BMA

REPORT NO. 2

Building the Future

Getting IT Right: The case for urgent investment in safe, modern technology and data sharing in the UK's health services

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With special thanks to:

Dr Latifa Patel, BMA Representative Body Chair

and

to all of the BMA members and health service professionals in England, Northern Ireland, Wales and Scotland who provided insights and shared their experiences with us as part of our research.

Contents

Summary

Digital solutions have the potential to transform healthcare in the UK, but many doctors have told us about the IT challenges they face in their day-to-day working lives. High quality patient information, fully functioning technology, and interoperable systems can improve patient care, access, experience, increase productivity and transform the working lives of healthcare staff.

These should be what digital transformation is seeking to achieve, yet doctors have told us they fear current digital transformation programmes will not achieve these objectives. Against the backdrop of a public sector funding squeeze and record healthcare workforce shortages, any measures to save time or money whilst improving care and patient safety must be harnessed as a priority.

This report seeks to identify and explore the areas that doctors feel need improvement in order to achieve digital transformation ambitions. These include infrastructure (including hardware, software, and broadband); interoperability of clinical information systems; user involvement in the design and implementation of digital transformation strategies; digital inclusion so that patients can access digital health services if they want to, and financial investment.

Key findings

- **Improving IT infrastructure (hardware, software, connectivity) would save clinical time and enable the safe and speedy delivery of care.**
  - More than 13.5 million working hours are lost yearly in England alone due to inadequate IT systems and equipment. Only 11% of UK doctors responding to our 2022 IT and Estates survey reported 'completely' having the necessary equipment to perform their job role.
  - Almost 1 in 3 (29.8%) doctors working in both primary and secondary care stated that the software they use was 'rarely' or 'not at all' adequate and fit for purpose to perform their job role. Just under 4% of doctors reported that the software they use is 'completely' adequate and fit for purpose.
  - Access to high-speed broadband and Wi-Fi continue to be a problem in some parts of the UK.
- **Interoperability of clinical information systems, supported by clear standards, must become the norm to ensure the safe and speedy delivery of care.**
  - Nearly 76% of doctors ranked 'interoperability of systems' as a 'significant barrier' to digital transformation.
  - 68% of doctors are 'not very confident' or 'not at all confident' that seamless and instant data sharing will be the reality across UK health services in 10 years, with only 5% of doctors expressing strong confidence this will be the case.
- **Sharing data across health services must be done safely and securely.**
  - The majority of respondents (70.2%) said they were 'confident' (either 'very' or 'somewhat') in the security of sharing patient data.
  - However, despite this high level of confidence, incidents like Wannacry have shown the need for strong cybersecurity.
- **Involving clinicians in the design of digital programmes and strategies would ensure that these are user friendly, safe, and effective and have positive impacts for patients.**
- **Supporting clinicians to develop and maintain their digital skills would allow the safe use of systems. Training in IG (information governance) is crucial to protecting patient data.**
  - 32.5% of doctors reported that, while they had some training to use IT systems, they needed or wanted more.
- **Taking a patient-centred approach to digital strategies and supporting patients to access care in their preferred way would help guard against digital exclusion.**
- **It is equally important that transparency around the use of patient data is increased, as this would build confidence among patients that their data is secure.**
- **Underfunding digital transformation will leave health services on the back foot as they continue to respond to increasing demand.**
  - More than two thirds (66.4%) of doctors ranked funding as a 'significant barrier' to digital transformation in the NHS.

Key recommendations:

- Upgrade or replace defective or inadequate IT hardware and software, as well as improve high-speed broadband and Wi-Fi in all healthcare facilities.
- Improve interoperability to facilitate data sharing across health care systems, particularly the primary-secondary care interface, and develop robust standards for interoperability by the appropriate UK health service regulatory bodies.
- Ensure robust cyber security measures are in place nationally and locally to protect health information systems and mitigate against widespread disruption to patient care.
- Closely involve users of digital systems on the design and implementation of digital programmes and strategies.
- Embed digital skills in medical education and training curricula and support doctors to continue upskilling themselves over the course of their careers through in-house training and Continuing Professional Development (CPD). This should also include training on handling sensitive patient data in line with accepted IG (information governance) practices.
- Health services must lead work on developing and implementing national digital inclusion strategies and must support patients to access care in their preferred way.
- Increase transparency around the use and collection of patient data by UK health services, carry out patient/public education campaigns in each of the UK nations and tackle disinformation in the media.
- Protect IT and digital transformation programmes from health service budget cuts, increase capital funding to improve basic IT infrastructure and undertake a full audit of the IT estate to underpin medium- to long-term funding decisions.

Introduction

A central aim of digital transformation is the safe, real-time exchange of patient data between healthcare providers. For this to ultimately be successful improvements must be made in several key areas: basic hardware and systems must be interoperable and fit for purpose; data must be secure; digital skills and leadership must be in place to enact change programmes; and patients must be able to access technology-based services and interfaces with the health care system. A historic lack of investment means this essential digital infrastructure is still inadequate in many parts of the UK to deliver change safely and at the scale needed. Governments now have an opportunity to get this right. It is crucial that despite pressures on the public purse, funding for digital programmes and infrastructure is protected and ongoing investment prioritised.

This was made clear during the Covid-19 pandemic which precipitated a dramatic and rapid shift in the way care was delivered across the UK, to enable patients to access health services safely and to protect staff from unnecessary risk. The pandemic placed significantly greater demand on digital systems resulting from an increase in the use of remote monitoring and remote consultations as well as an increased demand for timely data sharing. The upshot of this was the catalysation of programmes already underway and the creation of new programmes to better facilitate the shift to remote consultations and delivery. Although largely positive, these programmes laid bare the current state of IT infrastructure and highlighted those areas where, regardless of the pandemic, there was and continues to be a clear need for progress.

Digital solutions can play an important role in clearing the enormous backlog of care that has built up ahead of and during the pandemic. Across the UK, there were over 8.9 million people on waiting lists for treatment in September 2022[1] and there are many more who may need care but who have not yet presented or been given a referral. Technology can also, to some extent, help ameliorate the chronic understaffing of health services, which affects both the safety, quality, and timeliness of care provision. However, despite clear ambitions and tangible action – three years on from a BMA survey which reported widespread dissatisfaction with the digital estate, our members remain largely sceptical that ambitious change will happen.

1 NHS England, Consultant-led Referral to Treatment Waiting Times, September 2022
StatsWales, Referral to Treatment waiting times, September 2011 onwards
Department of Health, Northern Ireland, Outpatient Waiting Times Statistics, September 2022
Department of Health, Northern Ireland, Inpatient Waiting Times Statistics, September 2022
Public Health Scotland, NHS Waiting Times (Outpatient and Inpatient), September 2022

Digital transformation can support health service recovery and resilience

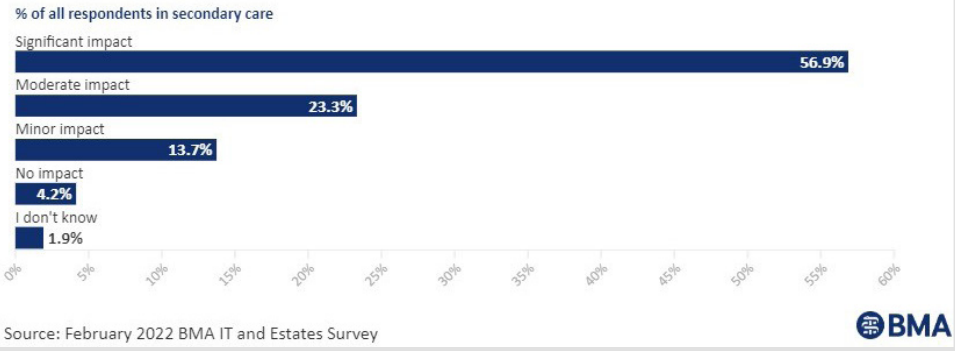
The pandemic significantly accelerated digital transformation in health services across the UK. In a direct response to the need for exposure protection both for patients and healthcare staff, we saw the level of remote consulting increase significantly, the rollout of additional laptops to allow for homeworking and new innovations, such as remote monitoring and wards.

Digital transformation is crucial for health service recovery

As health services focus on bringing down waiting lists which continue to grow, digital solutions and remote care can, alongside other measures, support clinicians who are already working at capacity.

Digital transformation should therefore be front and centre of health service recovery plans. Just over 8 in every 10 (80.2%) respondents to the February 2022 BMA IT and Estates survey say that improving IT infrastructure and digital technology will have a 'moderate' or 'significant impact' in tackling backlogs of care resulting from the Covid-19 pandemic.

Figure 1:
In your opinion, how much of a positive impact do you think improving IT infrastructure and digital technology will have in tackling backlogs of care resulting from the Covid-19 pandemic?



Source: February 2022 BMA IT and Estates Survey

However, offering remote consultations – and wider digital transformation – has been more feasible for some parts of the system than others. Digital infrastructure in secondary care is much less advanced than in general practice where the pandemic catalysed work already underway. Whilst digital transformation in health continues at pace – namely in robotics, genomics, AI (artificial intelligence), precision medicine, wearables, smart connected devices, remote patient monitoring devices, prediction analytics, digital therapeutics, etc. – the scale of transformation within healthcare services is impeded by an outdated, archaic IT estate.

> *"...when it takes longer to wait for systems to load than to walk to the patient it defeats the purpose of remote monitoring." – Doctor working in secondary care*

So, while the majority of secondary care doctors responding to our survey agreed that the remote monitoring of patients will be a key feature of delivering care in the next 10 years, the majority also said that the IT and digital infrastructure at their hospital was not at all or not very adequate to enable them to remotely monitor patients safely.

Figure 2:
To what extent would you agree that providing care remotely and the remote monitoring of patients will be a key feature of delivering care in the next 10 years?

