Harnessing digital technology to prevent or manage ill health

April 2022-May 2023

Introduction

The reliance and integration of technology into health care services to prevent and manage ill-health has been increasing in recent years, partly accelerated by changed service delivery during the Covid pandemic. In this briefing we will share evidence about the experience of patients using various technologies to access health care and manage their conditions, as well as how people receive preventative care and education.

We will highlight the opportunities to increase use of technology as well as the barriers that certain people face to digital healthcare. We will also discuss the need to retain alternative access routes and prevention models and ensure health inequalities do not become an unintended consequence of the increasingly digital-first approach.

Then and now

Four years ago, the NHS Long Term Plan set a vision for digital health care to be central to its aims of supporting people to prevent or manage ill-health. However, the roll-out of the NHS App had just begun and virtual wards were yet to become mainstream.

Now, the landscape has changed irrevocably, not least due to the Covid pandemic, which normalised virtual appointments, increased home-based monitoring and accelerated sign-ups to the NHS App as it became the 'digital wallet' for Covid travel passes.

Digital tools

The challenge now is to shift the App, which has been downloaded to date by more than 31m people, from being a single-use necessity to a regularly accessed digital front door, with fully enabled health prevention features such as:

- notifications reminding people to attend screening tests, vaccinations, health checks and medication reviews, and online booking of all these types of appointments
- searchable, trusted digital libraries and tools for people to look up and manage new symptoms, including the NHS website, www.nhs.uk
- interactive platforms through which people can, for example, submit blood pressure readings taken at home and receive clinical feedback on new lifestyle or medication interventions
- online self-referral routes for prevention services like weight management
- referral management via the NHS App, to allow patients to see if or when their referral has been accepted, the appointment date, links to further support while waiting and the ability to swiftly report any improvement or deterioration in health.

It's therefore welcome that latest ambitions for the NHS App, most recently set out in *Delivery plan for recovering access to primary care*, include rolling out its key functions to 90% of GP practice patients by March 2024. Other features are also being tested, such as digital proxy access of the NHS App which will help parents or carers to manage the health of children or vulnerable adults.

Health prevention

But while the pandemic may have hastened the roll-out of technology, it represented a major setback in usual NHS programmes to spot or prevent the diseases causing most premature deaths in England.

In the first six months of the pandemic, 3m fewer people were invited for screening and nearly half of people with learning disabilities didn't receive their annual health check.

But latest developments could be game changers. These include a landmark trial to test a digital version of the NHS Health Check for 40-79-year-olds to prevent or spot conditions like heart disease and Type 2 diabetes. This will involve much of the test being carried out at home rather than the GP surgery, including an online questionnaire and a blood test kit. In a similar programme, almost 50,000 people living with severe mental illness have been supported via technology to receive annual physical health checks.

There are also plans to build on the Blood Pressure @Home scheme, which since October 2020, has seen more than 220,000 monitors distributed to patients so they can record and send readings from their homes to GP practices by phone, email or online platforms. The new primary care recovery plan commits to further resourcing of digital tools to help patients submit readings as well as ensuring practice staff can easily upload results to clinical records. Interoperability of GP and pharmacy IT systems is also being developed to ensure seamless transfer of BP results to GP records as community pharmacies are supported to deliver a further 2.5m BP checks.

Technology is also supporting self-management of conditions such as diabetes, with the use of real-time continuous glucose monitoring or intermittently scanned glucose monitoring devices that send readings to smartphones. The devices have recently been approved on the NHS for certain children with Type 2 diabetes, to avoid the burdensome and tiring task of finger-prick testing, after successfully being introduced for children with Type 1 diabetes.

Virtual wards

Virtual wards – where people receive hospital-level care and monitoring at home – are also being teamed up with technology in the drive to prevent worsening health and emergency hospital admissions or facilitate earlier hospital discharge.

Around half of the 352 virtual wards across England, based within 37 integrated care systems, are now 'tech-enabled' with remote monitoring via wearable, rechargeable devices and point of care testing. Work is underway to ensure that these are rolled out to the remaining five ICSs to better support mostly frail people with ongoing conditions. This cohort of patients, who are also likely to need social care packages of support in the home to help them regain or maintain independence, also stand to benefit from the roll-out of digital social care

records. These have lagged behind electronic NHS records but are now expected to be adopted by 80% of CQC-registered social care providers by March 2024.

Patient experience

Policy makers must now ensure ambitions for digital healthcare are matched with sustained efforts to continuously measure patient experience of this type of rapidly evolving healthcare delivery, as well as understanding why some people can't – or choose not to – engage with this technology. Only then can steps be taken to shape technology to ensure high levels of take-up and remove barriers that stand in the way.

