

"Using the home monitor is a huge step forward in contributing to my health care"

BP@Home Research

10th March 2022

healthw tch

Executive Summary (1 of 2)

Aim:

Deliver an evaluation of the BP@Home programme that will allow patients' experiences to be understood and measured with a view to delivering recommendations for the rollout of BP@Home.

Method:

484 online survey responses and 26 depth interviews (self-selected – anyone who uses a blood pressure monitor at home).

Desk research shows that:

One in four people have high blood pressure in the UK, and it affects people in deprived areas in greater numbers. High blood pressure can lead to heart attacks, strokes, and disability, and is an early indicator for a wide range of other health conditions. Early detection and management of BP could potentially reduce the burden on the NHS of these life-limiting conditions and deliver better outcomes for the patients. This is already a long-term target for the NHS <u>Source: Health matters: combating high blood pressure - GOV.UK (www.gov.uk).</u>

Executive Summary (2 of 2)

Findings:

The positive sentiment around remote blood pressure monitoring at home far outweighed the negatives. However, in practical terms, there are key gaps in GP processes that negatively impact patient experience. This is demotivating for the patient and means opportunities to address blood pressure problems could be missed.

Gaps include:

- Information on blood pressure: why it should be monitored, risks, what "normal" readings look like for the individual, changes to lifestyle that can reduce risks, how to effectively monitor over time, what the numbers mean, and when to act (call doc/call A&E etc.)
- Guidance and support around taking and submitting of blood pressure readings.
- Feedback on submitted readings and provision of on-going support and vitally...
- Advice what to do to improve/stabilise blood pressure (medication, life-style, diet etc.)
- Adequate solutions for submitting readings efficiently. It is still a paper process for most!
- Acknowledgement of concerns amongst patients and access to GP if required.

Respondents are mostly able, willing, and keen to use digital means to submit blood pressure readings and will also consider using other forms of remote monitoring - providing certain conditions are met: **INFORM, GUIDE, FEEDBACK, ADVISE!** Many 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.

Introduction (1 of 2)



Note: we distributed a <u>"discovery" survey to GP's</u> in order to understand the processes involved in the programme, and any other learnings that could help in the development of the patient survey. Response was very low and the key learning was that progress with the programme was limited and processes varied across the board.

Introduction (2 of 2)

Aim

Deliver an evaluation of the BP@Home programme that will allow patients' experiences to be understood and measured with a view to delivering recommendations for the rollout of BP@Home.

Barrier

Identification of and access to BP@Home patients.

Delivered

- An evaluation of the experiences of people who use blood pressure monitors at home
- An understanding of the role of GPs in remote blood pressure monitoring
- An exploration of what can be be done to improve GP/patient partnership in relation to remote blood pressure monitoring and deliver better outcomes
- Recommendations for improving the NHSX role in remote blood pressure monitoring
- Recommendations for the role of evaluation in future remote monitoring programmes.

About the survey

Designed to evaluate the BP@Home programme and have the flexibility to capture insight from those prompted to use a monitor at home for other reasons.

BP@Home questions were directed at <u>anyone</u> prompted to use a monitor by their GP, classified as **GP prompted**, while the rest are classified as **non-GP prompted**. Where neither is mentioned – all respondents are included.

Initially, the survey was promoted within the grant-funded Local Healthwatch "early mover" sites, and was later opened up to **NHSX "trailblazer"** sites but the response was very low in the latter. The data sets were combined for this analysis.



About respondents

Demographics

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



About respondents

Financial Situation

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



Q42. Which of the following best describes your current financial situation?

About respondents

Long-term conditions

Long term conditions and disability

Over 8 in 10 said they have a long-term condition, and the most prevalent is unsurprisingly hypertension, with 1 in 2 suffering from this.

Nearly one in two have a disability.



Q36. Do you have any of the following long-term conditions? Q35. Do you have any of the following disabilities?

Why monitor blood pressure at home?

One in two say they use a blood pressure monitor because they're in a high-risk category and just over one in four because of a health condition.

