

The public's experience of monitoring their blood pressure at home

April 2022

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A summary

People increasingly use remote medical technologies to keep tabs on their health. Blood pressure monitors are one of the many fast-growing solutions that can help people monitor and improve their health in the comfort of their own homes.

There are many benefits to blood pressure monitoring at home, including peace of mind, feeling in control, and convenience, but there are serious questions about whether the real benefits of better health outcomes are being realised. There are vital gaps in GP processes that negatively impact patient experience. This is demotivating for the people and means opportunities to address blood pressure problems could be missed.

Our recommendations include steps the NHS can take to improve support and outcomes for people who monitor their blood pressure at home. These include:

- 1. Better information about high blood pressure, so people know why they should monitor their pressure, what "normal" readings look like, how to reduce risks and when to act.
- 2. Guidance and support around taking and submitting blood pressure readings.
- 3. Better solutions for submitting readings easily and efficiently.
- 4. Feedback on submitted readings and provision of ongoing support
- 5. Advice on what to do to improve blood pressure.
- 6. Acknowledge concerns amongst patients and access to a GP if required.

Participants are mostly able, willing, and keen to use digital means to submit blood pressure readings and will consider using other forms of remote monitoring if certain processes are put in place, including the provision of information, guidance, feedback, and advice. The NHS can adapt the recommendations above to suit other remote medical technology.

Many participants are keen to take more personal responsibility for their health and wellbeing, but there needs to be a better partnership between GPs and patients for that to work. The NHS can achieve more by being a partner who helps promote people's wellness, rather than only focussing on fixing issues once they reach a crisis point.

Background

In England, over eight million people are diagnosed with high blood pressure. It can lead to heart attacks, strokes, and disability and indicate a wide range of other health conditions. Early detection and management of high blood pressure could potentially reduce the burden on the NHS and deliver better outcomes for the patients. This is already a long-term target for the NHS. *(Source: Health matters: combating high blood pressure - GOV.UK (www.gov.uk))*

NHS Digital asked Healthwatch England to help evaluate their remote blood pressure monitoring pilot (BP@Home) to understand peoples' experiences of remote blood pressure monitoring and how GPs use their readings. The research focussed on five local Healthwatch areas (Hampshire, Oxfordshire & Bucks, Gloucestershire, Darlington and Hammersmith and Fulham) selected by the NHS – and was later opened to NHS 'trailblazing' sites. Due to limited access to patients, we targeted anyone monitoring their blood pressure remotely, not just those on the pilot. Approach

The fieldwork included a quantitative online survey (a few were completed on paper or by phone) with 484 responses (430 responses from 'early mover' sites and 54 responses from 'trailblazer' sites) and 26 in-depth interviews (of which five were with people on the BP@Home programme) conducted by local Healthwatch.

To understand the processes involved in remote blood pressure monitoring and any other learnings that could develop the patient survey, we first distributed a 'discovery' survey to GP's involved in the pilot. The response was low, however we learned that progress with the programme was limited, and processes varied across the board. We sought further insight from a GP practice nurse and GP practice manager to help with survey development, a joint effort by Healthwatch England, Healthwatch Oxford and Healthwatch Hampshire.

We designed our survey to evaluate the BP@Home programme from the patient's perspective (known as GP prompted) and capture insight from those who use a monitor at home for other reasons (non-GP prompted). Questions specifically relating to GP experience were only asked of those prompted by their GP to use a monitor at home. Where neither are mentioned – all respondents are included in the analysis. Quotes are used throughout the report, and are taken from the survey and case studies. This report is based on an analysis of the survey and depth interviews.

Key themes

People use blood pressure monitors at home for a wide range of reasons – not all driven by medical professionals

One in two respondents told us they use a blood pressure monitor because they're in a high-risk category. While just over one in four uses it because of a health condition. Encouragingly, a third use one to monitor their health and wellbeing.

Other reasons mentioned for monitoring include:

- Family history of hypertension, stroke, or heart disease
- Hormone Replacement Therapy or birth control
- Prompted by a family member's illness
- Work requires it

Doctors and nurses sometimes also advise monitoring at home due to "white coat syndrome". This is when someone only experiences high blood pressure when they are anxious about being in a medical environment.

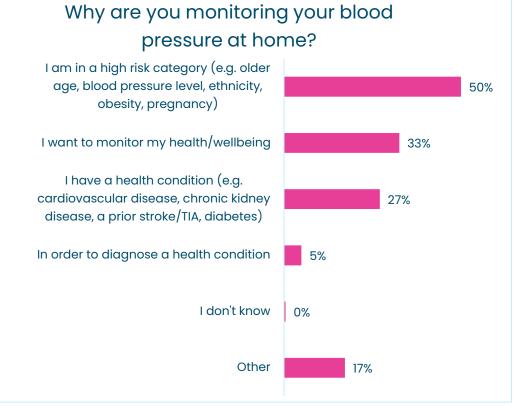


Figure 1: Q6. Why are you monitoring your blood pressure at home? Base 484

"I was monitoring my wife's BP in relation to her kidney problems and started doing my own at the same time"

Most respondents have had their monitor for over a year. Omron is the most owned brand of monitor with around a third having this make/model, followed some way behind by Boots and Lloyds "own brands" with a little over 10% each.