Key findings from this research

Research undertaken at a national and local level by Healthwatch shows that while many people welcome new technology introduced in health care services, many people face barriers to its benefits.

1. **Technology can be convenient for managing care.**

   People like the convenience that technology can provide for managing and treating long term conditions at home, including taking blood pressure readings. These programmes, including virtual wards, work well when people are provided with the technology and knowledge about how to monitor their health.

2. **Digital exclusion and literacy.**

   With cost of living pressures that make smartphone ownership or home broadband less affordable, not all patients have access to the new technology being introduced in health care services. However, this is often the only option people are provided with for contacting their GP or other services. This excludes a portion of people from accessing care. For those who have the appropriate technologies, online systems for booking appointments and accessing GPs through E-consult are difficult to use. Increased education and easier systems will make this more accessible, allowing people to manage their health more easily.

3. **Education about health prevention.**

   Patients have a lack of knowledge about health prevention programmes such as screening and vaccinations, which creates a barrier to access. Patient education, both online and in person, about the guidelines and importance of these programmes is necessary.

4. **Technology designed with patient in mind.**

   Despite the benefits that technology can provide, such as increased access to health care and convenience, technology should be designed with the patient in mind to ensure that it is accessible and appropriate.

Methodology

How did we reach our conclusions?

Most of the insight in this briefing has been extracted from patient stories, feedback and experiences provided to us by local Healthwatch over the last year. With the increased use of technology in health care and prevention since the beginning of the pandemic, we receive a significant amount of feedback on this topic.

A database of stories related to the use of technology and prevention was created using a list of words and phrases commonly used when people talked about their experiences. This created a dataset of **2,339 pieces** of feedback. This data was randomly sampled and analysed, with the stories coded based on a thematic analysis. In total, we analysed **106 stories** to inform the findings discussed below.

After completing the initial analysis, we supplemented our findings with those from local Healthwatch reports, our own national research projects – including one about GP referrals – and two external reports on digital healthcare access. Selected quotes from these sources are used to demonstrate key themes.

This briefing is informed by:

- The experiences of **106 people** shared with 32 local Healthwatch between April 2022 and March 2023.
- Ten research reports from local Healthwatch representing the views of **1,126 people**.
- **2,144** questionnaire responses about getting GP referrals and a nationally representative poll on the impact of the cost of living on use of health and care services
- Insights from our previous national research projects on the **NHS BP@Home** pilot, **COVID-19 vaccine hesitancy** among minority ethnic groups, and **digital exclusion from primary care,** representing the views of **691 people**.

Common issues across our feedback

In our sample of research, four key themes emerged:

1. Convenience of digital healthcare – and the barriers that can prevent this
2. Pros and cons of virtual wards as viewed by potential patients
3. The wide variety of factors causing digital exclusion and ways to tackle these
4. The need for a mix of virtual and 'real life' preventative approaches.

Stories we heard ranged from a patient who was told to book a medication review online, after initially phoning their surgery, but then was diverted back to phone booking because of an issue with the online tool. But we also heard about positive steps such as an NHS commissioner funding a local Healthwatch to run engagement sessions that increased awareness and uptake of the NHS App. We explore the four themes in detail below.

1. Convenience of digital healthcare

When this works well…

Digital healthcare innovations, such as home-based monitoring of conditions, the NHS App, and virtual appointments, work well when **the technology has been co-designed with people** to ensure their various communication needs are taken account of, **tested** to ensure it works in the way intended, and is **accompanied by patient education** on the purpose of the new way of working and specific instructions on how to operate it. Interactivity is also important for people, in terms of **getting feedback from services about information they share digitally.** Additionally, safeguards are needed with technology to ensure **patients receive alerts if it malfunctions** and know who to contact for further support. Successful schemes also involve any monitoring **devices being given to the patient free on the NHS or being available to purchase at a relatively inexpensive cost**.

> **"It's convenient and easy to use. It was inexpensive to buy. [Blood pressure] Readings are more reliable as they tend to be higher when taken in GP surgery (due to white coat effect)." (Man aged 80+)**
>
> **Healthwatch Hampshire**

Monitoring at home

A key tool to manage hypertension since 2019 has been the introduction of NHS BP@Home, where people are given or encouraged to buy their own BP monitors for the convenience of taking regular readings at home and virtually submitting results to their practice. This avoids waiting times for appointments for checks with a GP or nurse and can also alleviate 'white coat' syndrome (which distorts people's usual readings in the

presence of clinicians) because people are monitoring their health in a more familiar environment.