Encouragingly, a third use one to monitor their health/wellbeing.

Other reasons mentioned for monitoring include:

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

Doctors/ nurses sometimes advise monitoring at home due to "white coat syndrome".

Why are you monitoring your blood pressure at home?



Base: 484

Q6. Why are you monitoring your blood pressure at home?

Why monitor blood pressure at home?

"My late wife had high blood pressure, and I want to be sure I don't develop it"

Triggered by family illness

"My husband had a heart attack, so we both do it"

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

Wellbeing tracking

"We do this after physical exercise x 3 per week also to read heart rate and have an oxygen monitor" "Pilot - aircraft medical"

Work requirement

"I had a high blood pressure during a driving medical"

Family history

"Family history in female line of hypertension and stroke"

"Family history of severe hypertension and heart disease" "To provide information related to medication repeat prescriptions"

Required for medication

"Birth control BP monitoring"

"Taking HRT and need to monitor"

Q6. Why are you monitoring your blood pressure at home?

Acquiring a blood pressure monitor (1 of 3) When and what...?

The majority of respondents have had their monitor for over a year.

Omron is the most commonly 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.







Q2. When did you get your blood pressure monitor?

Q3. What is the make and/or model of the blood pressure monitor that you have?

Acquiring a blood pressure monitor (2 of 3)

Emotions



Getting a blood pressure monitor can be triggered by a range of circumstances, so it's no surprise it can generate a range of <u>emotions</u>.

Some may have been prompted by a medical professional after a high reading, while others might have decided to be proactive due to family medical history or simply to monitor their wellbeing.

Overall, **69%** of emotions expressed were positive, while **14%** were negative.

Top 5 positive emotions		Top 5 negative emotions	
Empowered	26%	Anxious 11%	
Safer	24%	Not sure 9%	
Motivated	16%	Worried 7%	
Protected	13%	Confused 2%	
Relieved	12%	Scared 2%	

(note: percentages in tables show % of respondents. Respondents could have expressed multiple feelings. Base: 484

Q8. How did you feel when you first got your blood pressure monitor home?

Acquiring a blood pressure monitor (3 of 3) Why...?

Over 1 in 2 respondents decided to buy a blood pressure monitor themself.

Around a third were advised by a medical practitioner to buy one - primarily GPs - but a range of other types of clinicians are mentioned in "other" (e.g. endocrine team recommendation)

Considering that only three percent were given or lent the blood pressure monitor by their GP and very few got their monitor recently, we know very few respondents are likely to have been part of the BP@Home programme.



How did you come to have a blood pressure Monitor?

The middle section of the survey is only asked of those respondents who were given or lent a blood pressure monitor by their GP, or advised to buy one – known as **<u>GP prompted</u>** for the purposes of this presentation.

Q9. How did you come to have a blood pressure Monitor?

Informed by the GP (1 of 2)

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 comply.



📕 Agree completely 📕 Agree slightly 🔲 Neither agree or disagree 📕 Disagree slightly 📕 Disagree completely 🔳 Unsure/don't know

Q16. and Q18 To what level do you agree or disagree with each of the following statements?

GP prompted respondents only

Informed by the GP (2 of 2)

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

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

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

Were you given any of the following when you got your blood pressure monitor?



Base:136-140

Q14. Were you given any of the following when you got your blood pressure monitor?

Using the monitor (1 of 2)

The instructions for using the monitor were clear to 8 in 10 respondents. Whilst 9 in 10 find it easy to take blood pressure readings (probably because the monitors are relatively user-friendly), there is still room for improvement – especially if those struggling are particularly at risk (indication from qualitative data that some struggle).

Patients would benefit from a fallback option if they don't understand the instructions or are struggling to use the monitor for any reason.



Q16. and Q18 To what level do you agree or disagree with each of the following statements?

Using the monitor (2 of 2)

Half of those prompted to use a monitor by their GP had only the written instructions that came with the monitor to rely on.

Just over one in four had no guidance or instructions at all.