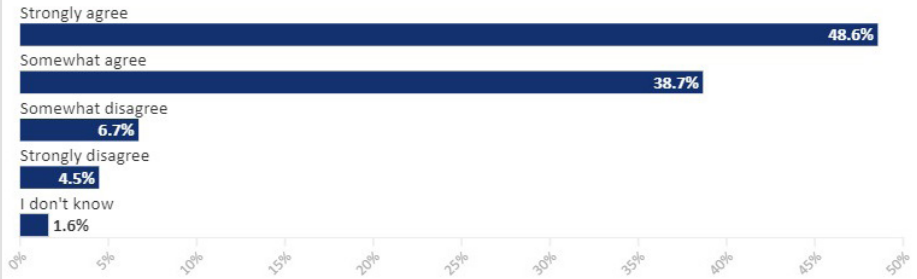
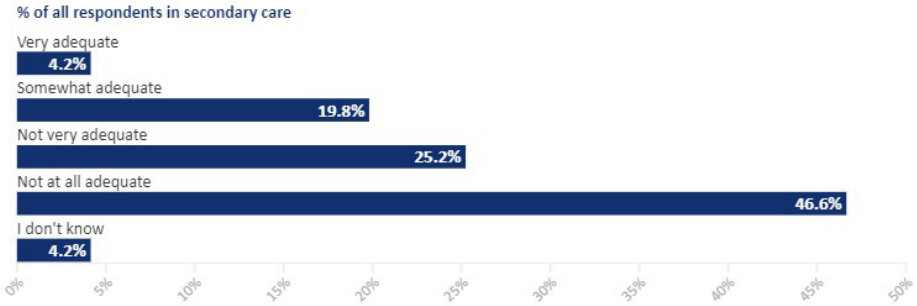


Figure 3:
How would you describe the IT and digital infrastructure at your hospital in terms of enabling you to remotely monitor patients safely?



Source: February 2022 BMA IT and Estates Survey

Digital transformation can help ensure health service resilience

The move to a digital model of care delivery in General Practice and some of secondary care (such as talking therapies) during the COVID pandemic allowed healthcare delivery to continue in a safe way. Digitally enabled, safe healthcare systems can help improve resilience – especially during major events such as a pandemic.

As the HSCNI (Northern Ireland) Digital Strategy emphasises, digital transformation in some areas can improve provision of care. For example, the increased use of 'tele-therapy' and online stress control classes during the Covid-19 pandemic helped maintain and improve the delivery of mental health services. The Vaccine Management System (VMS) appointment booking service provided its citizens' convenient digital access. Remote/video-based consultations enabled clinicians to provide more services to vulnerable patients while reducing the risk of infection.

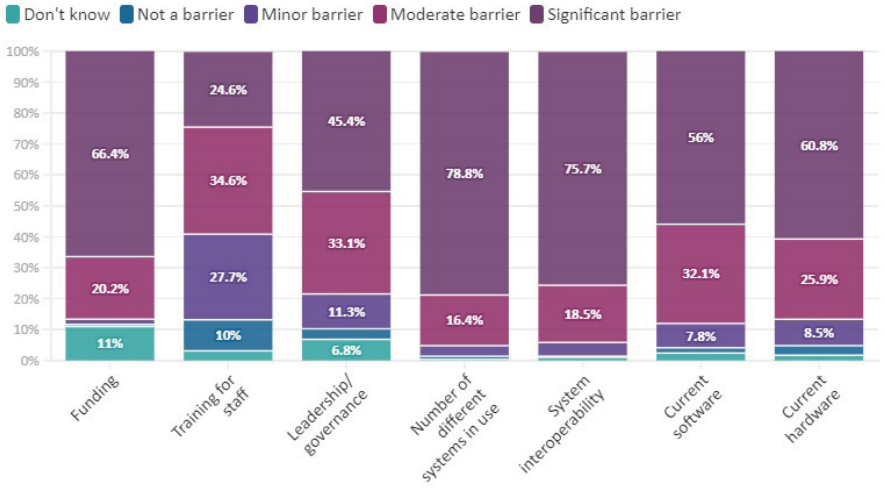
In England, virtual wards were introduced as pandemic-led pilots across the country developed by local services to reduce admissions into hospital. These wards allow clinicians to provide a level of care for patients in their own home and can span several different types of care based on need, with some relying almost entirely on remote care, and others blending remote with face-to-face care.[2] The use of remote monitoring and remote consulting was essential during the pandemic for reducing the risk of infection in GP surgeries and in hospitals, and to make better use of limited staff resources. Digitally-based healthcare will no doubt have an ongoing role in care delivery post-pandemic, and is a central feature of health service recovery plans. However, such options must be supported by the right infrastructure and only be used where clinically appropriate – they should complement, not replace, the delivery of face-to-face care. With these models now being used more widely more needs to be done to understand them.

Recommendation 1: Health services must protect IT investment from budget cuts and invest in IT infrastructure as a priority to support recovery and ensure they have the capacity to respond swiftly to future health crises.

There are barriers to digital transformation that must be addressed

Doctors have told us what they believe to be the biggest barriers to digital transformation, and which issues they feel are priorities to improve patient care and patient safety.

Figure 4:
To what extent, if at all, are any of the following barriers to digital transformation in the NHS?



Source: Source: February 2022 BMA IT and Estates Survey

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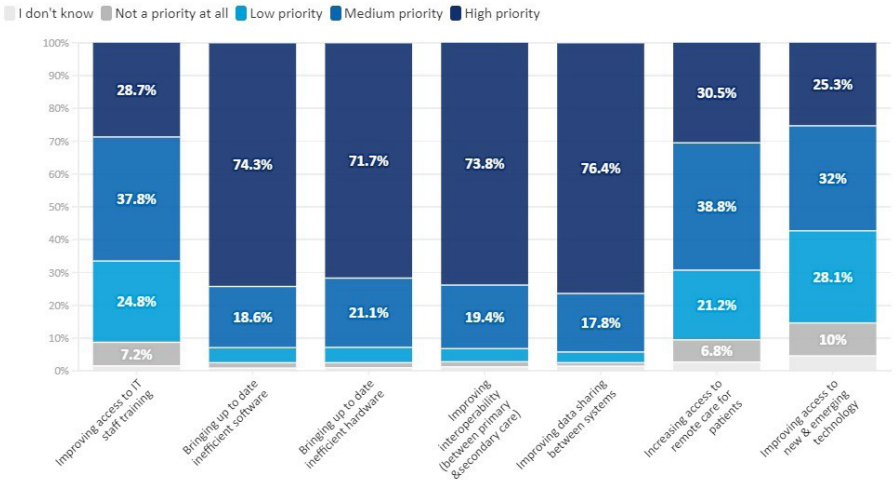
2 NHSX, 'A guide to setting up technology-enabled virtual wards', December 2021

Figure 5:
How would you prioritise the following to improve your ability to deliver care to patients?



Source: January 2022 BMA Viewpoint Survey

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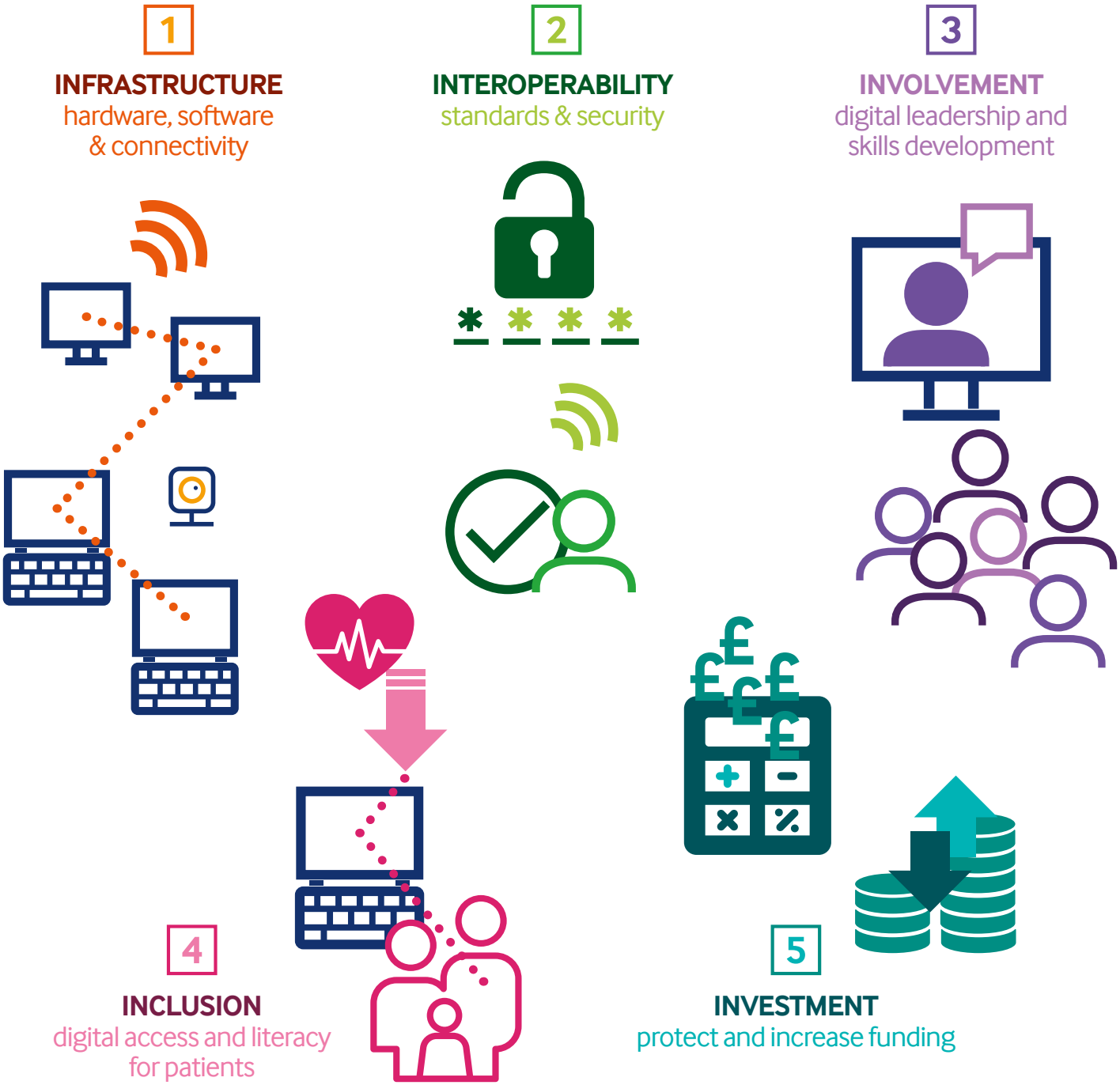
The case for urgent investment in safe, modern technology and data sharing in the UK's health services

This report sets out the key areas where more needs to be done to ensure the recovery and resilience of UK health services and the safe delivery of care.