Over one in two respondents decided to buy a blood pressure monitor themselves. Around a third were advised by a medical professional to buy one - primarily GPs - but respondents did mention a range of other clinicians (e.g., endocrine team recommendation). Only three per cent were given or lent a blood pressure monitor by their GP confirming very few respondents are likely to have been part of the BP@Home programme.

The middle section of the survey was only directed to respondents who were given or lent a blood pressure monitor by their GP or advised to buy one – known as <u>GP prompted</u> in this report.

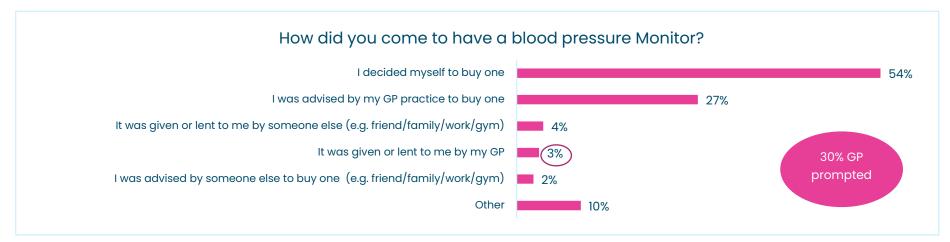


Figure 2: Q9. How did you come to have a blood pressure Monitor? Base: 484

"It would be good if the BP machines could be available on NHS prescription. As they can be very expensive to buy. More people would be inclined to use them."

Getting a blood pressure monitor at home can trigger a range of emotions

Given a range of circumstances can lead to someone getting a blood pressure monitor, it's no surprise it can trigger a range of emotions. Some may have been prompted by a medical professional after a high reading. In contrast, others might have decided to be proactive due to family medical history or simply want to monitor their wellbeing. Overall, **69%** of emotions expressed were positive, while **14%** were negative. Services could address negative emotions to some degree with better guidance, information, and support.

Top five positive emotions		Top five negative emotions	
Empowered	26%	Anxious	11%
Safer	24%	Worried	9%
Motivated	16%	Not sure	7%
Protected	13%	Confused	2%
Relieved	12%	Scared	2%

"At no time did anyone ever explain the reasons for me having the monitor, so I do feel a little frustrated about this. In addition, no one has ever told me I should be submitting the readings, and nor have they rung me to ask me to do so. On occasions, this has made me wonder what the point in continuing with this is."

Most people find it easy to use their blood pressure monitor, but many are not submitting readings regularly, or at all

The instructions for using the monitor were clear to some extent for eight in ten respondents. While nine in ten find it easy to take blood pressure readings, there is still room for improvement – especially if those struggling are particularly at risk.

There were indications from the experiences people shared with us that some struggle and would benefit from a fallback option if they don't understand the instructions or are struggling to use the monitor.

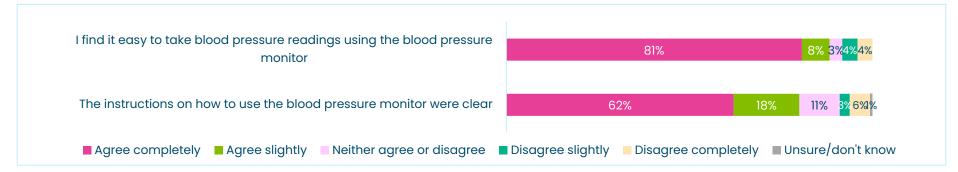


Figure 3: Q16. and Q18 To what level do you agree or disagree with each of the following statements? Base: 145

Half of those prompted to use a monitor by their GP had only written instructions that came with the monitor to rely on. Just over one in four had no guidance or instructions at all. The GP gave personal guidance over the phone, face-to-face or virtually to one in five people. Guidance on using the monitor and information about monitoring blood pressure could ease people's fears and improve engagement in personal wellbeing.

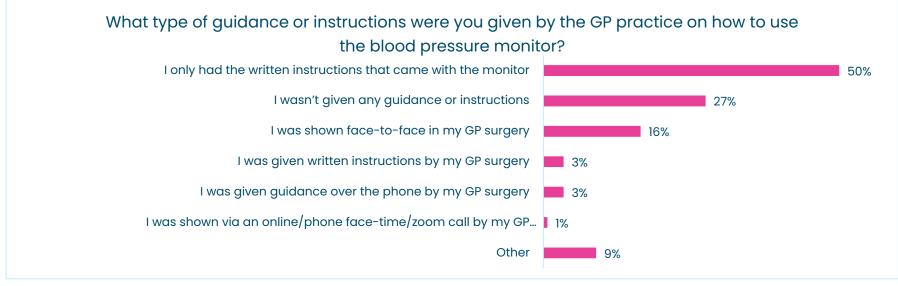


Figure 4: Q15. What type of guidance or instructions were you given by the GP practice on how to use the blood pressure monitor? Base 146

"...there needs to be much more communication on how to use the equipment. Many people may struggle with understanding what to do and even what normal blood pressure readings should be."

