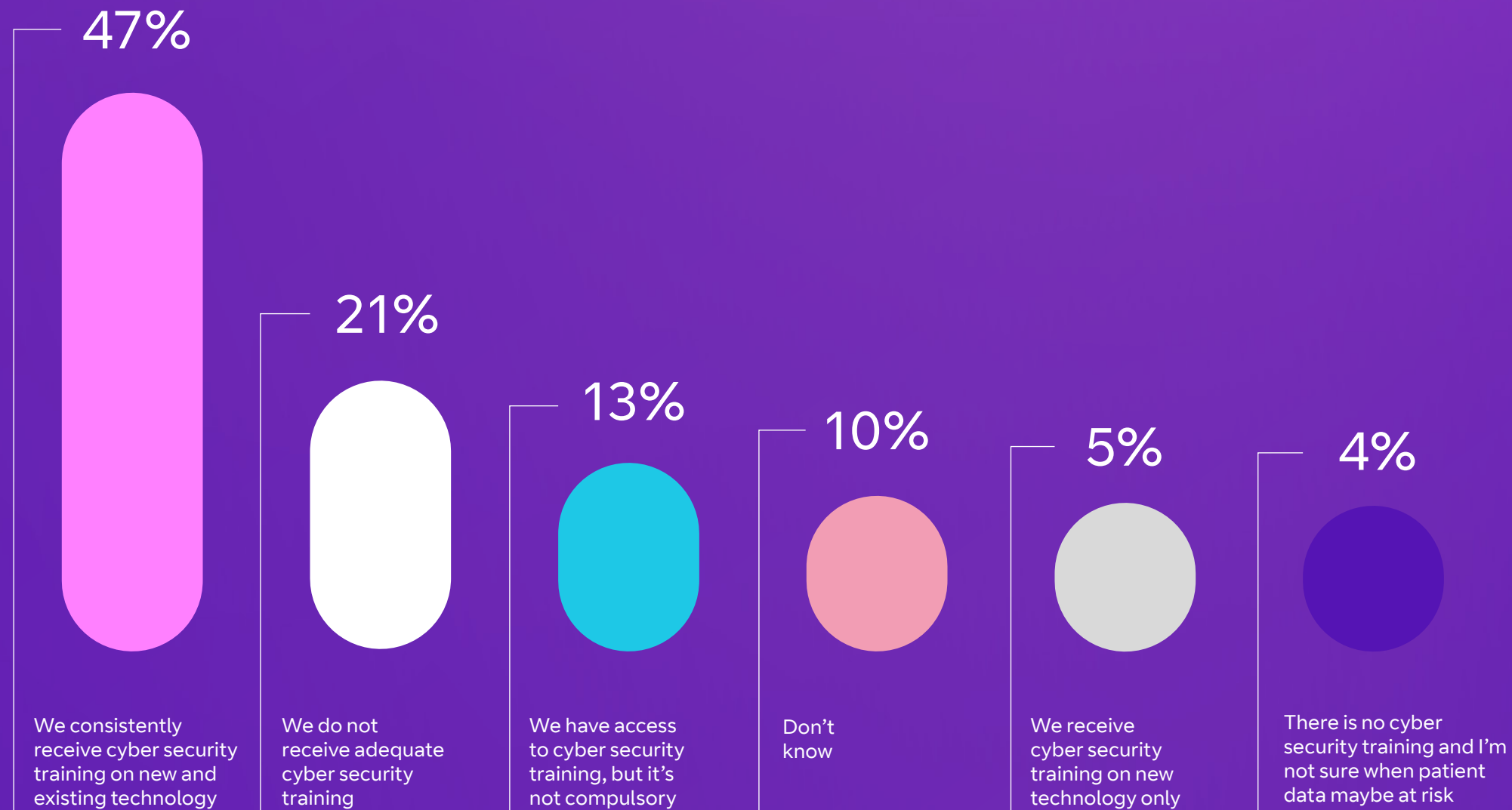
Privacy and security at risk

The day-to-day consequences are that more than half (51 percent) of respondents regularly switch between devices, systems or networks to carry out tasks and 24 percent have reverted to older ways of innovation and former processes (Figure 6).