Getting IT Right



1

Infrastructure

Significant clinical time can be saved by improving IT equipment and software

Basic IT infrastructure was insufficient before the pandemic.[3] Recent BMA research shows while improvements have been made, the state of basic IT has not improved nearly enough in recent years. This continues to result in significant losses of clinician hours and given the crippling workforce shortages across UK health services, this not only impacts patient safety but comes at a time when we can least afford it.

Improvements to basic hardware and information systems are therefore needed. Where equipment and software need to be replaced or updated, this should happen expeditiously to avoid adverse impacts on patient safety and additional costs in terms of time and money.

Connectivity and broadband speeds play an important part in getting basic infrastructure right and must also be improved.

Current hardware is adding to doctors' workload and impacting patient safety

Responding to our January 2022 Viewpoint Survey, nearly 71% of doctors reported that current IT systems and infrastructure in their workplace "somewhat" or "significantly" increased their workload, with 58% of doctors reporting losing between 1-3 hours per week due to inefficient IT equipment. The BMA estimates that this means more than 13.5 million working hours are lost yearly in England alone due to delays as a result of inadequate or malfunctioning IT systems and equipment. This is the equivalent of almost 8,000 full time doctors or nearly £1 billion (See Appendix A for methodology).

> *"Everything is becoming electronic (even a different piece of software to login to just for fluid balance!) but the number of computers on the ward hasn't increased. And doctors' offices are a thing of the past. So, despite having to use a computer for every patient on a ward round, we now have to wait for a computer to become available, login 5 times to multiple software, then see the patient, come back out, and find another computer for the next patient." – Doctor working in secondary care*

> *"[We need] computers that are adequate to run clinical programmes and actually speed up tasks rather than significantly slowing them as they do at present. There is currently no benefit to computerised systems over traditional paper ones in terms of efficiency and patient safety." – Doctor working in secondary care*

> *"So much time is wasted trying to find working computers. As more things are becoming computerised, a solid IT infrastructure is essential and sadly trusts do not seem to be investing in adequate or sufficient equipment." – Doctor working in secondary care*

These issues are widespread. Nearly half of doctors working in UK health services report being limited by insufficient equipment, meaning there is a clear risk that that the timeliness and quality of care they provide to patients will be similarly constrained. In the free text responses of our 2022 IT and Estates survey, doctors emphasised the problems they face with IT equipment.

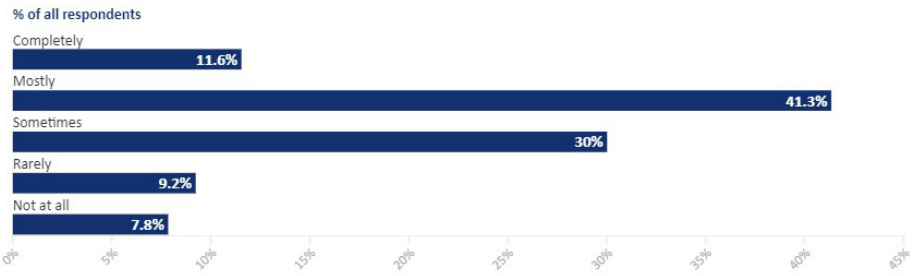
3 BMA, NHS Technology, Infrastructure and Data Report, April 2019

Figure 6:
Doctors highlighted issues with IT equipment

Source: February 2022 BMA IT and Estates Survey

When asked if they had all the necessary equipment to perform their job role, 47% of all of the respondents to our 2022 IT and Estates survey stated that they had it 'only sometimes, rarely or not at all'. A mere 11% of all the respondents reported 'completely' having the necessary equipment.

Figure 7:
Do you have the necessary equipment to perform your job role?
(e.g., laptops, desktops, WiFi)



Source: February 2022 BMA IT and Estates Survey

Providing sufficient hardware can help make a difference to this issue, as one respondent responding to our 2022 IT and Estates survey suggested.

"The trust where I am currently working has issued everyone with laptops (as well as having desktop computer on wards and in clinics) which has made it much easier to be able to have IT access when you need it. It would be good if this practice was done more widely." – Doctor working in secondary care

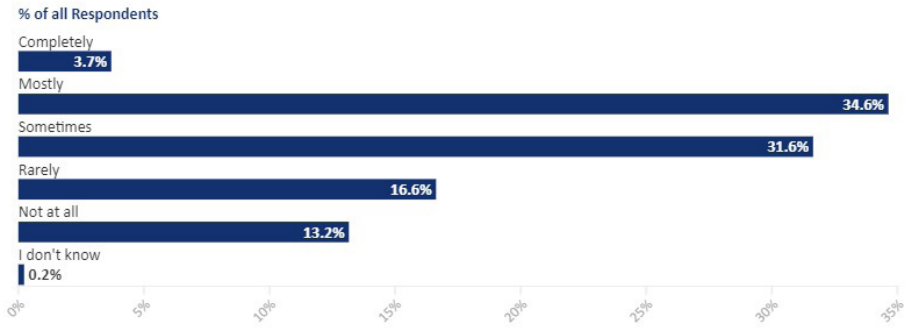
Recommendation 2: Defective or inadequate IT equipment must be updated or replaced. Doctors should immediately raise concerns over any IT problems that may present a risk to patient safety.

Recommendation 3: Hardware provision must be improved. Doctors could be provided with laptops or mobile devices such as tablets to save on space and prevent them from having to share equipment with too many other clinicians which can lead to delays. Consideration would need to be given to the environmental impact of such arrangements, however.

Software systems are too slow, complex, and unreliable wasting clinician time and endangering patient safety

Software plays another important part in ensuring doctors time is used effectively and as a result patient safety is maximised. When asked "To what extent is the software you use adequate for you to perform your job and is fit for purpose?", almost 1 in 3 (29.8%) respondents to our 2022 IT and Estates survey working in both primary and secondary care said that it was 'rarely adequate' or 'not adequate at all', while just under 4% said it was 'completely adequate'.

Figure 8:
To what extent is the software you use adequate for you to perform your job role and is fit for purpose?



Source: February 2022 BMA IT and Estates Survey

Doctors reported that systems were too slow, wasted time and increased workload. Reliability and safety were also issues highlighted, with doctors reporting crashes, glitches or bugs delaying their work, and in some cases, respondents were not able to use the system at all.

"Provide cutting edge voice recognition software for radiology. Our voice recognition packaged with PACS [picture archiving and communication system] has medieval accuracy compared to Google! It is a clinical risk." – Doctor working in secondary care

"Software is unreliable/unresponsive at times. The fact we don't have the same software across the NHS is a real loss of efficiency in wasted time/money/human resources and optimal patient care." – Doctor working in general practice

Some respondents also reported lacking the specific software or functionality they wanted or needed, or that their hospital lacked sufficient digitisation and they were forced to use paper notes. A small number of comments referenced the need for the adoption of systems that allowed for greater use of automation or artificial intelligence (AI), with one comment calling for software that more easily facilitated 'automation of repetitive, predictable tasks.'

> *"[We need] better availability of audio-visual hardware so we can do Teams meetings. E.g., for our safeguarding meeting often, we have no sound and need to use mobile phones to ensure those on Teams can hear us" – Doctor working in secondary care*

> *"We still work on Windows 7." – Doctor working in secondary care*

> *"Having changed our hospital's IT system, we now have to log onto 4 different systems to deal with one patient. This is not progress." – Doctor working in secondary care*

Other responses indicated that the systems lacked serviceability, user friendliness and accessibility, with poor interfaces or layouts making it difficult to understand or use the system. One respondent reported that generally 'software can be hard to navigate'.

> *"[We need] one single system rather than logging into multiple applications. Most are slow to operate." – Doctor working in secondary care*

> *"Software should be user friendly, efficient, easy to use, provide flexibility of multi-tasking. The amount of data we are asked to process is horrendous it takes us away from our patients." – Doctor working in General Practice/ primary care*

> *"Too many logins and passwords and one software environment not communicating with the other." – Doctor working in secondary care*

> *"It has before now taken me half an hour to log into a computer. This is a ridiculous waste of time. Systems are slow and dated, and I worry patient safety is at risk because it isn't possible to find relevant information." – Doctor working in secondary care*

Recommendation 4: Software and systems must be streamlined and/or consolidated where possible.

Recommendation 5: Provider IT leads must engage with doctors and other healthcare staff to understand the distinct needs of teams. IT user groups could be established to support regular reviews and flag any issues.

Connectivity and access to high-speed broadband are equally essential

Connectivity and access to high-speed broadband are also essential parts of well-functioning IT infrastructure and increasingly important in a resilient healthcare system, as the COVID-19 pandemic has shown. Connectivity can also support improvements in access to care, especially for those living more remotely, saving clinician and patient time where virtual consultations are clinically appropriate.

Poor connectivity has, in the past, been ranked by doctors as one of the biggest barriers to carrying out remote consultations. In a survey conducted by the BMA in 2020, doctors 'significantly' (11%) or 'slightly limiting' (35%) barrier to providing remote consultations.[4] Free text responses from our 2022 IT and Estates survey indicate this is still a problem.

Figure 9:
Doctors report issues relating to broadband and connectivity

Source: February 2022 BMA IT and Estates Survey

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"[We need] Wi-Fi in the building, not having to rely on my own phone line." – Doctor working in secondary care

"Internet connection bandwidth too limited + clinical software to slow causing delays in consultations I get bored repeatedly telling patient I am waiting for the spinning circle to stop!" – Doctor working in General Practice/primary care

"If I use my own laptop, I have to use [another organisation's] unsecured Wi-Fi, which drops. I tether to my phone often; it burns through data." – Doctor working in secondary care

"Wi-Fi dead zones mean mobile computers drop out of signal and crash and work is lost." – Doctor working in secondary care

Moreover, if health services aim to introduce new digital methods of delivering care, the issues with basic equipment need to be addressed in the first instance.