For a lucky one in five, the GP gave personal guidance over the phone, face-to-face or virtually (face-time).

As with receiving information about monitoring blood pressure, guidance on using the monitor could ease fears and improve engagement in personal wellbeing.

What type of guidance or instructions were you given by the GP practice on how to use the blood pressure monitor?



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

Submitting readings (1 of 4)

Nine in ten find it easy to <u>take</u> readings using their monitor (slide 15) however, only six in ten find it easy to <u>submit</u> readings to their GP practice.

This is perhaps unsurprising considering eight in ten received clear instructions on how to use the monitor, while only around five in ten received clear instructions on how to submit readings.



Q16. and Q18 To what level do you agree or disagree with each of the following statements?

Submitting readings (2 of 4)

What type of guidance or instructions were you given by the GP practice about submitting blood pressure readings to them?



How often were you asked to submit blood pressure readings to your GP practice?



Whilst three in our received of guidance on submitting readings, the concerning figure here is that one in four were not asked to submit readings at all. Also, only one in four had been asked to take readings on an ongoing basis – meaning missed opportunities to prevent more serious illness developing or identifying it when it does. Around a third were asked to submit readings for a short period.

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.

Q17. What type of guidance or instructions were you given by the GP practice about submitting blood pressure readings to them? Q20. When you were given a blood pressure monitor, for how long were you asked by your GP practice to submit readings?

Submitting readings (3 of 4)

For those that submit readings to the practice, paper is the most common method and the majority hand the paper record into the GP practice (GDPR implications).

Around one in eight use an app/website, but all the other methods require more manual resources.

What method do you use to submit blood pressure readings to the GP practice?



Q21. What method do you use to submit blood pressure readings to the GP practice?

Submitting readings (4 of 4)

"I keep readings less often due to no feedback" "Not been asked for years" "No one is interested in any readings."

"Asked to submit via a text message but no instructions on how - so came up with my own way"

"Never asked to submit!"

"Told to send them in - no info on how or where to"

"...when I made a nurse's appointment because my blood pressure levels had increased... the nurse couldn't have been less interested....I have a family history of heart disease."

"I have no info about what to do with the readings."

"They said they would phone in three weeks never heard from them again"

"They have not asked me specifically to submit them, but I do it every few weeks or so." Fifteen percent of respondents who were prompted to use a remote blood pressure monitor by their GP were <u>neither asked</u> to submit readings to their GP, or told what to do if they had a <u>high/low reading</u> – which negates the benefit of using the monitor.

Base:138

"Not asked to submit except for the one occasion"

Q14. Were you given any of the following when you got your blood pressure monitor?

Q17. What type of guidance or instructions were you given by the GP practice about submitting blood pressure readings to them? Q25. Do you keep an on-going personal record at home of your blood pressure readings?

Contact with your GP (1 of 2)

Has your GP practice contacted you since you got the blood pressure monitor?



Two thirds had been contacted by their GP for something related to blood pressure monitoring, which is encouraging.

Just over half contacted the GP themselves.

Have you contacted your GP practice about your blood pressure since getting your BP monitor?



Q12. Has your GP practice contacted you since you got the blood pressure monitor? (Tick all that apply) Q13. Have you contacted your GP practice about your blood pressure since getting your BP monitor, other than to submit readings?

Contact with your GP (2 of 2)

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 for these people, there is a chance that remote monitoring could be addressing serious problems.

Encouraging those who monitor their blood pressure at home to report the results to their GP could increase the potential to identify blood pressure related conditions early and prevent serious illness.

Have you contacted your GP practice about your blood pressure since getting your BP monitor?



Base: 338

Q10. Have you contacted your GP practice about your blood pressure since getting your BP monitor?

Digital Data Sharing

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 <u>age</u> and <u>digital confidence</u> could impact likely take up, and these disparities should be considered in any move to digital systems. Would you consider using an app or website to submit readings to your GP practice in future?





Q26. Would you consider using an app or website to submit readings to your GP practice in future?

Digital Resistance (1 of 2)

What is preventing some from considering using an app/website?