Nine in ten find it easy to take readings using their monitor; however, only six in ten found it easy to submit readings to their GP practice. This is perhaps unsurprising considering eight in ten received clear instructions on using the monitor. In contrast, only around five in ten received clear instructions on submitting readings.

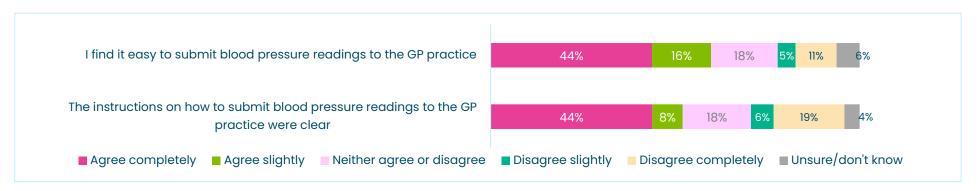


Figure 5: Q16. and Q18 To what level do you agree or disagree with each of the following statements? Base 144/145

While three in four received guidance on submitting readings, the concern is that GPs did not ask one in four to submit readings at all.

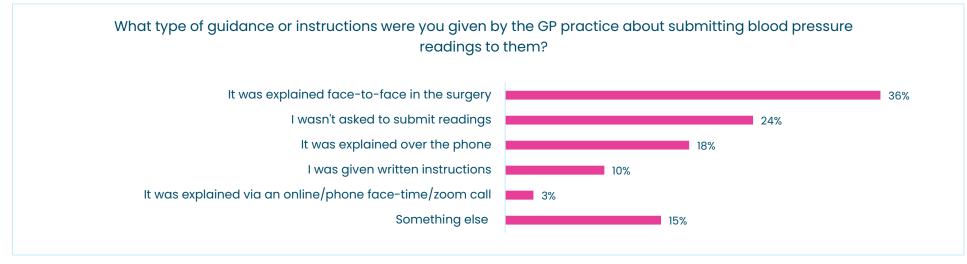
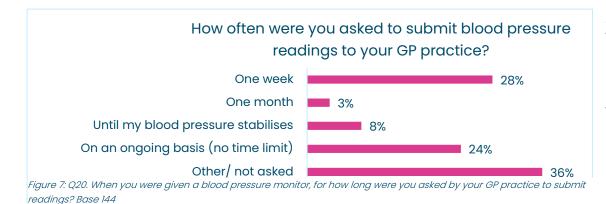


Figure 6: Q17. What type of guidance or instructions were you given by the GP practice about submitting blood pressure readings to them? Base 146



Also, services asked only one in four people to take readings on an ongoing basis. This means missed opportunities to prevent more serious illness from developing or identifying it when it does. Around a third were asked to submit readings for a short period only.

Providing patients with clear information around submitting readings – and responding to those readings when received – is more likely to garner engagement in the process and encourage action to stay well.

For those that submit readings to their GP practice, paper is the most common method and the majority hand the paper record into the GP practice. Around one in eight use an app or website to submit their readings, but other methods require more manual resources.

Fifteen per cent of respondents who were prompted to use a remote blood pressure monitor by their GP were neither asked to submit readings to their GP nor told what to do if they had a high or low reading – which negates the benefit of using the monitor.

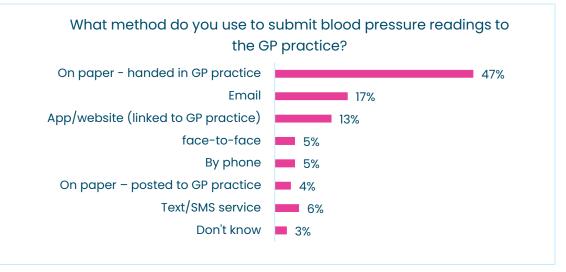


Figure 8: What method do you use to submit blood pressure readings to the GP practice? Base 104

"Taking my results to the GP is inconvenient – I would prefer to do it electronically rather than trail down to the surgery to hand in a paper sheet – I end up having to queue outside."

Information gaps could be leaving patients vulnerable

It was not clearly explained to 33% of respondents why they should monitor their blood pressure, nor was it clearly explained to 61% of them what happens to those readings when submitted.

If patients understand why they have been asked to submit blood pressure readings and what happens to them when they do, they are much more likely to do it.

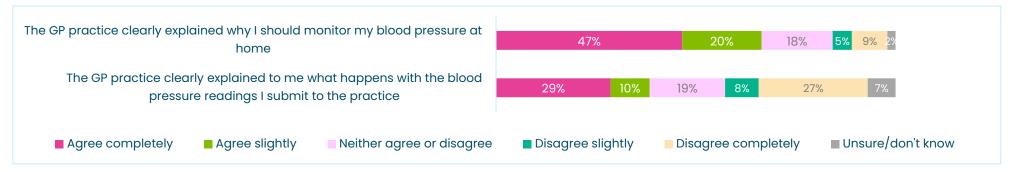


Figure 9: Q16. and Q18 To what level do you agree or disagree with each of the following statements? Base 146/143

"How is it reviewed? And if there was any red flag, do they pick them up? How are they going to pick it up if someone is in the danger line or not doing it as frequently? Or if medication needs being changed because it's ineffective?"