Recommendation 6: High-speed broadband must be accessible in all healthcare facilities. Where it is not, urgent upgrading must take place.

Recommendation 7: Wi-Fi must equally be available and be able to support high levels of use.

4 BMA, 'Covid-19 Tracker Survey Wave 5', June 2020

2 Interoperability

Interoperability of clinical information systems, supported by clear standards, must become the norm to ensure the safe and speedy delivery of care

Health information systems remain far from interoperable making data sharing difficult

Interoperability must be central to all future health service IT contracting. The primary goal must be to implement interoperable clinical information systems that enable the safe exchange of essential patient information instantaneously between healthcare settings and between health and social care.

A lack of interoperability means that patients often report a disjointed experience in navigating parts of the health service, as they need to report the same information multiple times to different clinicians. This can also affect the quality, timeliness and safety of care they receive, where clinicians are unable to view, access or collate data from different systems easily.

> *"I work across three acute trusts all with different IT systems not being able to access records across sites is a significant risk." - Doctor working in secondary care*

> *"I work in a psychiatric role where I am required to rapidly understand patients' backgrounds and past involvement with services. The IT provided is completely inadequate and patient information is spread across three separate electronic clinical records systems, plus more historic information on paper notes not immediately available. The result is an enormous amount of time taken to reconstruct each patient's back story and a large risk of critical information being missed. With better IT systems this time could be reduced from hours per patient to minutes per patient." – Doctor working in secondary care*

While improving interoperability of systems must be a high priority, the majority of doctors are still not confident that seamless data sharing will be the norm in the next 10 years. In our 2022 IT and Estates survey, more than two-thirds (68.4%) of doctors stated they are 'not very' or 'not at all confident' that they will be able to seamlessly share and access patent data throughout the health service in the next decade. Interoperability must therefore be prioritised as the integration of information would not only save time, prevent patients from having to repeat information to multiple clinicians in a GP practice, hospital, or community setting, but it would also improve overall patient safety by minimising delays in care and ensuring doctors have access to the entirety of a patient's medical record.

The lack of interoperability is a particular issue across the primary-secondary care interface

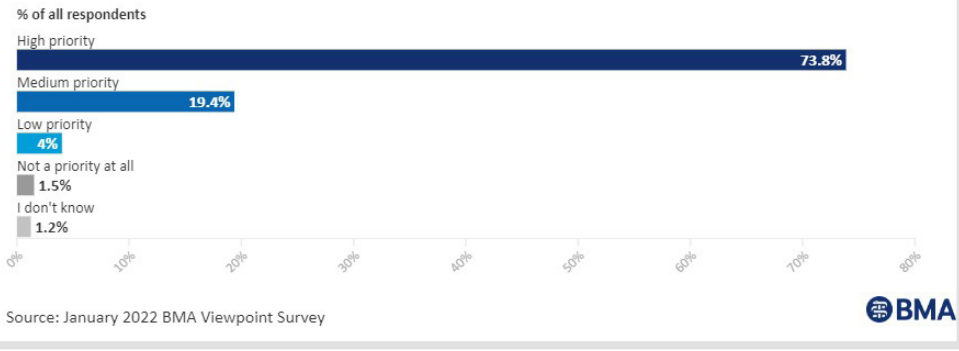
Better interoperability of systems across the primary and secondary care interface to enable the seamless sharing of data is particularly important but is an area in which more needs to be done. The primary-secondary care interface has a significant impact upon patients, as it is often unclear which clinician is responsible for a patient's needs and if communication across the interface is poor, this can result in delays in care and compromise safety. It can also increase workload significantly for doctors when, for example, incomplete or missing information must be chased.

"The current software is clunky and poorly integrated. It needs to be developed further for the purpose of supporting and speeding up both clinical and administrative processes. There needs to be significant improvement in the interaction between hospital and primary care IT systems. As an example, our local Trust does not return test results to the requesting clinician, instead they simply "send to the practice" using a historical name, this means we have to employ a member of staff just to re-direct test results to the correct clinician." – Doctor working in General Practice/primary care

The substantial backlogs healthcare services across the UK currently face demand a level of coordination between primary and secondary care at a scale that was hitherto unfathomable. Technology solutions such as electronic referrals, Advice and Guidance and shared care records can help reduce bureaucracy, errors and delays. However, clinicians must also have the space and time to build and maintain good working relationships (on a human level) with colleagues in other sectors. If the digital infrastructure is not strong and IT solutions ineffective, these relationships and the communication needed to make them work well, become more challenging.

In our January 2022 Viewpoint survey, almost three quarters of doctors (73.8%) stated that improving interoperability between primary and secondary care systems was a high priority.

Figure 10:
Improving interoperability between primary and secondary care systems



Source: January 2022 BMA Viewpoint Survey

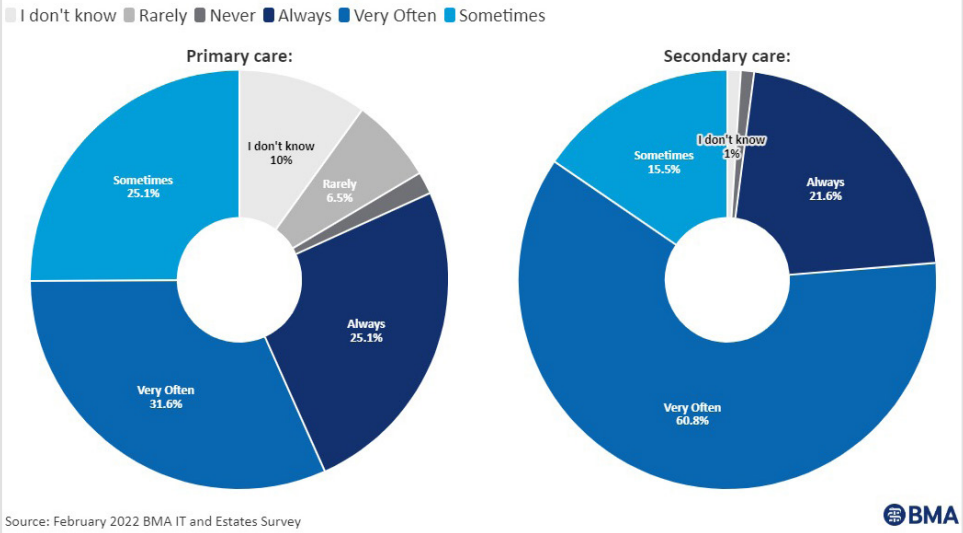
In our IT and Estates survey:

– Almost 3 out of 5 (56.7%) of those that worked in secondary care reported delays in accessing patient data from primary care occurring 'always' or 'very often'. Just 8% reported that delays occurred 'rarely' or 'never'.

– Of the respondents working in primary care, more than 4 out of 5 (82.4%) reported that delays occur 'always' or 'very often' in accessing data from secondary care, while just 1% of respondents reported that they 'never' occur.

This clearly shows that seamless sharing of information is far from being addressed and, while some of this may be caused by other reasons, such as a lack of digitisation or high clinician workload, the lack of interoperability has an important role to play.

Figure 11:
How often do you encounter delays in accessing patient data from:



Source: February 2022 BMA IT and Estates Survey

Far from being an indictment, the discrepancy between the figures is arguably a testament to the relative progress made in primary care to make information more readily accessible, including initiatives such as GP Connect and the Summary Care Record (SCR) in England. In contrast, there is no direct equivalent in secondary care in England – except for the Shared Care Record which, in September 2021, (the national target) existed in a basic form in 37 of 42 ICSs (Integrated Care Systems).[5] In order to truly improve access, Shared Care Records will need to operate at an advanced level on a consistent basis.

In Northern Ireland, this work was started with the NIECR (Northern Ireland Electronic Care Record) which allowed sharing of hospital admissions, outpatient letters, blood results, path reporting and radiology (as well as additional records across primary and secondary care). The Encompass programme aims to streamline services, patient journeys and ensure connected healthcare across primary, secondary, community and social care. With further progress to realise this vision, Northern Ireland is set to become the first UK country to implement a fully integrated electronic health and care record, which will allow healthcare providers to access the patient's correct information in real-time and in one location. This new programme will enable improved continuity of care.

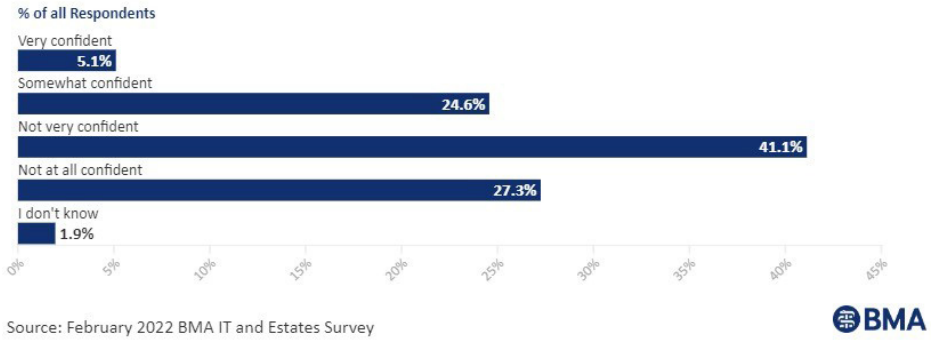
Recommendation 8: Interoperability must be improved to facilitate effective communication and data sharing across health care systems, especially across the primary-secondary care interface.

5 NHS England, A celebration of progress in shared care records, September 2021

Health service regulatory bodies should develop and enforce standards and avoid stifling innovation

So, despite some progress made to date, doctors remain concerned this issue will not go away. Just under a third of clinicians (29.7%) are confident that seamless and instant data sharing will be the reality across UK health services in 10 years, with only 5% of those expressing strong confidence this will be the case. Despite significant recent efforts to improve data sharing for direct care, the slow pace of progress has fed scepticism that well-intentioned rhetoric can translate to measurably improved outcomes.