Tackling high blood pressure is one of the biggest prevention opportunities for the NHS as it is believed to affect around one-quarter of the UK population, with higher levels in deprived areas. Bringing numbers down could prevent heart attacks, strokes, and disabilities, deliver better patient outcomes and reduce the pressure on NHS services.

An evaluation undertaken by Healthwatch England of the NHS Blood Pressure@ Home scheme, involving a national survey and local Healthwatch engagement with patients in five pilot scheme areas, found more than half (55%) of the 484 respondents agreed that getting a BP monitor had led them to take steps toward a healthier lifestyle.

We also found that 89% of participants said they would continue to take blood pressure readings occasionally or regularly and 63% participants would prefer to take readings at home in the future.

Many respondents cited the convenience of doing readings at home and avoiding unnecessary trips to the GP.

"My home is quiet and calm, the best environment to take my own blood pressure."

"Convenient as I have disability and it is difficult for me to get to the GP surgery regularly."

"Can take measurement at any time and/or when necessary without need to visit surgery or medical facility, thereby less load on NHS staff."

Study participants

When we asked respondents what would make the process of using a BP monitor at home better, most mentioned making it easier to submit readings, with respondents referencing an app, website, or using email. Nearly three-quarters (72%) said they would 'definitely' or 'probably' consider using an app or website in the future to submit readings.

Nearly half of the respondents in our national study had to use a paper-based system to record readings rather than being able to electronically submit readings to their GP. Our evaluation also reported a low level of guidance and support from their GP to use equipment and explain what would happen to readings once submitted.

"If my doctor could provide me with some info that explains the readings, so I don't panic and Google stuff." (Woman aged 25 to 49)

Healthwatch Hammersmith and Fulham

Participants also highlighted the importance of patient and carer education in adapting to the new technology.

“It should come with a quick tutorial to show you what all the buttons and boxes do.” (study participant)

Healthwatch Hertfordshire

Malfunctioning technology also has an impact on patient experience, as highlighted in this feedback about a similar, separate scheme, share by Healthwatch Cornwall:

“A few weeks ago, my husband and I received an invitation from our GP surgery to take part in a heart monitoring service run by FibriCheck. This involved taking a reading of our heart rate twice a day for a week using our mobiles…mine showed eight irregular readings of the 19 that I took…After a few phone calls I contacted FibriCheck and they realised that their software was not working correctly and in fact a report should have downloaded to my phone…The reason that I felt that you should be aware is that this service has been offered as a proactive health check, which I applaud, but because it did not work efficiently it actually caused an amount of anxiety.” (Woman aged 65-79)

Healthwatch Cornwall

Another challenge with monitoring health at home is appropriateness of technology for people who have extra communication needs.

Healthwatch Hertfordshire published a report about a pilot testing a digital health app with a small number of children and young people with moderate to severe learning disabilities. Their area’s local authority wanted to find out if the app could replace, or be an adjunct to, a paper ‘Purple Folder’ used by people with LDs to communicate their specific needs to various health professionals. The app allowed users to add information in a variety of formats, including videos, text, and audio.

While the pilot found that young people and carers thought it was a generally helpful tool in principle, they found the technology confusing and needed extra support to understand how to use its sharing features. Young people were more likely to want to use it as a digital diary to record their personal interests and photos and in particular liked that they could customise the font size, colours and content as a way of expressing their identity – which was a feature not available on other digital tools they had used.

However, study participants had to be prompted to use the app to store specific health information and parent carers were not convinced that healthcare professionals would use this tool, as it required clinicians to register and log into an associated website to access users’ content.

“I’m not sure doctors would have the time to learn about how to use the Hear Me Now app.” (study participant)

Healthwatch Hertfordshire

E-consult and virtual appointments

During the pandemic, many GPs implemented online triage or messaging tools – such as 'E-consult' - as an alternative to face-to-face appointments.

While these offered convenience for people to get quick access to advice for new and straightforward health problems, they sometimes created barriers for people to get help with long-term conditions.

Local Healthwatch report to us that some GP surgeries still insist on people using E-consult as the only initial access route to their services, rather than giving people the choice of alternatively contact the surgery by phone or in person. This acts as a barrier for people experiencing digital exclusion, which is explored in more detail later in this briefing. Even for people with digital access, they report frustration that the E-consult tool is turned off once all appointments are booked for the day.

"They had used the E-consult service which was great. But then the E-consult is turned off early in the morning and not available and you can't get through on the phone." (Woman aged 50 64)

Healthwatch North Yorkshire

Being bounced around various access routes was also frustrating when attempting to get vital, regular medication for an ongoing condition:

"He suffers from depression and anxiety and his repeat prescription for Sertraline [an antidepressant] ran out two weeks ago and he has been phoning his GP surgery and the pharmacy to no avail….nobody picks up the phone or it gets cut off. He is unable to visit in person and has not succeeded in requesting the prescription via E-consult…"

Healthwatch Plymouth.