What would stop you using an app or website to submit blood pressure readings to your GP practice?



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 "too much hassle" is the top reason, it's imperative to ensure any such system is as simple and accessible as possible.

Some of the "other" reasons are perhaps unexpected – including avoiding seeing the doctor and taking medication.

Q27. What would stop you using an app or website to submit blood pressure readings to your GP practice?

Digital Resistance (2 of 2)

What is preventing some from considering using an app/website?

"I don't want to feel falsely reassured that they would look at them, or act on high readings." "lack of response "My doctor doesn't want them" from GP"

> "the surgery are disinterested in my increasing blood pressure"

"it takes away more face-to-face checks at the surgery."

> "I prefer to talk to someone in person"

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

"Other" reasons include poor expectations of the tech, preference for face-to-face contact, waste of time and lack of interest from GPs

"I don't want to take medication" "Doubts about reliability of response. I don't want needless visits to a health centre" "I have found most NHS apps/websites confusing, do not function at all well"

"unreliability caused by wifi/computer updates/logins and passwords/" "I rely on my son to help me as I am not good with technology"

"Poor usability, making it quicker and easier to use the phone or drop the results round"

"I don't see the need, if I see a big change in blood pressure, I will contact my GP"

"I feel that it would be a waste of time because doctors are too busy to have a look at them"

"If I had a serious condition I might consider submitting regularly, otherwise it would be a waste of GP time."

Q27. What would stop you using an app or website to submit blood pressure readings to your GP practice? *Note: Only asked of those who did not indicate they would consider using an app/website at Q26

Going forward (1 of 2) Continue taking readings... or not?

Will you continue to use the blood pressure monitor at home?

Yes, will continue to take my blood pressure on an occasional basis	45%
Yes, will continue to take my blood pressure regularly	d 43%
No, I've already stopped	d 5%
Yes, but only as long as it takes to bring my blood pressure down/up/under contro	5%
Don't know or not sur	e 1%
No, I will sto	p 0% Base: 484
"After a while lost the will to use it. Blood pressure is under control using my medication ."	"I take readings only now and then when I feel I need to."

Q29. Will you continue to use the blood pressure monitor at home?

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

A few have stopped or will stop because:

- Blood pressure is under control
- 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/app could encourage this.

"I was asked to submit one week's readings (am and pm), as a oneoff."

"...[asked to take readings] until my blood pressure stabilises"

Going forward (2 of 2)

Blood pressure monitoring at home or elsewhere?

Nearly two in three wish to continue monitoring at home.

A few mentioned in "other" that they'd like to continue monitoring at home, **as well** as having occasional periodic checks at the GP to ensure their monitor/readings are correct and because they like 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.

"I don't mind where it is done, but I would like a professional to take my blood pressure occasionally, so I know the readings are correct."

Q28. Where would you prefer to have your blood pressure readings taken?

Where would you prefer to have your blood pressure readings taken?



"Home is better as you are more relaxed, but sometimes I'd like a professional to double check all is well."

What does the patient want (1 of 4)

What would make the experience better?

The ability to "submit readings digitally" via an app or website is top of the list for improving the remote blood pressure monitoring experience – and combining this with "easier-to-submit readings" – means the NHS should prioritise this in remote blood pressure monitoring developments.

"Results checked" and "feedback from GP" are also significant factors. If patients feel that they are dropping readings into a "**black hole**" – they are left worrying about the results and are demotivated to continue monitoring.

Patients have identified a wide range of ways to improve their experiences around remote blood monitoring. If implemented, they could ensure more effective monitoring of their health and reduce demand on NHS resources. What would make the experience of getting a blood pressure monitor and monitoring your blood pressure at home better for you?



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?

What does the patient want (2 of 4)

"Ease of reporting results to GP when required. E.g. via health record app"

"...being able to submit results online or via an app" "Being able to input the Blood Pressure readings into the NHS App, so... doctor can prescribe the right level of tablet dose" "Clearer expectations of what I need to do and a system to support submitting readings"

"...an app that you can update readings or trends into your medical records... It potentially could reduce unnecessary appointments"

"...a good app on my phone for recording results. Easier communication with GP."