Figure 12:
How confident are you that you will be able to seamlessly and instantly share and access patient data throughout the health service in 10 years?



Source: February 2022 BMA IT and Estates Survey

While historically one of the stumbling blocks to progress has been a lack of digitisation, as health services move to fully digitise all providers, this provides an opportunity to address other barriers for effective data sharing, specifically the lack of interoperability between suppliers' products.

Mandating and enforcing interoperability of different systems at a supplier level would solve these problems and is something the BMA has recommended[6] NHS England do. NHS England has committed to ensuring that data is interoperable in the NHS Long Term Plan[7] and in Data Saves Lives[8] – setting out its aim of having open standards for data sharing.

NHSX had aimed to publish a Standards and Interoperability Strategy, and NHSE's new Transformation Directorate has since commissioned a roadmap[9] for improvement of standards and interoperability in April 2022. However, without clear levers and options open to NHS England to enforce these standards, there can be no assurance that suppliers' software will be interoperable.

The lack of clear enforceable standards is an issue across the UK. In Wales the Integrated Medium Term Plan 2022-2025 summary states that a considerable barrier to the appropriate sharing of information between organisations and systems has been a lack of technical standards for interoperable systems. Similarly, Scotland's 2021 Digital Health and Care Strategy recognises the fragmented experience of staff using digital systems, and highlights the importance of having aligned infrastructure, systems and standards across all services to ensure their effective delivery.

It is important that alongside the development and enforcement of clear interoperability standards, purchasers do not stunt efforts to promote interoperability in the long term by reducing competition and innovation in the commercial sector. Doing so risks the creation of an oligopoly amongst the current suppliers with a stake in the market.

6 BMA, BMA Response, NHSX Draft Data Strategy, September 2021
7 NHS England, 'The NHS Long Term Plan', January 2019
8 Department of Health and Social Care, 'Data Saves Lives: reshaping health and social care with data', June 2022
9 The Faculty of Clinical Informatics (FCI), ''How Standards will Support Interoperability', April 2022

The creation of, as one respondent to the 2022 BMA IT and Estates survey stated, "a single functioning system across the UK" may initially seem attractive and could potentially mitigate some of the issues. Similarly, the Government's integration White Paper published in early 2022 set an aim for all providers in England within an ICS to adopt the same software. However, whilst a seemingly simple solution, there are legitimate concerns with the use of a singular system due to the need for specific functionality within specialist software and varying needs of local areas alongside a risk of creating monopolies and stunting innovation.

Local areas must review what works for them and the focus must be on ensuring interoperability between software and a common data space rather than opting for common systems that improve data sharing but remove functionality or usability. The Health and Social Care Digital Strategy for Northern Ireland 2022-2030 reaffirms the importance of regularly engaging with the market to seek out opportunities to improve interoperability between systems and to adopt new ideas and technologies.

Recommendation 9: Robust standards for interoperability must be developed by the appropriate UK health service regulatory bodies.

Recommendation 10: Purchasers must be required to enforce these standards, to guarantee that any software meets the required standards. Work must begin to extricate providers from any contracts with suppliers that do not meet the standards as quickly as possible.

Recommendation 11: It is imperative purchasers do not bow to suppliers who have, for years sought to create market dominance with siloed software. Interoperability by default is the only way of achieving this and leveraging the buying power of the NHS a realistic means of doing so.

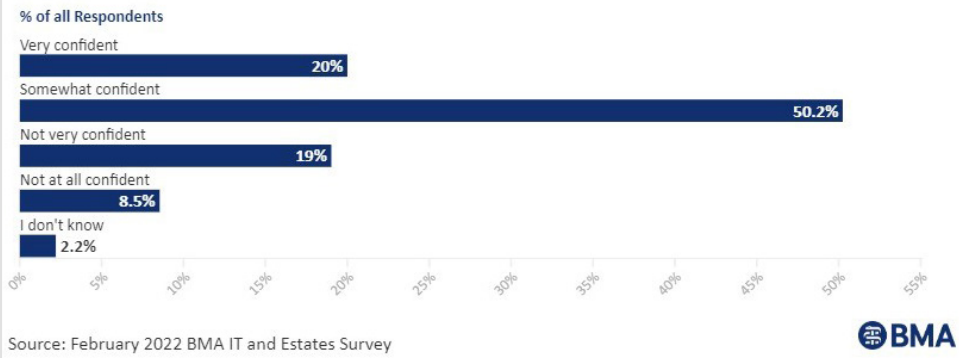
Sharing data across health services must be done safely and securely, supported by investment

Health services must ensure that patient data is always protected. Although confidence among doctors in the safe sharing of patient data is relatively high, it could be even higher and there are also valid concerns within the profession about the impact of cyber-attacks.

The majority of respondents (70.2%) to our 2022 IT and Estates survey said they were 'confident' (either 'very' or 'somewhat') in the security of sharing patient data. This suggests that doctors have faith when sharing data and they would not be deterred from doing so except where they deem it clinically inappropriate or unnecessary.

Although it is reassuring that the majority were confident in the security of sharing patient data and the NHS remains a largely secure environment in which to share data, thanks to the dedicated public bodies tasked with supporting it, it is crucial that all clinicians have this confidence in the systems and processes in place. The 27.5% of clinicians who lack confidence in sharing data, especially the 8.5% of respondents who were 'not at all confident', is a number that should now be brought down with continued investment in data security.

Figure 13:
How confident are you in the security of sharing patient data across the health service?



Source: February 2022 BMA IT and Estates Survey

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In addition to this, more must be done to improve cybersecurity, with cyber-attacks an area of genuine concern for the profession. In August 2022, a ransomware attack on an NHS supplier in England caused widespread disruption resulting in delays to patient care and a mounting backlog of paperwork for GPs in the area. The impact of the attack on patient safety has been felt acutely at NHS mental health trusts with patient records and safeguarding alerts being unavailable and medication doses at risk of being missed. The infamous WannaCry attack in 2017 caused widespread disruption in 11 of Scotland's 14 health boards and Scottish ambulance services. At least 34% of trusts in England and a further 603 primary care and other NHS organisations were infected, including nearly 600 GP practices. According to the NAO (National Audit Office) investigation, it led to the cancellation of thousands of appointments and operations and resulted in patients in some areas having to travel further for emergency care.[10] Following its investigation, it was not known "how many NHS organisations could not access records or receive information, because they share data or systems with an infected trust." Health services in Wales[11] and Northern Ireland were not affected by the attack.

Recommendation 12: Robust cyber security measures must be in place nationally and locally to protect health information systems and mitigate against widespread disruption to patient care.

10 National Audit Office, 'Investigation: WannaCry cyber attack and the NHS', October 2017
11 Welsh Government, 'Written Statement – WannaCry cyber attack', May 2017

3

Involvement

Clinician involvement, up-to-date digital skills and effective Government strategies are all needed to ensure IT systems are safe

Involvement in digital transformation by clinicians, the development of digital skills and effectively implemented and coherent government strategies are all important to make digital transformation a success. They are also key in ensuring doctors are able to use systems safely, that systems are safe and staff time wasted on inefficient systems is minimised.

Clinician and user involvement is needed to ensure safe care delivery

To improve patient safety and the delivery of care clinicians must be involved in digital transformation and be supported to take up digital leadership roles. The involvement of clinicians in digital strategies will ensure that systems work for doctors, and in turn will have positive impacts for patients. Systems that are more user friendly, safe, and effective because clinicians have been involved in their design, will mean patients will be able to receive care safely and without delays. Clinicians at all levels must be involved whether in digital leadership or frontline roles.

Closer involvement of clinicians from the inception of digital projects can support effective transformation, as evidenced by the Welsh Clinical Portal (WCP) which is used across primary and secondary care services, allowing doctors to access patients' digital health records with a single log-on. The product involved Welsh healthcare professionals working with Digital Health and Care Wales and software experts to ensure it met the needs of users across NHS Wales and is regularly developing to meet additional clinical needs.

> **Recommendation 13: Doctors with an interest and expertise in digital transformation should be encouraged and supported to take up digital leadership roles locally and/or nationally.**

> **Recommendation 14: Users of digital systems should be closely involved with or leading the design and implementation of digital programmes and strategies. Providers must go further to actively consult with doctors at all levels and at all stages of digital procurement and transformation.**

Doctors must be supported to develop and maintain their digital skills to use systems safely

If even a small cohort of doctors do not feel confident in their skills to use digital systems, it can create barriers to digital transformation, with users unable to safely operate systems – exacerbating existing problems or creating new problems rather than solving them.

Ensuring the requisite skills are learned from the outset and throughout medical careers will help doctors' skills to evolve alongside technology. Having the necessary skills will enable doctors to fully embrace and champion digital transformation and enable them to become digital leaders on their wards, in their practices and in the wider system. This means they can help develop systems that are user-friendly and safe to use.

> *"You get teaching at the beginning of using your IT system, but then no more training, which is when you actually need it!" – Doctor working in General Practice/primary care*

To do that, doctors need dedicated time for formal training on the systems that they will be using in their day-to-day work. People learn differently, therefore the training offered must work for all and not just some. Training led by clinicians, IT staff, peer-led training and online resources should all be made available to support upskilling.

> *"Training is somewhat sketchy and generally delivered by people who do not do the job on a day-to-day basis." – Doctor working in General Practice/ primary care*

> *"Often training not specific to the area you work in and only very short so difficult once on the job to have further specific training and tend to learn from each other." – Doctor working in secondary care*

> *"Training is always done by non-clinicians so often limited in understanding how the system needs to be used in real time." – Doctor working in General Practice/primary care*

> *"Training is patchy- mostly we learn from each other when someone finds a useful function/ way of working the system they share it." – Doctor working in secondary care*

The fact that people learn differently was also reflected in the responses to our survey, with some suggesting training was too basic and some that it was too advanced.