Two-thirds of GP prompted respondents received medication when they got their monitor.

It's concerning that the number of people receiving important information relating to blood pressure monitoring is low – especially what they should do if they receive a reading that is too high or too low.

Providing more comprehensive information and guidance to patients could ease some negative emotions and encourage patients to be more engaged in monitoring and improving their wellbeing – in partnership with their GP.

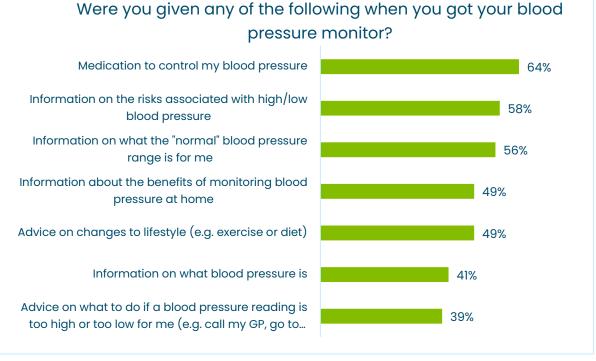


Figure 10: Q14. Were you given any of the following when you got your blood pressure monitor? Base 140

"...there needs to be much more communication on how to use the equipment. Many people may struggle with understanding what to do and even what normal blood pressure readings should be."

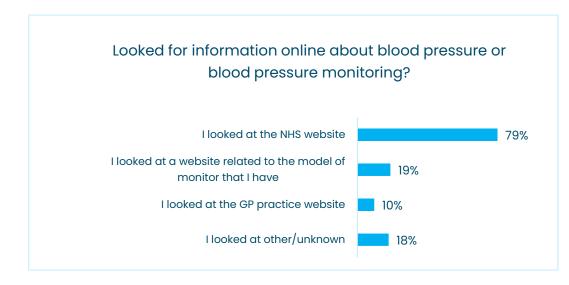


Figure 11: Q7. Have you looked for information online about blood pressure or blood pressure monitoring? Base 284

Three in five respondents looked for information online about blood pressure monitoring.

Of those that did go online, four in five used the NHS website. A further one in five accessed the website related to their monitor.

The other resources named include The British Heart Foundation (2%) and Blood Pressure UK (2%). These established organisations are a valuable source of information on blood pressure, and where GPs are short of time, they could signpost patients with access to the internet.

A few others simply said "Google".

"... my doctor could provide me with some information that explains the readings, so I don't panic and Google stuff"

There are positive signs that GPs are contacting people about their blood pressure

Over two thirds (68%) had been contacted by their GP for something related to blood pressure monitoring, for things like prescribing medication or for diagnosis, which is encouraging.

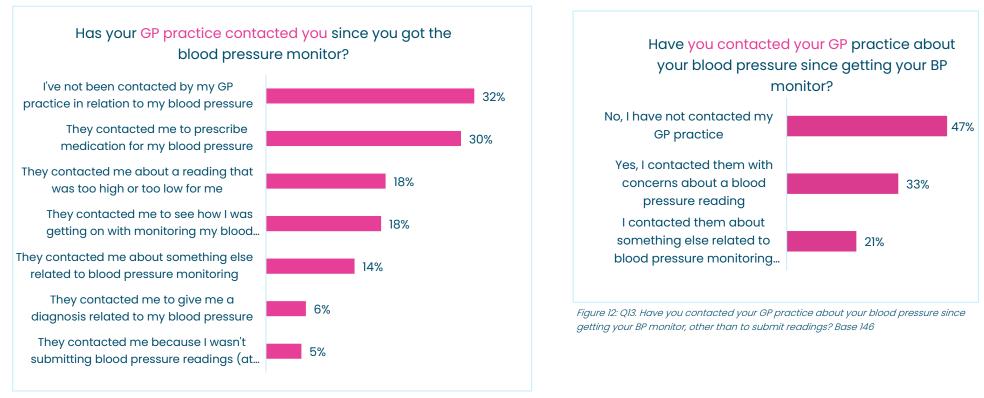


Figure 13: Q12. Has your GP practice contacted you since you got the blood pressure monitor? (Tick all that apply) Base146

Just over half contacted the GP themselves in relation to blood pressure, and for a third, it was due to concerns about a blood pressure reading.

For those respondents not prompted to monitor their blood pressure by a GP, three in five contacted their GP about something related to blood pressure monitoring. So, there is a chance that remote monitoring could address severe problems for these people.