We have also heard that virtual appointment systems might not be accessible for those who have visual impairments.

"Given virtual appointment and asked to send in photos of issues, despite being visually impaired and unable to see issues to even take the photo of it. Takes away their independence and having to ask friends to help breaks confidentiality and privacy." (White British man aged 65-79)

Healthwatch Swindon

Overall, feedback we reviewed on E-consult for managing long-term conditions is mixed. Some people have reported requesting and quickly receiving repeat medication through E-consult or online requesting of prescriptions via the NHS App. However other patients have reported their E-consult queries going unanswered or being responded to with standard, generic messages about the request, which are not always relevant or beneficial to the patient. Filling out an E-

consult for a long-term condition, without being given a timescale for a response, also created anxiety for some people.

There was also mixed feedback in a recent survey by Healthwatch Bolton of nearly 250 patients with long-term conditions or their carers that explored their attitudes towards, or experiences of, virtual appointments.

While some respondents liked virtual consultations for the convenience of not needing to travel to surgeries, especially when they had caring responsibilities others felt they were inappropriate for "physical" or "embarrassing" symptoms and services needed to recognise that not everybody could access or use broadband and smartphones. The comments from a range of survey respondents, reflect the variety of experiences:

"Video consultation was to discuss a care package and went very well."

"For carers, not having to get a loved one up and rushed and [who] may be reluctant to attend, makes things a lot easier."

"Impersonal, difficult to communicate symptoms when out of breath, professionals are unable to see physical symptoms of heart failure for example."

"Remember that people of any age may not have internet or may not be savvy with IT."

Healthwatch Bolton

The survey by Healthwatch Bolton found that 7% of respondents didn't have a reliable connection to the internet at home and a similar number couldn't access a smartphone or computer at home and/or at work.

Opportunities

We heard examples of local Healthwatch running patient awareness and education sessions that help the public understand the convenience of digital access to health services.

This included a scheme run by Healthwatch North Yorkshire, which received funding from its integrated care system to help promote the NHS app, share its benefits and encourage people in their community to use it. They managed to reach people through social media, their website, engagement events, and stalls in community locations. Healthwatch staff and volunteers used feedback about GP access to signpost people to a range of You Tube tutorials and leaflets on the App and give advice to people about signing up. They heard from over 200 people who said they intended to use the App because of this promotional work.

2. Mixed views on virtual wards

How this could work well…

As a relatively new service model, virtual wards have yet to lead to a substantial body of patient experience evidence. However, there are clues from one major report from HHealthwatch Surrey gathered 64 in-depth experiences and views, from mainly older people, and found:

- Most people (60%) stated that they would prefer to be at home rather than in hospital
- They felt they would need support on getting started with and managing any equipment or monitoring devices
- Around one quarter (24%) did not feel comfortable with the idea of being treated in a virtual ward, because they lived alone and didn't want to do the wrong thing, weren't confident with technology, had underlying mental health problems which made them feel anxious about the thought of not being in hospital when they were unwell or just felt they would be more comfortable seeing a doctor/nurse
- A smaller number (16%) were unsure because, while they generally liked the thought of being at home, they feared the responsibility of self-monitoring, or would prefer the necessary monitoring to be done at their GP surgery, or they had tried some monitoring before and it hadn't been a good experience
- It would be vital for virtual ward staff to identify any carers (paid and unpaid) and ensure they were involved in any conversations regarding their use for the patient.

These comments from people in the study illustrate the need for more patient education and reassurance as virtual wards are rolled out as a common alternative to hospital care.

In support of virtual wards:

"Think virtual wards is a good idea and now you have explained it, the name does what it says it does. The last thing I want to do is be in hospital. I don't have a smart phone or broadband or WiFi or whatever. As long as I don't need that then I'd give anything a go!"

"I wouldn't want to go into hospital. Would always prefer to have this monitoring not at home but at my doctor's surgery. I am a five-minute walk to the doctors. I live on my own so making me in charge of monitoring myself is scary. I'd wonder if I was doing it right."

"In theory virtual wards is not a problem…I live alone, it's just me and the cat. Being at home would mean I can care for my cat and feel safer".

Worries about virtual wards:

"I live on my own and couldn't manage. I don't want to use a machine and certainly not at home. I'm not clever enough.