> *"Training needs to be targeted to ability with IT skills. Those with less skills do not get enough support and those who have significant IT skills often find their time wasted by this training." – Doctor working in secondary care*

> *"The training is often not role-specific, and clearly someone who is already computer literate should not be made to waste their time undertaking training applicable to those that struggle to use a word processor. It is insulting and a waste of time." – Doctor working in secondary care*

One suggestion from a CCIO (chief clinical information officer) interviewed as part of this research envisioned training as a less transactional, and a more solutions-oriented process:

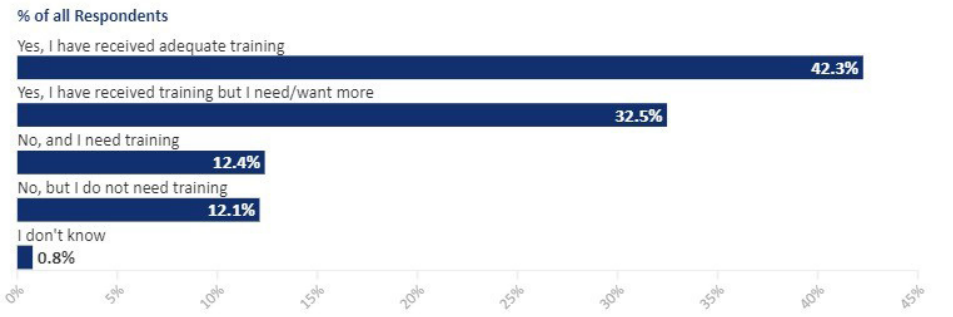
> *"Training is often thought to be the act of how do I do X, akin to how do I do an email. A lot of our training is transactional, but we've rapidly changed our training to workflow based, if you took a doctor, they'd ask what do I need to do to care for that patient? You realign the training to match that clinical workflow. You find that training is much more successful and is much shorter as a consequence."*

Improving access to IT training was a 'high' priority for almost 29% of respondents to our January 2022. Viewpoint survey (see Figure 5) when asked about areas they would prioritise to improve their ability to deliver care, with this figure being roughly equivalent both for those working in general practice and secondary care.

Although lower than other priorities (such as bringing up to date inefficient software and hardware, improving interoperability and data sharing between primary and secondary care systems), achieving a high level of digital literacy among the healthcare workforce represents a key part of resilient, safe and timely healthcare delivery and nearly 25% of respondents to our February 2022 IT and Estates survey therefore said they saw it as a 'significant' barrier to digital transformation (see figure 4).

When doctors were asked whether they had received training to use the IT systems they needed to deliver care, the majority (74.8%) said they had received at least some training on IT systems. However, 32.5% reported that, while they had some training, they needed or wanted more and 12.4% of respondents reported that they had not received any training but needed it.

Figure 14:
Have you received training to use the IT systems you need to use to deliver care?



Source: February 2022 BMA IT and Estates Survey

Staff must be given training and tools to support them to keep patient data safe

A particularly important area for staff training is IG (information governance). It is encouraging that all four UK nations have strategies in place to protect patient data that include providing adequate IG training for staff. Operationalising those objectives and ensuring compliance is crucial to ensure security, accountability and confidence among staff and patients. Medical scrutiny over data programmes will help to provide assurance for the medical profession – particularly for GPs as data controllers under data protection law. The box below summarises these strategies in further detail.

Box 1: Strategies to keep patient data and IT systems safe

In Scotland, an Information Governance (IG) and Cyber Security Team has been established to ensure fair and secure use of data and digital technologies across health and care. The government is also working to provide staff with the necessary tools and training for managing data and using digital platforms confidently.

In Wales, to ensure that patients and staff trust in the safety of their data and the systems used, Digital Health and Care Wales (DHCW) is developing an Information Governance and Cyber Security Framework, using the standards and mechanisms that prioritise patient and service user safety, protecting data from external and internal threats.

Similarly, Health and Social Care Northern Ireland (HSCNI) has established the 2022-2026 Cyber Security Strategy to manage risk and maintain resilience in digital and cyber operations. HSCNI collaborated with stakeholders from across the HSC ecosystem to develop this strategy, playing a vital role in the delivery of a safe and secure digital transformation. Northern Ireland's vision for cybersecurity emphasises shared accountability for data security, with managers advocating best practice and staff completing training, robust management and governance with clear pathways and processes that are standardised across HSC, and secure tools and infrastructure so that people can rely on the safety of stored information (which is always accessible), and hardware, software and tools are fit-for-purpose.

In England, the NHS 2022/23 operational planning guidance states that ICSs should plan for their own local cyber security. National funding for cybersecurity will be directly given to ICSs from 2022/23, focusing on trusts that are most at risk first. NHSE must ensure that these local provisions are adequate and must guarantee that each local area has the funding and support they need to address the cybersecurity risks – which should be reviewed regularly.

NHSE's data strategy and the IG framework for ShCRs (Shared Care Records) state that healthcare workers should have undertaken appropriate training on IG by the time ShCRs had been introduced in their area. A report by Imperial College London on improving Cyber Security in the NHS from 2020 suggested that, although this training is mandatory and includes cyber security, not nearly enough Trusts are reaching the 95% compliance target. The report states that staff training on cyber security must be improved and cyber-attacks should be classified as a patient safety priority. The report also suggests that an "over-reliance on badly connected Electronic Health Record (EHR) systems may leave the NHS vulnerable to a widespread shutdown in the event of an intentional attack."

Clear government strategies for the improvement of clinician involvement and development of digital skills must be implemented

Across the UK there are strategies for the improvement of digital skills. It is important that these don't just remain strategies, but are implemented, with regular progress check-ins and that they are also part of a coherent package of strategies (incl. on workforce and funding).

In Scotland the refreshed Digital Health and Care Strategy (2021) aims to provide their health and care workforce with the digital skills and the required capabilities to perform in this accelerating digital environment. A programme is currently being established to ensure that health care staff not only have the necessary technical skills but are also equipped with the knowledge to engage effectively with service users digitally. In addition, Scotland is investing in Innovation Centres, which will aid in transforming ideas into solutions for key Scottish health challenges.

The HSC Digital Strategy for Northern Ireland states that it will empower its workforce to embrace digital systems by providing training according to experience levels and making essential digital training mandatory.

In England, the NHS Long-Term Plan set an ambition that staff will be supported to develop the digital skills they need to effectively use digital tools and services. This is a welcome commitment; however, it is a difficult metric to measure. Health Education England (HEE) currently leads the digital literacy programme, which is vital if the NHS plans to fully digitise, and thus, this programme of work must be protected as HEE merges with NHSE.

A broader digital training programme was put forward as a key recommendation in the Wachter review, which recommended that by December 2017 a training programme was to be launched for Chief Information Officers (CIOs), Chief Clinical Informatics Officers (CCIOs) and other healthcare informaticians. It stated that "the absence of professional, well supported CCIOs with appropriate authority and resources is an enormous obstacle to successful deployment and benefits realisation of health IT at the trust level."[12] This is one of the factors that led to the development of HEE digital training workstreams.

HEE's recent merger with NHS England, the incorporation of NHSX into NHSE and the merger between NHSD and NHSE offer some potential for greater digital coordination across both delivery, medical education, and training and CPD (continuing professional development). Only time will tell if this merger can catalyse digital transformation in the long term. It is essential that regardless of these national-level changes, progress already underway and planned in the short term continues.

Recommendation 15: Digital transformation strategies should be part of a package of coherent strategies (including on workforce and funding), to enable staff to use technology and systems with ease and enable them to deliver safe care.

Recommendation 16: Digital skills must be embedded in medical education and training curricula and skills kept up to date over the course of a doctor's career through in-house training and CPD.

Recommendation 17: Training should be made available at multiple levels, including by IT staff, peers and via online modules to allow staff to learn at their own pace.

Recommendation 18: Doctors must have protected time and support to upskill themselves, and the training offered should be varied to meet different learning needs. Managers must ensure that staff are aware of and can make the most of any training offered.

Recommendation 19: The most stringent security and IG (information governance) measures must be in place to guard against data breaches.

Recommendation 20: Doctors and other healthcare staff who handle sensitive patient data must be trained and supported to do so safely and in line with accepted IG practices.

12 National Advisory Group on Health Information Technology in England, 'National Advisory Group on Health Information Technology in England', R Wachter (2016) R Wachter, August 2016

4 Inclusion

More must be done to level the digital divide and ensure patients are well informed and no patient is left behind

Not everybody is able to benefit from the digital transformation of health services

Patient-centred initiatives must be part of any further health service digitisation efforts to ensure these efforts are safe for patients, or they may risk entrenching broader health inequalities. Digital transformation of health services is essential, especially in an understaffed health service, but patients must be supported to access services in their preferred way and any barriers if they choose to access services remotely must be overcome.

Digital exclusion or digital poverty has been described as a social determinant of health.[13] Although remote care, particularly in primary care, is beneficial for some, there is the risk of exclusion of vulnerable groups such as "older people, disabled people, those from deprived areas or who are on low incomes, and those whose first language is not English."[14] A survey conducted by NHS Providers had similar findings, but interestingly found that among respondents who had had a remote outpatient consultation, age did not appear to be a barrier to using technology for healthcare appointments, but instead other barriers such as not being able to afford to maintain or access the technology required.[15] This issue was highlighted in a Health and Social Care Committee Report (July 2022) by one stakeholder:

> *"The massive concern about reliance on digital technology to deliver healthcare is the approximately 30% of the population who will not be digitally literate or, more importantly, not be able to afford data. They cannot physically engage because they cannot afford data. And this potentially worsens health inequality."*[16]

According to ONS (Office of National Statistics) data from March 2020, 6.3% of adults in the UK had never used the internet. Although the percentage of adults that were internet non-users has decreased in recent years and is likely to be lower now, just over one and a half years on, given the speed of broadband rollout, this still represents a significant proportion of the adult population – almost 3.4 million people – that may face difficulties accessing care as it becomes increasingly digitised.