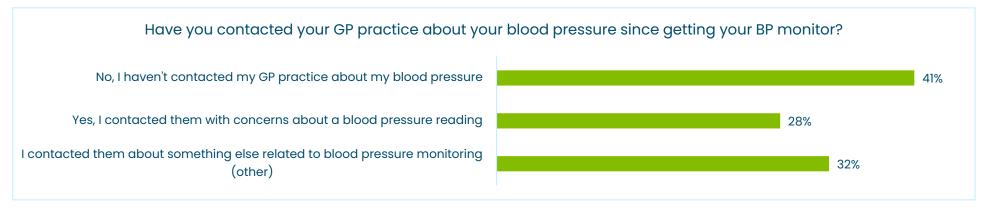


Figure 14: Q10. Have you contacted your GP practice about your blood pressure since getting your BP monitor? Base 338

Encouraging people to report blood pressure readings to their GP could increase the identification and treatment of blood pressure-related conditions, preventing more serious illnesses from developing. This will only work if GPs accept readings and act on them. The resulting increased demand for GP time could be offset by operating a digital system for collecting, assessing blood pressure readings, and delivering automatic feedback. In turn, this would reduce phone and face-to-face contact and manual checking of readings for most patients – freeing up GP time for those unable to use such a system.

"I have diabetes. The blood sugar and blood pressure readings... are never considered when I go for reviews. It would be nice if there was more of a partnership."

There is an appetite for using an app or website to record and submit blood pressure readings

Only 7% of all respondents already use an app or website to submit readings to their GP.

Of the remaining respondents, 72% would "definitely" or "probably" consider using an app or website, which is

promising for a future move to more digitalised data systems and processes in the NHS. However, when we look at this in more detail, we can see that age and digital confidence could impact likely take-up. The NHS should consider these disparities in any move to digital systems.



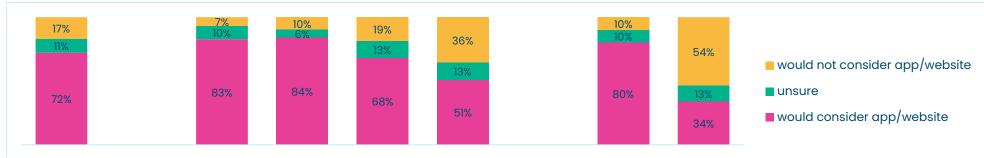


Figure 16: Q26. Would you consider using an app or website to submit readings to your GP practice in future? Base 450

There is some digital resistance

28% of respondents said they were unsure or would probably or definitely not use an app or website to submit readings.

There is a range of reasons why respondents would not want to use an app or website to submit readings. These should be carefully considered in the rollout of such a development, particularly around the messaging used to

promote it. Given that "too much hassle" is one of the top reasons, it's imperative to ensure any such system is as simple and accessible as possible. "Other" reasons include poor expectations of the technology, preference for face-to-face contact, waste of time and lack of interest from GPs.

"I don't want to feel falsely reassured that they would look at them, or act on high readings."

While there is an appetite for more digital options for submitting blood pressure readings and many respondents have the ability and confidence to use apps, it is essential to create and maintain effective non-digital solutions for those that don't.

People are willing to continue monitoring blood pressure remotely

Nearly 9 in 10 will continue to take their blood pressure occasionally or regularly.

A few have stopped or will stop because:

- Their blood pressure is under control, or
- Their GP only asked for readings for a limited period.

Given that many factors can affect blood pressure and changes can occur after a spell of being "normal", even occasional checks are better than none. Periodic prompts by the GP or an app could encourage this.

Nearly two in three people want to continue monitoring at home.

A few mentioned in "other" that they'd like to continue monitoring at home and have occasional periodic checks at the GP to ensure their monitor or readings are correct and because they want the reassurance of it being checked by a medical professional.

Home monitoring is the preference for the majority; however, the collection of and response to readings by GPs could provide the much-needed reassurance and motivation needed for these respondents to continue monitoring.

There are many benefits to remote monitoring

Although we did not ask people about the benefits of monitoring their blood pressure, survey respondents repeatedly told us about improvements remote monitoring made to their lives. The key themes were:

<i>"Convenient as I have disabl and it is difficult for me to ge the GP surgery regularly"</i>	t to to do it and continue to take it."	"Course times and	
<i>"Convenience practice is n out of town so as I get older be harder to get to"</i>	r it will "Convenience, can	e and ease	<i>"It is a chore that I do only when asked by my GP. The easier, quicker and more friction free it can be made, the better."</i>
BP monitor at home is		a ana caim	
0	nlth issues and adds to the picture or giv		
my condition"	<i>"I have more control</i> <i>and can talk to my</i> <i>GP with knowledge"</i>		Home BP allows me to better inform any al practitioner about any changes to my health."
"Can take measurement at a and/or when necessary, witho to visit surgery or Medical Fo thereby less load on NHS s	out need acility "better understanding of	of the value	<i>"I feel that to get a blood pressure monitor ensures good use of blood pressure health and I will continue to read my blood pressure monitor."</i>

Blood pressure monitoring at home has the potential to deliver positive outcomes for patients, but these aren't being fully realised.

Participants agree to some extent:

- Getting a blood pressure monitor helped them understand their blood pressure and what it means for their health - 75%
- Monitoring their blood pressure gives them peace of mind 73%
- It saves them a lot of time and effort going to their GP practice 71%
- It motivated them to keep their blood pressure in check 71%.

Only 55% agreed that getting a blood pressure monitor led them to take steps towards a healthier lifestyle and even more concerning is that only 33% agreed that their blood pressure has stabilised or improved since starting to monitor their blood pressure.