My house isn't a hospital! I find it reassuring to see a nurse, she knows me. It is important to have human contact…"

"As I'm on my own, I would just prefer my care in hospital. I am 93 and I'm so tired. I'm

perfectly capable I'm sure but sometimes I just don't want to think, I want the care done for me. I'm also not at all into modern technology. I have a mobile panic device that calls my daughter but that is all. It would worry me so much that I wouldn't know what to do."

"I have a sight problem…I can manage things at home, and I don't wish to move. Fortunately, I have family that live close by, any care like virtual wards would fall to my family. I can't use a tablet or a computer."

Opportunities

As the NHS has been set a target of 40–50 virtual wards per 100,000 people and to scale up capacity ahead of next winter, to more than 10,000 beds by this autumn, it's imperative that efforts are made to understand patient experiences in more detail and shape the service accordingly. Healthwatch Surrey's findings are echoed in a recent external evaluation of three virtual wards in South West London, summarised below.

Evaluation of virtual wards model in South West London

This evaluation by the Health Innovation Network South London, interviewed virtual ward staff and 14 patients or carers. On patient experience, it concluded:

'Patients and their carers felt they were being kept out of hospital whilst receiving the same standard of care as they would in a hospital environment and saw the benefits of being cared for at home. They were generally compliant and satisfied with remote monitoring solutions (for both continuous and spot monitoring models). Acceptability of remote technology solutions was highest when clinical teams were given dedicated time to support patients in how to use the technology optimally. This was especially important for patients with limited digital skills and was key to increase their confidence in using the technology autonomously.'

The evaluation added that a 'key enabler' to success of virtual wards was 'offering continuous monitoring to all patients, as it was generally preferred by patients over spot monitoring and required minimum technical confidence and experience from patients'.

3. Health prevention

How this works well…

Prevention relies on education of patients about risk factors and how to maintain a healthy lifestyle. **People tell us that they value online information from trusted sources like the NHS website**. In terms of preventative activity like vaccinations and screening, from this Spring, eligible people have also been sent Covid **vaccination invitations via the NHS App** for the first time, inviting them to book their next booster. Around one in eight Covid vaccinations is now booked via the NHS App. **When the E-consult feature is working as it should, patients also value the opportunity to raise non-urgent questions**:

“I had asked my GP via 'askmygp' whether there were any early screening programmes given my family history of breast cancer and they asked if I would mind being referred to the genetics clinic who could give a more comprehensive response and develop a personalised plan if required, I accepted this and the GP confirmed they had dictated the letter and it would be sent as soon as possible.” (Woman aged 25 to 49)

Healthwatch Cambridgeshire

However, it is important to acknowledge that **patient education and efforts to increase uptake of screening and vaccinations, especially for people who experience greater health disparities, requires a mix of approaches**, including those led by local trusted NHS professionals, community champions, outreach education and accessible venues.

Patient education

A report by Healthwatch West Sussex about the low uptake of bowel screening by men in rural areas revealed that respondents felt the information around screenings was not clear and the lack of education created a barrier to people accessing screenings.

This theme was also mentioned by Healthwatch Salford in their report about women's health. Based on a survey of 135 women and four focus groups, they found women identifying barriers to healthy lifestyles, such as a lack of healthy eating, cooking and budget education in school, not knowing where to go for support, language barriers and juggling health appointments with caring responsibilities. While more than eight in ten of the eligible women had attended a cervical or breast screening appointment, more than one-quarter (28%) of the women aged between 40 and 74 years, were unaware that they could get an NHS Health Check with their GP.

In some cases, they identified problems that could be easily resolved to overcome barriers:

“I was turned away from having a smear test as I wasn't allowed to bring a pram into the doctors surgery (to keep a toddler strapped in!).” (Woman)

Healthwatch Salford

People have also told local Healthwatch that patient education must always be accessible and adhere to the communication needs of participants. Healthwatch Greenwich heard for example, about difficulties for a Deaf patient referred to a patient education workshop about diabetes:

“…they refused access to a Deaf patient and said they don't provide BSL interpreters at these [face-to-face] sessions. They said he could do an online remote course instead – but he can't, he has no way of accessing this format.”

Healthwatch Greenwich

Vaccination campaigns

In 2021, Healthwatch England commissioned Traverse to undertake research on why people from Black African, Black Caribbean, Pakistani and Bangladeshi ethnicities were hesitant about taking up the Covid-19 vaccine. This found that:

- People prefer to be presented with information and make their own decisions from it, rather than be told they must do something without access to all the information
- A long-held lack of trust by some people, in government agencies generally, affecting people's views of the vaccine programme
- People wanted frontline, local health workers to talk to them about Covid-19 and the vaccine, rather than remote figureheads in the health service
- Participants felt that Black and Asian people had been singled out as a problem and they did not like Black and Asian celebrities being used in TV or social media campaigns to promote vaccines or being the subject of targeted health campaigns during Ramadan.