This suggests that work efficiency is being compromised, potentially hindering the delivery of quality care, and that investments made in new technology are not delivering their promised outcomes.

Figure 7:
What do you see as the biggest challenges to your way of working when it comes to your connectivity (e.g. wi-fi, LAN and mobile) and IT Infrastructure (e.g. hardware, software)?

59%	54%	50%	45%	41%	35%	29%	6%	6%
Difficulties implementing new technology with existing systems	Connectivity and coverage issues	The cultural change needed across the business to embed tech in processes	Lack of available funding to update	Availability of skilled internal resources	Implementing new processes and pathways	Operational costs	Other	Don't know

Which of the following best describes how your organisation provides cyber security training to you?

47%

We consistently receive cyber security training on new and existing technology

21%

We do not receive adequate cyber security training

13%

We have access to cyber security training, but it's not compulsory

10%

Don't know

5%

We receive cyber security training on new technology only

4%

There is no cyber security training and I'm not sure when patient data maybe at risk

These are recognised pitfalls of any change programme. But in this context, they are also further evidence that the barriers to innovation outlined above – lack of skills, capability and resources – are persistent. It also suggests that staff who are comfortable using consumer devices may be using them in a similar way at work, where security standards are much more stringent.

Perhaps the most concerning impact of the connectivity and coverage problem is that 24 percent of respondents struggle to share patient data safely and securely. That is compounded by the fact that 21 percent do not receive adequate cyber security training, and less than half (47 percent) are confident that they receive consistent cyber security training on both new and existing technology.

That number is much lower than those who are confident in using technology overall, suggesting that cyber security is either undervalued or individual skills are overestimated by a significant number.

At a time when cyber-attacks on the NHS and other public bodies are increasing, this pushes the need for greater security as well as improved connectivity up the agenda. This is an area of vulnerability in which expertise needs to be disseminated urgently.

Having a full stack cyber security strategy that includes preventative and reactive measures to protect sensitive information is crucial for the NHS. However, data security is not the first consideration on the frontline in a clinical setting, and in such a large workforce, it can be realistically assumed that human errors are higher probability in such high-risk and complex settings.

In these circumstances, securing the perimeter and ensuring device security should be a priority. There is also the opportunity to explore how the NHS might adopt a zero-trust approach, which would require all users to be repeatedly authenticated and authorised as they access different devices, systems and software within the IT estate.