Due to a lack of information and guidance, some patients may not be equipped to make the changes required to reap the benefits of remote monitoring. Simply using a monitor at home is not enough - there needs to be a supporting process around it.

"...So, [GP] asks for these things because it's a new scheme, but how is it monitored? How is it reviewed? And if there was any red flag, do they pick them up? How are they going to pick it up if someone is in the danger line or not doing it as frequently? Or if medication needs being changed because it's ineffective?"

Survey respondents were generally open to using remote monitoring for other conditions

The availability of medical technology for monitoring or managing conditions is growing, and respondents were open to idea of using these technologies, providing:

- There is a clear purpose and/or benefit to monitoring.
- It is user friendly, and there are digital systems to use.
- There are clear guidelines on what to do, how to do it, why they should be doing it, and what the results mean.
- There is a customised plan to suit the patient.
- GPs and other healthcare staff provide feedback on results.
- People can still see a GP in person when necessary.
- They are supported to use the equipment.

However, not everyone has the money, devices, internet, ability or even the will to use technology, so it's vital to offer alternative solutions.

Some will still want face-to-face interactions with their GP – with the GP taking the bulk of responsibility for care – while others are content to take more personal responsibility.

Digital remote medical technologies combined with a stronger relationship between GPs and patients could pave the way for more proactive self-care – reducing the burden on the NHS.

"If I had the equipment and appropriate knowledge to monitor anything about my health, I would do it. I believe we have to turn away from picking the phone up and ringing the GP and we need to take responsibility for ourselves through changing our lifestyles and doing some exercise."

Patients identified several ways to improve their experiences with remote blood monitoring.

Making it easier to submit readings – especially digitally via an app or website – is a priority for improving the remote blood pressure monitoring experience – meaning the NHS should prioritise this in future remote monitoring developments.

Knowing that submitted readings are checked by the GP and will be acted on is also important. Even if everything is normal, it's important to say this to a patient. If they feel that they are dropping readings into a "black hole" – they are left worrying about the results and are demotivated to continue monitoring.

If these suggestions are made a reality, they could ensure more effective monitoring of health and reduce demand on NHS resources.

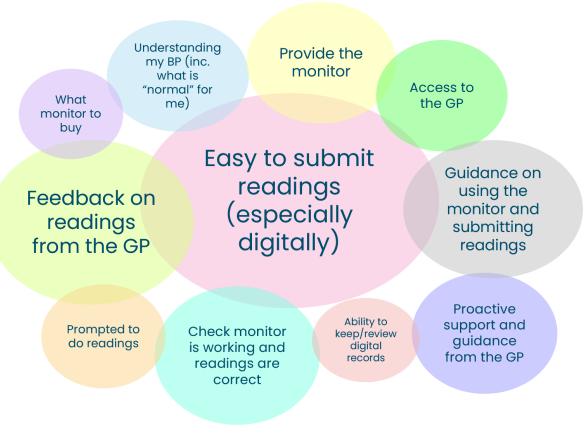


Figure 17: Q30. What do you think would make the experience of getting a blood pressure monitor and monitoring your blood pressure at home better for you?

Based on thematic analysis of 191 valid responses. One person could have mentioned more than one thing.

Recommendations

1. Improve patient experience with blood pressure monitoring

- Provide comprehensive information, such as what blood pressure is, the risks, what it means for people, how to manage and/or improve it and advice on selecting a suitable monitor. If the GP doesn't have time to do this, provide a take-away leaflet and/or signpost to the NHS blood pressure page and other trusted sources such as Blood Pressure UK. Ensure the people feel they have enough information to monitor blood pressure effectively.
- Encourage ongoing submission of readings and what to expect when they do.
- Advise people on how to use a monitor, take readings, keep a record, and what to do with it.
- Provide personalised patient information, for example, what "normal" looks like for them, and advise when they should act. (e.g. if numbers are above/below x, call 111 or 999).
- Ask supporting organisations, such as Blood Pressure UK, British Heart Foundation and Diabetes UK, to provide signposting links from their website to the NHS page (and vice versa).
- GPs should acknowledge receiving readings, indicating that they have been checked, and then provide appropriate feedback – even if just to say that readings are "normal" and a prompt to continue submitting readings.
- Acknowledge concerns and be empathetic to peoples worries and concerns.
- Prompt the patient if they need to act (e.g. call or visit the GP, change medication or make changes to lifestyle).
- Even occasional readings are better than none encourage an appropriate pattern of submitting readings on an on-going basis.