13 Digital Inclusion in Health and Care: Lessons learned from the NHS Widening Digital Participation Programme (2017-2020), Good Things Foundation (2020)
14 Royal College of Emergency Medicine, , Royal College of Emergency Medicine (2021) August 2021
15 NHS Providers, 'What patients and staff really think about remote consultations', September 2021
16 House of Commons, Health and Social Care Committee, 'Expert Panel: evaluation of Government's commitments in the area of the health and social care workforce in England', July 2022, p. 56

Figure 15:
Internet access is not equally distributed

Percentage of internet non-users by UK region (2020)

Source: ONS Internet users data (2020), ONS Geography Portal and OpenDataNI

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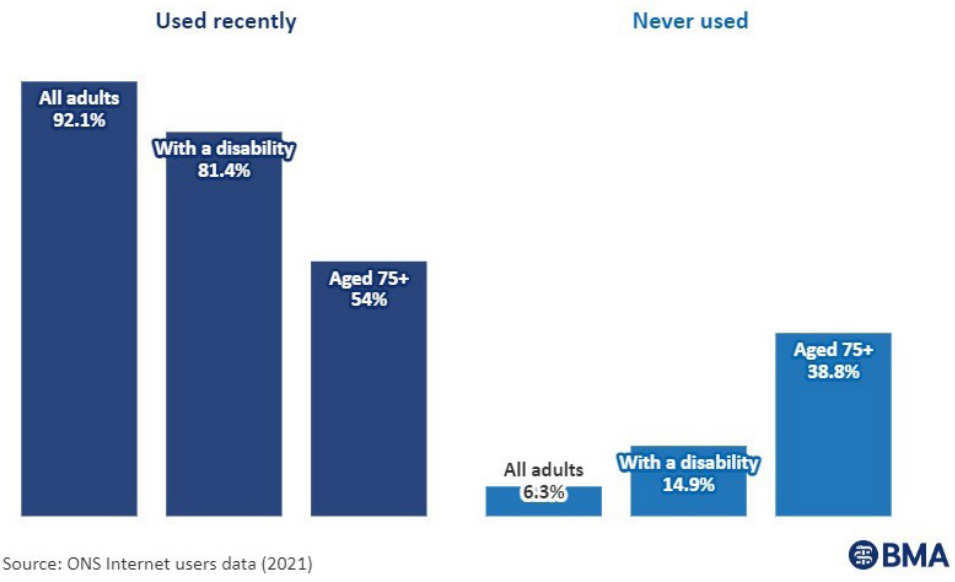
Amongst certain groups, internet non-use is more common: 38.8% of adults aged 75 and over, and 14.9% of adults with a disability[17] had never used the internet in March 2020. Internet non-use also varied by region and was particularly high (over 10%) in Southern Scotland, and Northern Ireland.[18]

Figure 16:
Internet use varies by disability status and age
UK-wide (2020)



In a report examining patient experiences of remote GP appointments in June of 2021, Healthwatch found several barriers that could lead to patients being excluded. They found that these barriers materialised for a mix of reasons, such as limited interest in technology, a lack of digital skills, age or disability, a lack of trust or a language barrier.[19] In a different, local Healthwatch report on remote outpatient appointments, patients therefore unsurprisingly indicated a strong preference to being given a choice of remote or face to face appointments, and if they opted for remote ones receive training and support to use the necessary technology, at least for video consultations.[20]

Strategies to overcome digital exclusion need to be enacted swiftly

Some strategies do exist to support overcoming these challenges. For instance, the Widening Digital Participation[21] programme in England, which ran from 2013 until 2020, established by The Good Things Foundation, is an example of a nationally led programme to improve digital inclusion. The report produced at project-end found that the provision of digital health hubs for support can improve digital inclusion at a local level. NHS Digital has useful guidance to help health services ensure digital inclusion and the Local Government Association has published steps for delivering digital inclusion projects and initiatives across the public sector. NHS Providers has published guidance on the Accessible Information Standard which all NHS organisations have a legal duty to follow.

17 Adults who are 'Equality Act Disabled'; i.e., who self-assess that they have a disability in line with the Equality Act definition of disability.
18 Office for National Statistics, 'Internet users UK: 2020', April 2021
19 Locked out: Digitally excluded people's experiences of remote GP appointments, Healthwatch (2021)
20 Healthwatch Together, 'Remote Consultation Experiences: Engaging with hospital outpatients about their experiences of remote consultations', July 2021
21 Good Things Foundation, 'Digital Inclusion in Health and Care: Lessons learned from the NHS Widening Digital Participation Programme (2017-2020)', September 2020

Another example is the Digital Inclusion Forward Look: towards a digitally confident Wales which forms part of the 2021 Digital Strategy for Wales. One of the main missions of their strategy is digital inclusion and the 'Digital Inclusion Forward Look' outlines how Wales will achieve this, and the priority groups it will focus on, such as older people, disabled people, the unemployed and economically inactive, and social housing residents. This is an important nation-wide initiative as it is not only focused on access to digital health care services, but wider digital public services that an individual may need or simply, want access to.

Similarly, Scotland's refreshed Digital Health and Care Strategy (2021) has a strong focus on digital inclusion and the Scottish Government is collaborating with the Connecting Scotland Programme to ensure that the most vulnerable groups have access to digital devices, bandwidth, broadband or Wi-Fi, and receive support to develop digital skills. It is important to note that the strategy is acknowledging that in some circumstances, physical interaction, or a blended approach, incorporating face to face and digital will be more pertinent.

Though there is no coordinated digital inclusion programme in Northern Ireland, there are several individual initiatives, such as the Go ON NI campaign which aims to support digitally excluded people to access the internet, and Project Stratum which aims to extend the nation's broadband infrastructure.

What is important now, is that these strategies are implemented to ensure as many patients are able to benefit from digital transformation and to improve health services' resilience when another pandemic comes around the corner.

More must also be done to inform patients how their data is being used

Inclusion is not just about reducing barriers to participation; it is also about encouraging participation by being transparent with patients about how their data is used.

A significant degree of confusion still exists around different data uses, opt-outs, and the extent to which data is already shared. The way in which data is collected, stored, and used both for direct care and for secondary purposes, such as health service planning and research, must not just be safe, but transparent and with fully informed consent from patients. There is still much work to be done in this area to convince the public of the integrity of data storage and sharing within and across health services.

As the National Data Guardian's 2021 report: Putting good in to practice: A public dialogue on making public benefit assessments when using health and care data, put it: authentic public engagement, transparency, treating identifiable data with the utmost care and having safeguards in place to protect society against data manipulation are all of utmost importance. Transparency cannot be separated from public benefit. In other words, public benefit could occur only when transparency needs were met.

Unfortunately, we are not quite there yet and the nuances around data uses are often lost in attempts to implement new data programmes, as evidenced by an aborted attempt to rollout a new data collection mechanism, GPDPR (GP Data for Planning and Research), to replace the existing system (GP Extraction Service, GPES) in 2021 in England.

Box 2: GPDPR (General Practice Data for Planning and Research) – England

GPDPR was characterised as a novel collection of patient data for research and planning without precedent. The reality is that GPES (GP Extraction Service) had been in place for some time and while the new collection would extract almost all of the GP record at once, rather than specific sets of data as-and-when needed, it did not mark the first time that data had been collected. A lack of clarity in communicating what would be achieved by the new data collection mechanism was coupled with elements of the programme also requiring significant improvement prior to launch. The BMA raised a number of concerns regarding these initial proposals, which were outlined in a joint BMA-RCGP letter to leaders of NHS Digital and NHSX. Clarity is essential in order for professional bodies to properly assess the benefits and risks of such ventures.

In its response to NHSX's 2021 data strategy, The Patients Association said that "...patients overall are supportive of their data being used, but that they want safeguards and they want to feel confident in how their data is handled." Further, "...space must not be left for the promotion of incomplete or misleading information that will alarm patients unduly and undermine their support for the use of data. We have recently seen this with the GPDPR scheme, where decisions not to communicate effectively with patients enabled campaigners against the use of patient data to monopolise the public debate and spread doubt and mistrust among patients."[22]

There is a very real risk that without actively seeking to address some of the issues raised above – through public education campaigns and by providing assurances either in writing or through actions – that government may irrevocably damage the patient-doctor trust relationship at a time when data has never been more critical to the functioning of the NHS.

Recommendation 21: Health services must lead work on developing and implementing national digital inclusion strategies, building on work already being done in local areas such as digital health hubs to ensure that patients are not excluded from healthcare as digital transformation takes hold.

Recommendation 22: Internet access (specifically access to high-speed broadband) must be made more widely available, especially in rural areas and areas of deprivation.

Recommendation 23: Patients who do not feel confident in accessing care remotely must be supported so that they have the choice and flexibility to choose different methods of care available.

Recommendation 24: A greater degree of transparency around how data is collected, stored and used is required to build confidence among patients that their confidential medical information is secure. Patient/public education campaigns should be run in each of the UK nations and clear guidance provided to clinicians so that they are supported to respond to patients' questions or concerns.

Recommendation 25: More must be done to tackle disinformation in the media about how patient data is collected, stored and used by UK health services.

22 The Patients Association, 'NHS data strategy: draft response for submission via online survey', July 2021

5 Investment

Underfunding digital transformation will leave health services on the backfoot

Technology is a necessary and wise investment and underfunding digital transformation programmes now will leave health services on the back foot as they need to respond to increasing demand (both now and in the future) and another health crisis like a global pandemic.

Digital technology can support providers to deliver more efficient health services against a backdrop of tightening budgets and workforce shortages. It would therefore be unwise to reduce investment in programmes that would ultimately save time and money and improve patient care. It is difficult to say precisely how much funding would be sufficient to move UK health services to a digital model that is adequate in modern times, but we know that current levels are a barrier. According to our 2022 IT and Estates survey, more than two thirds (66.4%) of doctors ranked funding as a 'significant' barrier (see Figure 4). A full audit of the NHS IT estate is required to estimate the full cost of digital transformation and ensure sufficient funding is provided over a specified timeframe. Existing funding must prioritise addressing inadequacies in basic digital infrastructure if any large-scale transformation programmes are to succeed.

Funding has increased but has not been sufficient to deliver ambitions

Assessing funding for IT is challenging because funding streams are complex (consisting of national and local funding); there is a lack of data on spending in the devolved nations; and most importantly there has not been a recent public assessment of how much funding is actually needed.