Achieving effective security, like all elements of digital healthcare is best achieved by working with trusted partners to assess and validate the current situation through, for example, Digital Maturity Assessments (DMA) and to clarify the desired outcome. Then it is about developing collaborative ways of working together to achieve these specific outcomes.
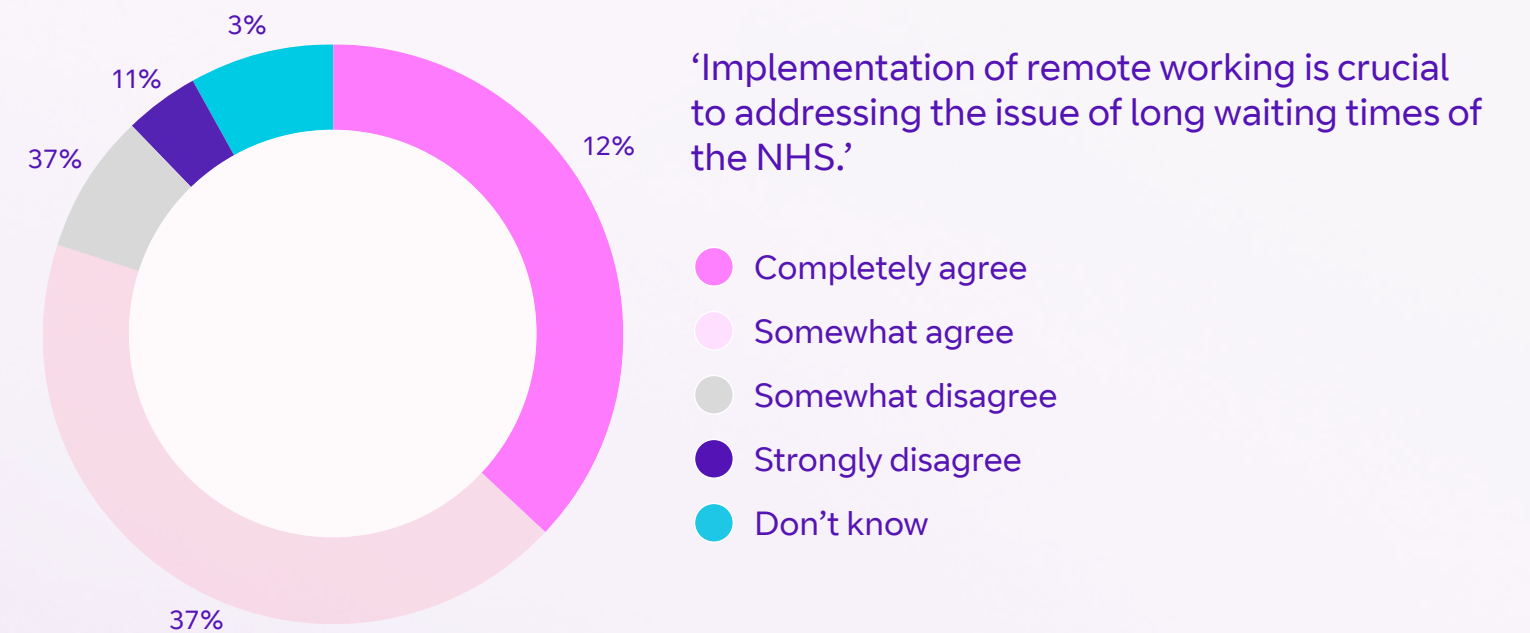
3

Treatment in the community
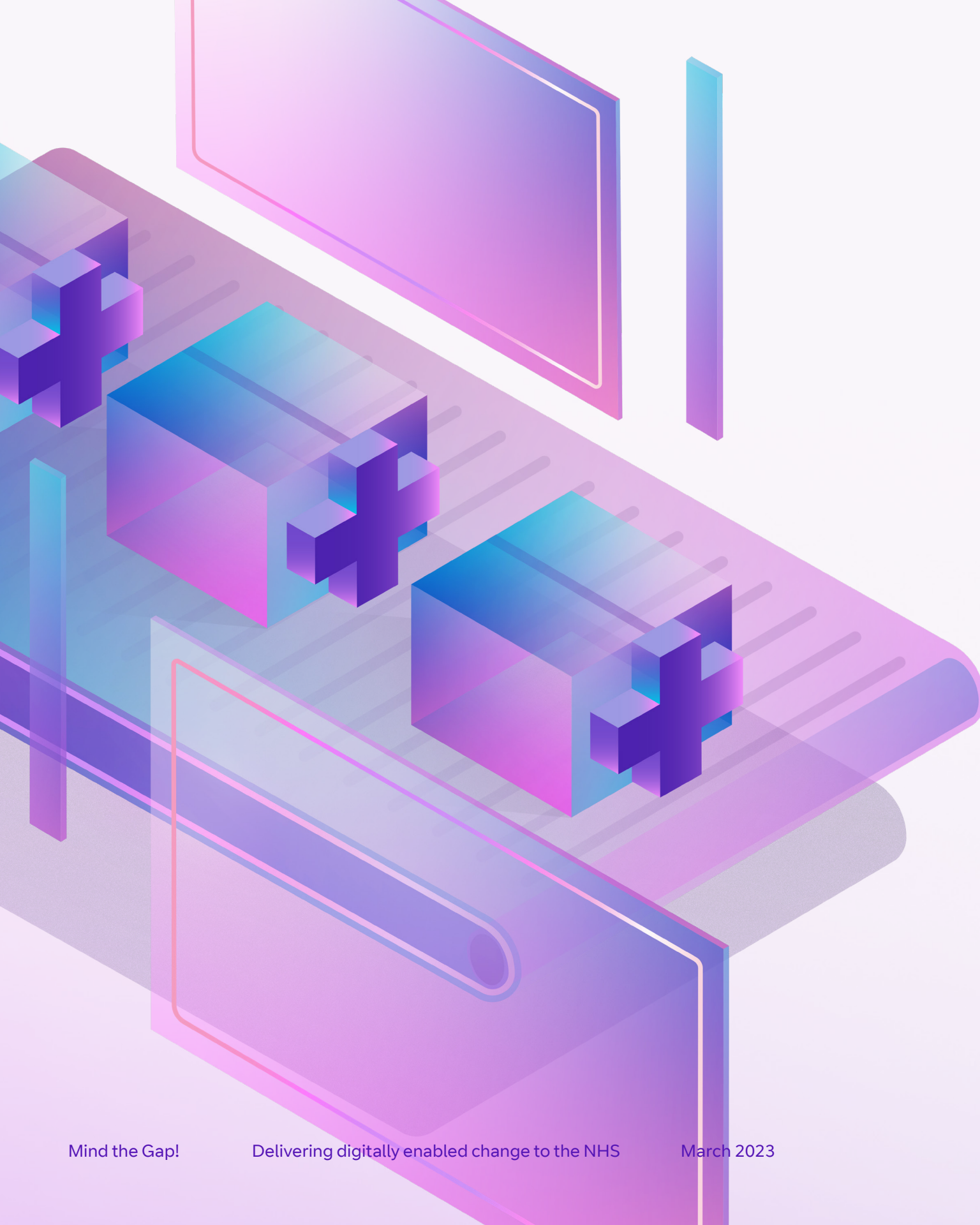
Finally, our researchers asked survey participants about the relationship between technology provision, the ability to work remotely – whether in clinical or non-clinical settings – and the delivery of remote care.