People emphasised the importance of getting advice foremost from their family, friends, or GP:

'My family and community, I take advice from. It's a cultural thing. If I have a headache, they're the people I ask first. Even with the vaccination, I take a lot of advice from my Caliph, my community is a go to place.' (Study respondent)

Opportunities

Health prevention cannot be tackled by technological advances alone. The importance of bespoke, outreach solutions, to meet the needs of diverse people, must be retained and built upon. Research by Healthwatch Bolton showed, for example, the importance of understanding cultural sensitivities and misunderstanding of the need for regular cervical screening in some ethnic minority communities. The local Healthwatch successfully worked with local GPs to set up a pop-up education and screening clinic in a local mosque, that would be more accessible and trusted by those communities and removed the need for an appointment.

In another engagement project, Healthwatch Kent met with fishermen to understand the barriers in accessing advice and healthcare. They heard that their hours, stress, and physical demands of the job all impacted on their health, and they welcomed a health event held over two days on their local beach, to be seen.

Accessing the NHS while at sea: views of fishermen in Ramsgate, Kent:

“I could do with going to the GP about my elbow as it’s getting worse. But nowadays the GPs want you to call at 8.30 in the morning on the day you want an appointment. I just can’t call at that time. By the time I’m back onshore, all the appointments have been taken.”

“He [a fellow fisherman] wasn’t able to catch enough fish that year, due to his cancer. His fishing licence was revoked and given to someone else as there’s only a limited amount available. When he was fit again he had to wait until a new licence was available. You don’t feel like you have any other option but to just keep going [with work], even if you have a health problem.”

“I know I don’t drink enough when I’m out fishing. Just have a few sips of water over the day. I’m usually out for 8-10 hours a day. You’re just always so busy having to do something. I’m too busy to stop for a drink, even though I know I should. And it takes ages to get out of my kit so I don’t really go to the toilet either. Kidney problems are really common amongst the guys here because they’re all dehydrated.”

“I’ve been fishing for 40 years and this is the first health event that I’ve ever seen. Something like this, more often, would be great. It encourages all of us to take responsibility for our health together.”

Healthwatch Kent

4. Digital exclusion

A multi-factor challenge

A common challenge that our review highlighted is how the increased reliance on technology for health care access and self-care excludes a large portion of people who do not have access to technology due to disabilities, not being digitally literate, or other reasons.

Our 2021 research on digital exclusion from primary care found that people who were digitally excluded didn’t know how to seek alternatives to remote booking systems or appointments and so were reliant on their families to access healthcare, received poorer quality care or abandoned attempts to seek healthcare.

Our evidence shows that groups most likely to be affected are:

- Some older people
- People with sensory impairments
- People with limited or no English
- People on low incomes who cannot afford broadband or have a PAYG mobile

A report from Healthwatch Brighton and Hove about digital exclusion typologies explores this challenge of the increased use of technology in health care further. The four types of digital exclusion they highlight are:
1. non-users
2. competent digital users but not in a health care context

3. potential users, and
4. recent users.

“I don’t use the internet, had it years ago but don’t see the point of it now. I’m a phone person, so if I want something or to make a GP appointment, I will always use the phone…it’s not money or skills, although probably not as good as I was, I’m just not interested.” (Man aged 72)

Healthwatch Brighton and Hove

Some of the participants used technology for other purposes but reported that complicated online booking systems dissuaded them from using it in a health care setting. This was also a barrier for the potential users, as they were usually not digitally literate in any capacity and therefore couldn’t access health services using technology. This connects back to patients who would be willing to self-monitor health at home but said they would need more information and advice on how to do so. Teaching patients how to use online booking systems, E-consult, the NHS App, or other technology would enable access to health services for those who are not digitally literate.

“My in-laws… struggle with tech and her family help her to do the online. No course or support would help my mother-in-law. She already has various conditions and is in pain. It takes too long to use the online system and she would be more inclined to ring the GP for help. Also, she hasn’t really the mental capacity to grasp new information.” (Man aged 35)

“It all feels too complicated. It does make using online complicated because I don’t know how my passwords would work…I shove my phone into a drawer and like to forget about it. Technology is invasive; I use it as little as possible.” (Woman aged 56)

Healthwatch Brighton and Hove

Alternatively, making these platforms more user-friendly and easier to use would improve access for many, as stories from the network and reports showed that many people have found online systems and the NHS App confusing.

‘Digital resistance’ can also be an issue, and this was raised in our research that evaluated the NHS BP@Home pilot. Digital resistance covers reasons people may not want to use technology, beyond literacy and exclusion, such as simply not liking the use of apps or websites and feeling that technology is too much of a hassle. Strategies in overcoming digital resistance need to be developed.