"A direct link to be able to input my BP readings to my practice medical record."

"...the ability to upload blood pressure readings to the Practice via the NHS app."

> "A monitor that connects to my computer to record the readings and give graphical representations"

"Being able to submit readings to GP online and for the GP to actually do something if your readings are high."

"to logon securely to a website (app optional, but we can't all use those!) and submit my reading - just like gas & electric."

"Being able to email the results to my GP practice instead of dropping in a hand written note or waiting forever for someone to answer the phone at reception!"

> "Clearer expectations of what I need to do and a system to support submitting readings."

"[prevent] having to collect the forms from the surgery and then take them back."

Easy to submit readings

"easier to submit readings to GP surgery e.g. by app."

"Being able to electronically transfer data to my GP..."

"Ability to input readings history to GP medical records."

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?

What does the patient want (3 of 4)

"...knowing it was being monitored remotely and any anomalies in readings would be addressed by practice"

"...if BP were elevated/borderline submitting readings to GP and having their input regarding management would be helpful."

"...Better explanation of why and then more interaction from the surgery afterwards"

"Online recording and advice from GP if there are any concerns."

"It would be better if a clinician could offer advice about fluctuations in BP"

"that they would accept my monitor's readings and act accordingly to double check I am ok and medicate if required."

"It only makes sense if it the readings are reviewed by the doctors. This will prevent incorrect interpretation of the results."

"The readings could be sent to the GP for assessment and advice on whether medication should be changed."

sent to the GP I advice on n should be i should be feedback" f...to know if the readings are normal or high as I never hear

"Knowing that a GP actually looks at the

readings when submitted and passes on some

Results checked and feedback from GP

"...advice based on the readings."

"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."

> "...understanding that if I submit readings, someone will bother to respond/give feedback and advice."

"Confidence that the results are used. Sometimes feels that blood tests etc disappear into a black hole and are never checked."

"To get feedback from GP."

any feedback at all."

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

> "...that is regularly checked by my GP practice"

"Increased confidence that proper notice is taken of the results which I submit."

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?

What does the patient want (4 of 4)

"provide monitors to those that need them free of charge"

"Being able to order an approved monitor through the GP practice."

"Give one to me rather than the only way I can access my meds is to buy my own machine."

"If I was given one I'd do it." "Knowing the blood pressure machine I have is accurate."

"Having one provided an knowing its gets a annual 'MOT'"

"Should be available and part of Hypertension diagnosis and treatment. Also incredibly helpful as a Carer"

"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. "

"More availability of monitors from surgeries. I had waited on a previous occasion for about 6 weeks [for GP to supply one]"

"Being able to get something that is accurate, to know it 100% works and fits me."

"Being reassured that the monitor is accurate!"

"Being able to get it calibrated easily and cheaply to ensure it's still accurate" Blood pressure monitors

"Mine should be calibrated against a surgery's monitor at some stage." "Having more reliable monitors." "The initial outlay in purchasing the blood pressure monitor made me think hard about buying one."

"Whilst it wasn't wildly expensive, as someone who has low blood pressure & resulting syncope, it would be helpful to be issued with one via the NHS."

> "I would want reassurance that my monitor is giving me some accurate readings."

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?

"...by making sure that I am

using the monitor correctly."

"My monitor is three years old and unsure if

reading are as accurate as they need to

be."

What are the benefits?

Respondents told us unprompted what the benefits are!



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?

Health and wellbeing

Proactivity

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.



Base: 471-482

Q31. To what level do you agree or disagree with each of the following statements?

Blood pressure attitudes and impacts

Is it worth it?

Generally positive responses, but it's a concern that relatively few have taken positive steps towards a healthier lifestyle – is this because they didn't receive the guidance or support to do so? Even more concerning is that only a third agrees to some degree that their blood pressure has stabilised or improved, which should ring alarm bells.