Certainly, remote working is seen as crucial to addressing the issue of long waiting times in the NHS, with nearly 80 percent of respondents agreeing that it is an important means of reducing delays that are becoming an increasingly common feature of NHS care.

Do you agree with the following statement:

'Implementation of remote working is crucial to addressing the issue of long waiting times of the NHS.'

- Completely agree
- Somewhat agree
- Somewhat disagree
- Strongly disagree
- Don't know

3%
11%
37%
12%
37%

The digital exclusion gap is closing

There are hurdles to overcome. Almost half (49 percent) of respondents believe that a patient's inability to use and access digital services without assistance is one of the greatest challenges when trying to deliver health or care services remotely.
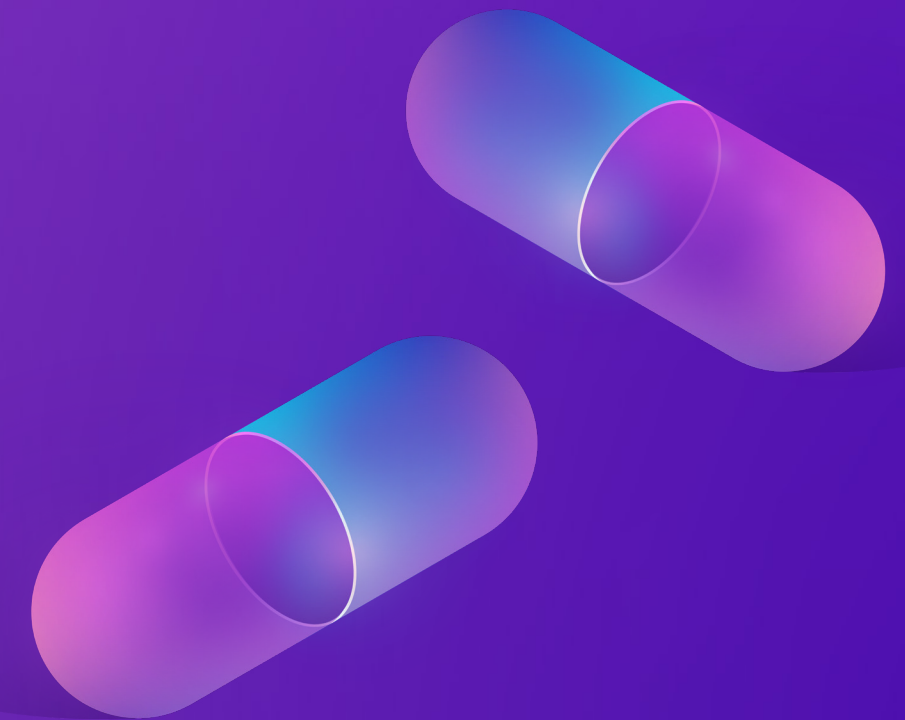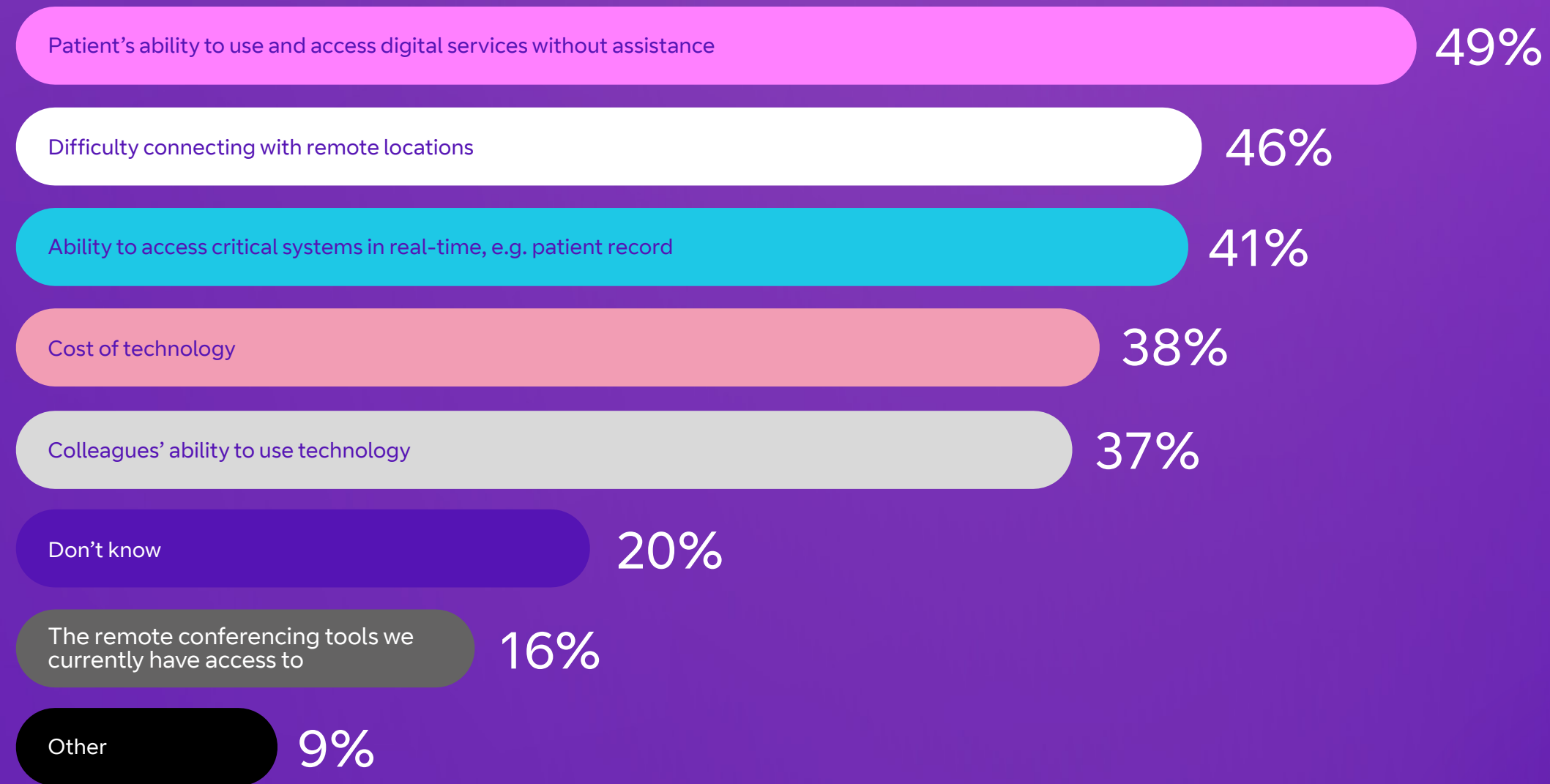
Another 46 percent said that difficulty connecting with remote locations was one of the biggest challenges, while 41 percent said their inability to access critical systems, such as patient records in real-time, was a significant challenge. If we compare this year's responses with those from the last report, there are notable improvements. In 2021 more than 70 percent said patients' inability to use and access digital services was the greatest challenge; less than 50 percent do today. The number who cited real-time access to critical systems also dropped from 56 to 41 percent.