People are also telling local Healthwatch that worsening cost of living pressures make decisions even more stark when choosing which necessities to forego:

“Despite alerting the trust to my financial and technical difficulties in accessing their online services and requesting all formal correspondence be sent to me by post [they] continue to send me electronic notifications which I have difficulties accessing on my old PC. I am currently on benefits and do not have the means to purchase a smart phone or

repair my PC. With such a low income, at times I have been embarrassingly forced to choose between, heating, eating or topping up to get internet access."

Healthwatch Birmingham

A report from the Local Government Association highlights how the cost-of-living crisis is exacerbating digital exclusion. They reported that households in the most deprived parts of England are 15% less likely to have access to fixed broadband than households in the least deprived areas. This is despite poorer areas using nearly 50% more data than wealthier areas.

A national poll commissioned by Healthwatch England found that in December 2022, 11% of adults had avoided booking an NHS appointment because they couldn't afford the associated costs, such as accessing the Internet or the cost of a phone call; up from 7% in the same tracker poll in October.

Opportunities

There are many ways to tackle digital exclusion, including grassroots digital literacy schemes like those run by volunteers with Healthwatch Haringey, as outlined in the Healthwatch England 2021-22 Annual Report .

Under the project, more than 60 people had been helped to access online appointments or health advice:

"I am retired and wanted to share my experience and knowledge of IT. I help older people, showing them how to use their devices, mobile phones, or laptops, to find information on health services. I benefit too – I feel my knowledge has been useful to someone and helped them access NHS services." (Satish, a volunteer)

Healthwatch Haringey

Based on the evidence we have heard from patients and the public, we believe the NHS should adopt five key principles for post-pandemic digital healthcare:

1. Maintain traditional models of care alongside remote methods
2. Invest in support programmes to give as many people as possible the digital skills to access remote care
3. Enable GP practices to be proactive about inclusion by recording support needs (language, communication, and digital skills) on patient records to inform future adjustments
4. Clarify patients' rights to online or offline care
5. Commit to digital inclusion by treating the internet as a universal right.

Appendix i: Recommendations

Recommendation	Why is this change needed?	Who is responsible?
Involve patients in designing technological solutions	Involving patients in co-designing digital innovation allows for greater insight into what key features would be most beneficial and accessible. This will also ensure that technological solutions are not overly complicated, which we heard is a barrier for people in utilising these new systems. This also increases the likelihood of higher uptake of the technology.	NHS England (now incorporating NHS Digtial), Department of Health and Social Care (DHSC), individual NHS commissioners or providers setting up bespoke tech solutions, digital companies.
Evaluate and publish patient experience of digital healthcare pilots	Learning from pilots is vital to shape final technological solutions and ensure that investment in technology and new service delivery is bringing about expected benefits. Evaluations also help show gaps or differences in experiences of digital healthcare based on a person's gender, ethncity and other characteristics and demographics. Understanding these differences is important for addressing health inequalities and ensuring equitable access to new technology.	DHSC, NHSE, integrated care systems (ICSs), providers running their own pilots, Healthwatch.
Ensure patient education about new technology is a key feature of new technology (tutorials/how-to guides/community digital champions)	Lack of understanding about how to use new technology prevents patients from being able to maximise the benefits technology can offer. Patients who utilise the internet for other purposes still found they were lost when applying it to a health care setting. Patient education for new technology will remove a barrier to access for various groups of people, including those with low digital literacy.	DHSC, NHSE, ICSs, individual providers
Run public awareness campaigns to make more people aware of new technology (e.g. all the various features of the NHS App)	High profile promotion of the NHS App (mainly for Covid travel passes) helped secure high patient registrations to the app and similar efforts are needed to make patients aware of features that are being continually added to it – such as management of referrals, access to prospective GP records, proxy access for children and booking of vanniations. These camapigns should reach those who may not follow	DHSC