Q31. To what level do you agree or disagree with each of the following statements?
Going digital... (1 of 4)

Digital devices and access

Unsurprisingly, given this was an online survey, 99% of respondents have access to or own at least one internet-able device, and have access to the internet. (Note: very few surveys were completed by phone).

Despite nearly all of these respondents having access to some kind of 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.

Which of the following devices do you own or have regular access to?



Do you have access to the internet?



Q32. Do you have access to the internet?

Q33. Which of the following devices do you own or have regular access to?

Going digital... (2 of 4)

Digital devices and access

Digital solutions will not suit everyone. Older people in the sample were less likely to have access to digital devices.



Which of the following devices do you own or have regular access to?

Q33. Which of the following devices do you own or have regular access to?

Going digital... (3 of 4)

Ability to use digital devices and go online

There is no doubt there is an appetite for more digital options for submitting blood pressure readings. Whilst many respondents have the ability and confidence to use apps, it's essential to create and maintain effective non-digital solutions for those that don't.

As shown in the previous slide – the vast majority have the means to use apps, but a lot less actually use them for day-to-day tasks. The key to encouraging uptake of apps for digital tasks is to optimise the design for speed and ease.



I am confident...

Q34. To what level do you agree or disagree with each of the following statements?

Going digital... (4 of 4)

Online resources

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

Of those that did go online, 4 in 5 (reassuringly) accessed the NHS website and a further 1 in 5 accessed the website related to their monitor.

The "other" resources named include The British Heart Foundation (2%) and Blood Pressure UK (2%). A few others simply said "Google", "various" etc.



Q7. Have you looked for information online about blood pressure or blood pressure monitoring?

Case Studies

The case studies provide invaluable insight into the real people behind the numbers. They explore experiences of getting a monitor, living with a monitor, their relationship to healthcare givers for BP monitoring and general health, and their views on other kinds of remote monitoring. Findings generally match the quant survey's (with deeper insight), and the conclusions and recommendations are the same.

The interviews with those "on the programme" showed that these people didn't know why they were given a monitor - and information, guidance and GP follow-up was limited to non-existent.



Margaret's experience

Not on programme, not GP prompted

Margaret has no real health concerns (bit of arthritis, takes thyroid tablets), but when she was diagnosed with high BP over a year ago she decided to buy herself a monitor for "peace of mind". Her BP is checked once a year by the doctor. She looks after herself by walking daily, eating healthily, doesn't smoke and has little alcohol.

Although she purchased her own monitor, she doesn't seem to have any knowledge of what the blood pressure needs to be or how the machine works. She did not read the instructions just took information from the box and is hoping that is where her BP needs to be. She keeps her own record.

Margaret is very reluctant to use any technology, and doesn't have the equipment or money to purchase it – she completed the survey through a friend. She is also is not interested in learning how to use them. She only has a normal phone and has no understanding of any other. If she had any concerns she would prefer to make an appointment to see her GP. She doesn't mind a phone call if needed but prefers to see GP face-to-face.

Margaret has no digital skills or devices (completed survey through a friend.

"...I've not been asked to monitor [my BP], I done that myself by buying my own machine, not that I understand it.

I have no problems with my blood pressure, as far as I know it is normal, I keep taking the pill... I've never given anything to the GP and they have never asked for anything.

I don't like technology or have the money to buy the things you would need they are expensive to buy and use'"



(Darlington2, 65-79)

Jane's experience

Not on programme, GP prompted purchase

Jane has a few health conditions which she manages as best she can. She is working on controlling diabetes through diet. She said Diabetes UK recommend monitors for diabetics, but NHS do not provide them. She was initially loaned a monitor by her GP, but not shown how to use it and was not getting correct readings. GP advised she buy a monitor because it would come with instructions – rather continue to loan their one without instructions, and she would no longer need to travel to GP to get one each time she had to monitor.

Jane finds recording information on paper time consuming and she would have preferred to send information electronically.