2. Improve digital collection of and response to readings

- Provide digital options to submit readings to GPs, ideally via an app or website (this already exists in some cases). Paper should be a last resort (but this option must remain available).
- Consider SMS as an option for those who only have a basic phone or don't have the digital skills/confidence to use a smartphone effectively.
- Acknowledge submission of readings automatically with digital systems, e.g. "we have received your BP readings and will be in touch if any action is required. Your next reading is due xx/xx/xx."
- Digital processes should provide automatic feedback specific to an individual e.g. "we have received your BP readings and they are higher than normal. Please contact your GP to make an appointment to discuss them"
- Actively encourage and support the submission of readings digitally
- Digital data collection process must be simple and intuitive with clear buttons and simple language. The user-testing of systems is highly recommended, especially around accessibility
- An app or website for the collection of blood pressure readings, ideally it should also provide further supporting information either in the app or links to other relevant sources
- Periodic prompts can encourage continued monitoring, deliver reminders when lapsed and provide helpful prompts on diet and lifestyle
- Language and tone should be carefully considered friendly, caring, reassuring remember the person behind the machine.
- Combine blood pressure data with other relevant health data to create a digital patient record. Combine information such as heart rate, weight and blood sugar levels for diabetes patients.
- Alert GPs when results are amber (watch) or red (initiate contact if patient doesn't).

3. Increase uptake of remote monitoring technologies

- Ensure the learnings from this research are applied to other remote medical technologies so that the NHS can achieve the same benefits..
- GPs should proactively offer blood pressure monitors (ideally on prescription) to patients with high-risk factors, including family history, relevant long-term conditions, and those who need one for medication.
- NHS should promote the purchase of blood pressure to the general population (over 50) as one of several "wellbeing" measures (weight, BMI, cholesterol etc.) as part of a "wellness programme".
- A public campaign should be used to support uptake, delivering clear messaging around benefits. These benefits include home monitoring being cheap and easy to purchase, easy to use, supporting wellbeing (prevention better than cure), feeling empowered and in control of own health and giving peace of mind.

4. Ensure remote monitoring technologies are backed by support from clinicians

- This research suggests significant inconsistencies in the delivery of blood pressure monitoring at home via GPs. An NHS-wide recommended "best practice" process for services to follow could address this.
- With the ever-increasing use of remote medical technology, there is great potential to reduce the burden of some medical conditions on the NHS and improve experiences and outcomes for patients. However, for this to work effectively, there needs to be a good partnership between patients and GPs. Without patient buy-in, the systems themselves will have limited impact.
- It is better for the NHS to focus more on supporting people to stay well, rather than only fixing issues when a crisis occurs.

Appendix

About survey respondents

Respondents mainly were self-selected; however, a small number of patients were provided with printed surveys in envelopes so that the GPs could post them out.

People who use a remote monitor at home were invited to participate, regardless of where or when they acquired it.

Demographics

Although there is a reasonable gender and age spread, ethnic minorities are under-represented.

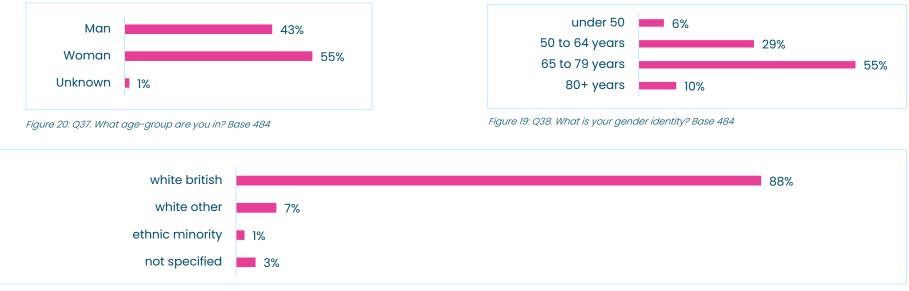


Figure 18: Q40. How would you describe your ethnic minority? Base 484

Financial situation

Respondents were generally towards the upper end of the scale regarding their financial situation.

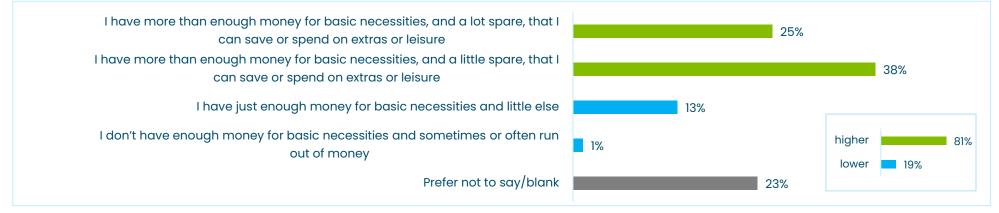


Figure 21: Q42. Which of the following best describes your current financial situation? Base 484

The older a respondent was, the better their financial situation.