What do you believe are the greatest challenges you experience when trying to deliver health or care services remotely?

Patient's ability to use and access digital services without assistance — 49%

Difficulty connecting with remote locations — 46%

Ability to access critical systems in real-time, e.g. patient record — 41%

Cost of technology — 38%

Colleagues' ability to use technology — 37%

Don't know — 20%

The remote conferencing tools we currently have access to — 16%

Other — 9%

The responses here support many of the earlier findings in the report. The desire to work remotely is there, the ability to do so has improved, but problems around issues of connectivity remain steadfast. These concerns are now more evenly spread with no one issue dominating.

Overall, NHS staff are confident about their own abilities to use technology but are more concerned about their service and access to patients, which is why involving PPI groups is crucial to successful adoption from the user end.

An opportunity for co-creation

With a need for greater collaboration when developing new technology, the introduction of virtual wards is a prime example of innovation that is both clinically led and digitally enabled.

In June 2022, the Department of Health and Social Care published A Plan for Digital Health and Social Care which stated that the long-established idea of virtual wards can represent "step-down pathways for frailty and respiratory care to reduce length of stay."

Those who are aware of virtual wards are broadly in favour and agree about the benefits that this kind of model can deliver. There is a communication and education piece that needs to be part of the introduction of virtual wards. There is a clear opportunity to educate and raise awareness, keep staff on side, engage them in change, and ensure their needs and those of their patients are met.

Equally, there is a need to make sure that virtual wards do actually deliver on their promise of reducing lengths of stay and releasing acute beds earlier. Well-evidenced, co-developed, and intelligently implemented solutions can help identify achievement opportunities and outcomes. This happens when digital and clinical teams work together to co-create solutions, rather than implementing an existing package that eventually just adds to an ever-increasing workload.

4

The future is digital

It must never be forgotten that the NHS is, at its heart, a person-focused organisation.

Technology is widely seen as enabling solutions to some of the most significant pressures the NHS faces and a catalyst for change. But it must never be forgotten that the NHS is, at its heart, a person-focused organisation, dependent on skilled clinicians and allied staff to deliver excellent care and support to patients and their families.

Digital healthcare must also have people at its heart, it must be developed for busy people to use comfortably and securely. It must be deployed in a way that engages everyone in its use. Developing the right solutions is not the only challenge: the way they are delivered and implemented is the key to success.

As this report shows, NHS staff aren't against the position of technology and its importance in delivering healthcare. Rather the current system needs an update to help support innovation. It's now time to explore specific solutions and co-create a new model of care together.

About BT Healthcare

At BT we've stood shoulder-to-shoulder with the NHS since 1948. Today, with healthcare services facing deep cost pressures and increasingly complex demands, we're partnering with the NHS to pioneer innovations to tackle these challenges. Led by our Clinical Board, we're unleashing the power of connectivity, data, and digital innovation to deliver collaborative, cost-effective care, wherever needed. Innovating together. Transforming care.

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Talk to your account manager or get in touch to find out how we can deliver digitally enabled change to the NHS.

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