	mainstream media or be digitally literate.	
Tackle low digital literacy by linking up with and/or funding community training schemes, including volunteer-led work	Low digital literacy is a key barrier to benefiting from new technology and exacerbates exisiting health inequalities. Grassroots organisations such as local Healthwatch and local voluntary and community sector bodies, have trusted relationships with local communities and are often co-located with services like libraries or local charities where they can hold or promote outreach sessions. If resourced, they can usually intiate sessions quickly, to increase technology uptake rates and skills.	DHSC, ICBs, local authorities.
Ensure digital healthcare is accessible by those with extra communication needs/disabilities	While digital healthcare may provide easier and more convienient acces, it is not always appropriate or accessible for everyone. We heard from people who are hard of hearing or who have visual impairments who stuggle with digital healthcare because it is not accessible for them. As digital healthcare becomes more widespread, efforts must be made to ensure service users' needs are met under the NHS Accessible Informaiton Standard.	DHSC, NHSE, ICBs, individual providers, digital tech companies.
Digital healthcare principles should be adopted by the NHS that make clear the patient education and support required and give a commitment to providing alternative access for people who are digitally excluded: 1. Maintain traditional models of care alongside remote methods 2. Invest in support programmes to give as many people as possible the digital skills to access remote care 3. Enable GP practices to be proactive	As a 'digital front door' to the NHS is increasingly adopted across services, the public needs to be assured of the key principles that guide this shift, such as being given the right tools and information to use technology. These principles are espcially important to those who face barriers technology, in order to assure them that they will retain equitable access to services via traditional or alternative access. Otherwise, If these patients are directed to using digital services repeatedly, they are barred from accessing care altogether.	DHSC, NHSE

about inclusion by recording support needs (language, communication, and digital skills) on patient records to inform future adjustments 4. Clarify patients' rights to online or offline care 5. Commit to digital inclusion by treating the internet as a universal right.		
Wider government should make internet access a universal right	With the rising cost of living, it is more difficult to afford internet access, creating a barrier for many people to accesing health care as systems become more based on technology. Increased reliance on technology in healthcare settings should be supplemented by universal internet access to ensure that healthcare remains accessible.	Cross-government
Monitor and compare implementation of digital healthcare to understand differences between ICSs	Only around 10-15% of GP practices are currently believed by NHSE to have all three key features of modern healthcare, including online messaging and recent evidence has emerged of wide variations between ICSs in access to GP records via the NHS App. Regular monitoring is required to understand gaps and avoid a postcode lottery in digital healthcare for patients.	NHSE, ICBs
Regularly measure which patient groups use digital healthcare most and which face barriers	Our data has shown that not all groups are accessing digital healthcare equitably. While measures need to be taken to ensure equal access, this needs to be supplemented by measuring which groups face the most barriers. This can help inform targeted efforts and research into reducing the barriers for those who have the least access to digital healthcare. Measuring could be undertaken via local needs assessments or exisiting mechanisms like the annual GP Patient Survey.	NHSE, ICSs, local authorities, Office for Health Disparities

Run more public awareness campaigns about virtual wards to overcome any patient concerns they are 'too technical' to be used if needed	Once patients have had virtual wards explained to them, they have recognised the benefits and expressed preference to be treated at home rather than in hospital. However, there is confusion about the concept of virtual wards and concerns about not having the technical skills needed. Providing more awareness and training for the skills needed for virtual wards would increase its use among patients.	DHSC, NHSE, ICS, individual providers
Ensure carers/family are involved in discussions about 'admitting' people to virtual wards including how monitoring will work and who to contact if things go wrong	Patients surveyed about their views of virtual wards have said they might have to rely on a spouse or other person living with them, to help with monitoring, or if they live alone, would rely on family visiting, or neighbours to help them cope. Involving and educating carers will be key to ensuring patients are kept safe within virtual wards.	Providers of virtual wards, ICSs, NHSE
Ensure any home-based monitoring devices e.g. BP monitors are made available to those most in need	People's views on the affordability of over-the-counter blood pressure monitors will vary depending on their cost of living pressures and vulnerability. Supplying monitoring devices for free will increase compliance with home based monitoring and could be a cost-effective investment for tackling major diseases.	DHSC, NHSE, ICBs
Ensure BP monitoring readings can be submitted easily and/or virtually	Our evalauation found while patients were happy to take BP readings, most patients recorded their readings on paper, and some never shared the readings with their GP. BP readings need to be easily submitted to GPs so that GPs can also monitor patient readings and flag any potential issues to ensure these programmes are a preventative measure.	Providers of services
Ensure clinicians/services give regular feedback on home-based monitoring	Providing regular feedback for home monitoring allows a good relationship to be maintained between clinicians and patients. It also provides patients with relief to know that their results are also being monitored by a healthcare professional so that any issues could be flagged.	Service providers, clinicians

	We heard from patients that they want to ensure their clinicans communicate with them, even when home-based monitioring is not raising any health issues.	
Retain non-digital health prevention schemes that can reach people in novel ways	While many people welcome the convenience of technology, diverse patients need a range of approaches, such as outreach or pop-up clinics, and community based sessions run by trusted local professionals or community leaders. People don't want a 'one size fits al'l approach, nor do they want to be sterotyped on ethnicity or other grounds.	ICBs, local authorities, service providers.

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