Recent government investment in digital transformation in the English NHS has not been sufficient to deliver national ambitions and historical investment in IT has been inconsistent. According to a 2020 NAO report, trusts in England collectively spend less on IT / technology than the recommended level, with NHSE estimating that less than 2% of trusts' expenditure is on technology, compared with a recommended 5%.[23] Providers told the NAO that funding was a major barrier, "since they face many demands for local resources." This suggests that additional central funding alongside expanded local funding is desperately needed to reach digitisation and transformation ambitions, but trusts may not have the luxury of flexibility with their spending and may have to prioritise direct patient care over infrastructure upgrades.

Insufficient funding has been a regular issue cited as part of the problem for inadequate IT. According to the Wachter review, £12.4bn was provided nationally in England for the National Programme for IT which ran from 2002 to 2011 and £4.7bn was committed to the Digital Transformation Portfolio between 2016-2021.[24] Both programmes were criticised by the review and elsewhere as providing insufficient funding.[25]

However, the 2021 Autumn Spending Review and Budget specifically earmarked £2.1 billion between 2021/22 and 2023/24 in funding for technology and digitising the NHS in England. However, funding issues are not just about overall amount provided; it is also essential that this funding be targeted to where it is needed most and where it will make the most difference in the short-medium term. Funding should not be spent on technologies that are not proven (evidence-based) to be clinically effective and safe.

23 National Audit Office, 'Digital transformation in the NHS', May 2020
24 National Advisory Group on Health Information Technology in England, 'Making IT Work: Harnessing the Power of Health Information Technology to Improve Care in England', R Wachter, August 2016
25 https://publications.parliament.uk/pa/cm201314/cmselect/cmpubacc/294/294.pdf

Detailed information on expenditure for digital programmes is scarce for the devolved nations, and more information is needed about both total spending, and importantly the needs of the services, backed by an audit of current infrastructure, clinician and patient skills.

The 2022-2023 Scottish budget earmarks £112.9 million investment for digital health and social care, which will have to be split across the two services, although an emergency budget review in November 2022 proposed cuts of £14 million for digital programmes in health and social care.[26]

While the HSC Digital Strategy 2022-2030 for Northern Ireland highlights the importance of digital solutions to improve care, such as establishing safe integrated systems and streamlining information flows, it recognises the limitations in funding and thus, the importance in choosing the programs that deliver the most impactful changes.

In comparison in Wales, the 2021 Digital Strategy for Wales noted the impact of the COVID-19 pandemic and emphasised the importance of digital in delivering modern services at pace. It highlighted the significant investment of £75 million in Digital Health, £26 million in Digital Infrastructure, £4.9 million in the Centre for Digital Public Services and £2 million in Digital Inclusion.

Recommendation 26: In the short-term, it is essential that IT and digital transformation programmes be protected from health service budget cuts, recognising their value in terms of efficiency and productivity.

Recommendation 27: A full audit of the digital estate in each of the four UK nations should be undertaken to understand funding needs in the medium-long term.

Recommendation 28: Increasing capital funding to improve basic IT infrastructure is necessary in the short-term if long-term digital ambitions are to be achieved.

Recommendation 29: There must be a greater degree of transparency around how funding is being spent on digital transformation in the devolved nations.

26 Sottish Government, 'Emergency Budget Review: 2022 to 2023', November 2022, p.6

Conclusion

Health services and healthcare delivery across the UK have changed fundamentally over the course of the pandemic. The UK's health services have become more digitised and digital transformation has progressed, with strategies in place in all four UK nations.

However more needs to be done to ensure we maximise tight workforces and ensure healthcare delivery is safe. This includes improving infrastructure to ensure it is safe and stops wasting clinician time; ensuring systems are interoperable, backed by clear standards; letting clinicians lead and giving them the skills to use technology safely; enabling patients to take part and increasing transparency; and ensuring there is adequate funding.

Many of these issues, such as inadequate infrastructure, interoperable systems and a lack of dedicated, ringfenced funding are issues the BMA identified before the pandemic and which required urgent attention. With a backlog of care that is growing and vacancies rising, now is not the time to withdraw funding from IT. Now is the time to invest.

APPENDIX A: Methodology

In January 2022, the BMA asked several questions related to IT in our member Viewpoint Survey, which is conducted every couple of months. This was a UK-wide survey with a total of 1,320 respondents working in both primary and secondary care.

In February 2022, the BMA launched a survey on IT and Estates that explored in more detail the challenges doctors face with IT and physical estates. This was also a UK-wide survey with a total of 499 respondents working in both primary and secondary care.

Data on broadband connectivity comes from the June 2020 BMA COVID-19 tracker survey when we last asked our members about this issue.

We have noted throughout the report where member insights were obtained from each survey. To calculate the number of hours lost per year to poor IT, we used the below methodology. To calculate the financial cost, we used 2021/22 prices.

Hours Lost*	HCHS Doctors****		GPs****	
	% affected**	Total hours lost ***	% affected **	Total hours lost ***
0.5	5%	3,357	7%	1,660
1	21%	28,480	27%	12,178
2	21%	56,775	12%	11,174
3	14%	57,748	8%	10,261
4	13%	72,566	4%	6,668

* Hours Lost are based on rounding down each response, e.g. less than 1 hour becomes 0.5, 1-2 hours becomes 1 hour

** % of HCHS and GPs affected by IT issues do not add up to 100% because only 76% of HCHS and 59% of GPs told us poor IT led to hours lost

*** Total hours lost is calculated by multiplying hours lost by the % affected by the total headcount of HCHS doctors and GPs respectively

**** HCHS headcount is correct as of October 2021 and GP headcount as of December 2021.

No. of hours lost a week	260,867
Hours lost in a year	13,565,104
If working 37.5-hour weeks	6,956
FTE if working 37.5 hours weeks Including public holidays and leave	7,968

(Estimated at 5 weeks leave, 8 public holidays)

APPENDIX B: Summary of recommendations:

Recommendation 1:
Health services must protect IT investment from budget cuts and invest in IT infrastructure as a priority to support recovery and ensure they have the capacity to respond swiftly to future health crises.

Recommendation 2:
Defective or inadequate IT equipment must be updated or replaced. Doctors should immediately raise concerns over any IT problems that may present a risk to patient safety.

Recommendation 3:
Hardware provision must be improved. Doctors could be provided with laptops or mobile devices such as tablets to save on space and prevent them from having to share equipment with too many other clinicians which can lead to delays. Consideration would need to be given to the environmental impact of such arrangements, however.

Recommendation 4:
Software and systems must be streamlined and/or consolidated where possible.

Recommendation 5:
Provider IT leads must engage with doctors and other healthcare staff to understand the distinct needs of teams. IT user groups could be established to support regular reviews and flag any issues.

Recommendation 6:
High-speed broadband must be accessible in all healthcare facilities. Where it is not, urgent upgrading must take place.

Recommendation 7:
Wi-Fi must equally be available and be able to support high levels of use.

Recommendation 8:
Interoperability must be improved to facilitate effective communication and data sharing across health care systems, especially across the primary-secondary care interface.

Recommendation 9:
Robust standards for interoperability must be developed by the appropriate UK health service regulatory bodies.

Recommendation 10:
Purchasers must be required to enforce these standards, to guarantee that any software meets the required standards. Work must begin to extricate providers from any contracts with suppliers that do not meet the standards as quickly as possible.

Recommendation 11:
It is imperative purchasers do not bow to suppliers who have, for years sought to create market dominance with siloed software. Interoperability by default is the only way of achieving this and leveraging the buying power of the NHS a realistic means of doing so.

Recommendation 12:
Robust cyber security measures must be in place nationally and locally to protect health information systems and mitigate against widespread disruption to patient care.

Recommendation 13:
Doctors with an interest and expertise in digital transformation should be encouraged and supported to take up digital leadership roles locally and/or nationally.

Recommendation 14:
Users of digital systems should be closely involved with or leading the design and implementation of digital programmes and strategies. Providers must go further to actively consult with doctors at all levels and at all stages of digital procurement and transformation.

Recommendation 15:
Digital transformation strategies should be part of a package of coherent strategies (including on workforce and funding), to enable staff to use technology and systems with ease and enable them to deliver safe care.

Recommendation 16:
Digital skills must be embedded in medical education and training curricula and skills kept up to date over the course of a doctor's career through in-house training and CPD.

Recommendation 17:
Training should be made available at multiple levels, including by IT staff, peers and via online modules to allow staff to learn at their own pace.

Recommendation 18:
Doctors must have protected time and support to upskill themselves, and the training offered should be varied to meet different learning needs. Managers must ensure that staff are aware of and can make the most of any training offered.

Recommendation 19:
The most stringent security and IG (information governance) measures must be in place to guard against data breaches.

Recommendation 20:
Doctors and other healthcare staff who handle sensitive patient data must be trained and supported to do so safely and in line with accepted IG practices.

Recommendation 21:
Health services must lead work on developing and implementing national digital inclusion strategies, building on work already being done in local areas such as digital health hubs to ensure that patients are not excluded from healthcare as digital transformation takes hold.

Recommendation 22:
Internet access (specifically access to high-speed broadband) must be made more widely available, especially in rural areas and areas of deprivation.

Recommendation 23:
Patients who do not feel confident in accessing care remotely must be supported so that they have the choice and flexibility to choose different methods of care available.

Recommendation 24:
A greater degree of transparency around how data is collected, stored and used is required to build confidence among patients that their confidential medical information is secure. Patient/public education campaigns should be run in each of the UK nations and clear guidance provided to clinicians so that they are supported to respond to patients' questions or concerns.

Recommendation 25:
More must be done to tackle disinformation in the media about how patient data is collected, stored and used by UK health services.

Recommendation 26:
In the short-term, it is essential that IT and digital transformation programmes be protected from health service budget cuts, recognising their value in terms of efficiency and productivity.

Recommendation 27:
A full audit of the digital estate in each of the four UK nations should be undertaken to understand funding needs in the medium-long term.

Recommendation 28:
Increasing capital funding to improve basic IT infrastructure is necessary in the short-term if long-term digital ambitions are to be achieved.

Recommendation 29:
There must be a greater degree of transparency around how funding is being spent on digital transformation in the devolved nations.

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