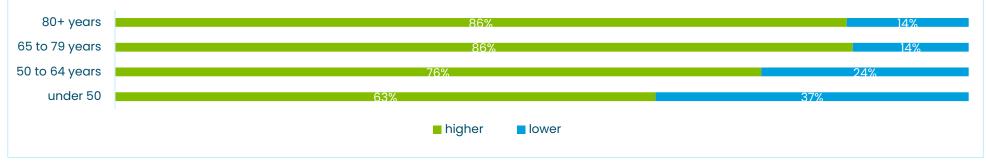
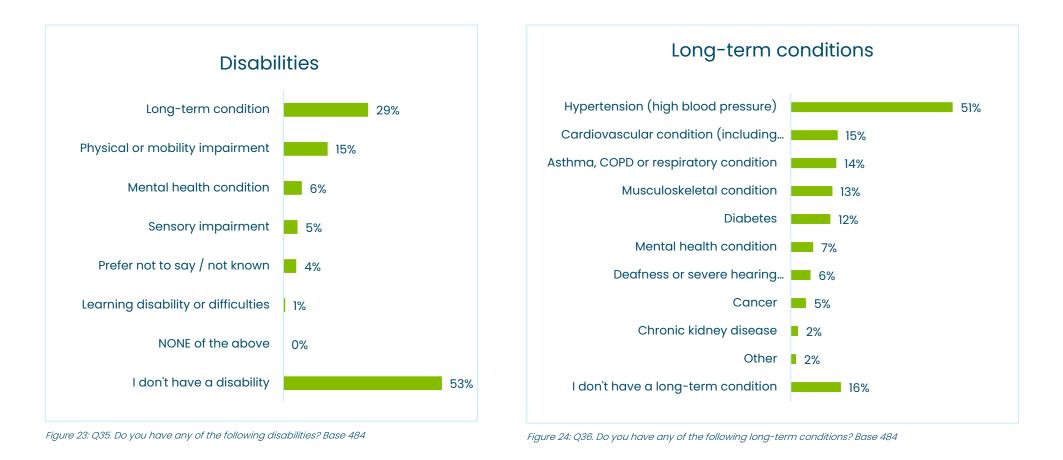


Figure 22: Q37. What age-group are you in? Q42. Which of the following best describes your current financial situation? Base 484

Long term conditions and disability

Over eight in ten said they have a long-term condition. Unsurprisingly, the most common condition is hypertension, with one in two living with it. Nearly one in two have a disability.

84% have a long-term condition. 47% have a disability.



Health and wellbeing

The respondents in this survey were largely self-selecting, so we cannot draw conclusions about the general population, but it is encouraging to see that the majority take an active interest in their health and wellbeing.

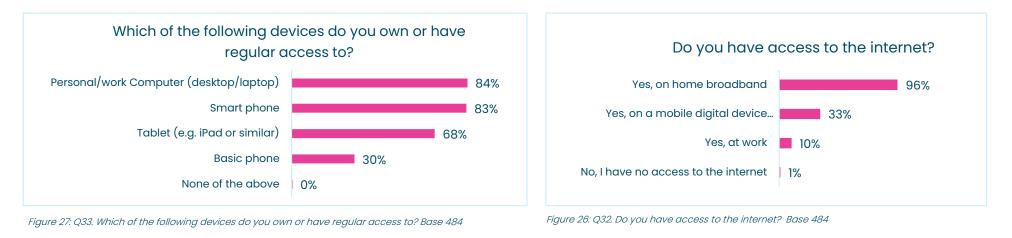
Even more so, many would consider different kinds of health and wellbeing monitoring. Those who are open to taking more control of their health and wellbeing should be encouraged and supported in their endeavours.



Figure 25: Q31. To what level do you agree or disagree with each of the following statements? Base 482 /477

Digital access

Unsurprisingly, given this was an online survey, 99% of respondents have access to or own at least one internetable device and have access to the internet. Note: very few surveys were completed by phone. Despite nearly all these respondents having access to some digital device and the internet, many keep paper records and deliver results on paper to their GP - which is inefficient for both the respondents and the GPs.



Digital solutions will not suit everyone. Older people in the sample were less likely to have access to digital devices. Those of lower wealth are less likely to have access to a tablet or computer.

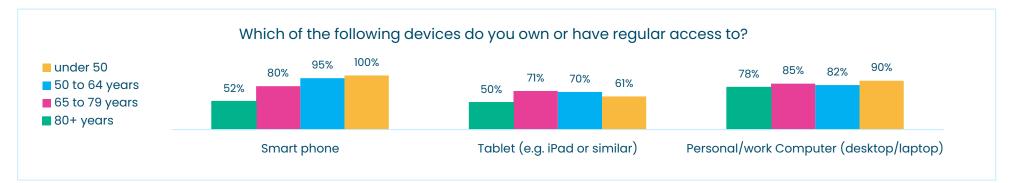


Figure 28: Q33. Which of the following devices do you own or have regular access to? Base 484

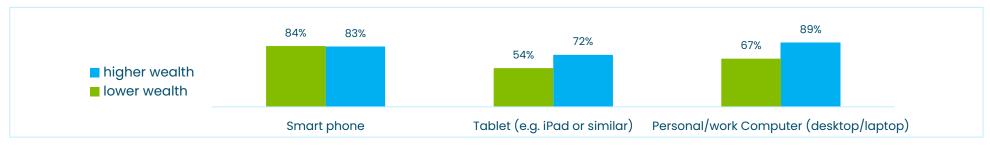


Figure 29: Q33. Which of the following devices do you own or have regular access to? Base 371

healthw tch

Healthwatch England National Customer Service Centre Citygate Gallowgate Newcastle upon Tyne NEI 4PA

www.healthwatch.co.uk t: 03000 683 000 e: enquiries@healthwatch.co.uk IV @HealthwatchE IR Facebook.com/HealthwatchE