Jane's unhappy with the amount of contact with GP because when she submits the readings, she often has to chase even though the GP as asked her to complete the BP checks. She said most times her medication has changed so she feels it's important for the GP to contact her and not the other way round.

She has no problems using digital technology when it's the right course of action and would welcome other types of monitoring – as medication is not always the way forward.

Jane has a smart phone and laptop.

(Darlington5, 25-49)

"I could be doing it wrong all the time and as a result end up with more medication than I need - no one at the GP checks it when you go to see them to see if the readings match what you have recorded. They take it that you have done it right and give medication. Readings could differ wildly from what I do.

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



Mary's experience

On the programme, given monitor

"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 is the point in continuing with this."



Mary received a call from a receptionist at her GP Practice asking if she would like to have a blood pressure monitor at home, but they didn't give any reason for this. No one explained why she should have it, nor that it was part of a trial.

When she went to collect it, initially they couldn't find it and then just handed it over the counter without saying anything else. She wasn't shown how to use it, or asked to send in the readings.

Her son helped her set it up correctly and sort the cuff out so it is easy for to slide up and down the arm. Within the box there was also a sheet of paper to record the BP readings, which her son copied, to ensure she had multiple copies. She read the booklet.

Overall Mary is in good health for her age, although she gets short of breath and has difficulty walking, but she does look after herself, and feels in control of her own wellbeing.

Mary is not very technologically minded, and not would not feel confident in monitoring any other aspect of her health and wellbeing nor does she want to – she would prefer to do this through the GP Practice.

(Gloucestershirel, 85+)

David's experience

On programme, given monitor



"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." David used to go to the GP Practice every six months or annually to have his blood pressure taken and liver function test. The GP discussed his high blood pressure with him and for a time he modified his lifestyle, but slipped back into his old ways.

David was given a blood pressure monitor by his GP and asked to take readings once a day for one week and then send the results back to the surgery on the sheet provided. A week later his GP advised him to remain on current medication and to continue to take BP readings intermittently, and that there was no requirement to submit them to the surgery.

David says having the monitor has completely changed his life for the better. He now checks his BP regularly and he says it has made him completely overhaul his lifestyle and he is feeling so much better for it. He firmly believes this has improved his health and his BP readings are now lower than they have been for years. He has nothing but good things to say about having the monitor. He intends to continue to use it regularly.

Although the GP surgery used to take David' BP every year, they never spoke to him about changing his lifestyle or diet and he says when someone has high blood pressure this discussion needs to take place.

David has a basic mobile phone and no internet access.

(Gloucestershire3, 70-79)

Pam's experience

On programme, loaned monitor

Pam was invited by text to participate in the programme with the loan of a blood pressure monitor for a week. She decided to take part was because her mother had hypertension and her sister is on medication for blood pressure, but she wasn't told why she was asked on the programme.

She went to the surgery to pick it up and the receptionist just handed it over without providing any additional info. At home she googled to find out what the normal range for blood pressure should be, but no one in the practice told her.

The leaflet provided with the monitor, said she should take her BP twice first thing in the morning, and once at night. She found it easy to use the monitor and take the readings, although all of them were quite high. At the end of the week, she handed the monitor back to the surgery with the readings, but was disappointed not to hear anything else about it.

Pam generally feels fine about her health – she is retired and does not smoke or drink at all, she walks twice a day with her dogs and looks after her grandchildren. She's a bit overweight, but not worried about this.

Pam is confident using apps for day-to-day tasks, online searching, social media, and virtual communication.

(Gloucestershire2, 60-69)



"I'd be happy to monitor other parts of my own health, although having taken part in this trial and receiving no feedback or comments, I do wonder what the point is and even whether they are looking at the results...

...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. "



Chris's experience

On programme, loaned monitor

Chris has had high blood pressure for many years and it runs in his family. He first became aware of it around 10 years ago through an annual health check at work where they monitor cholesterol, blood pressure and BMI. He enjoys getting out and doing regular exercise and has been a runner for years.

Chris was loaned a blood pressure monitor for a week. He was shown how to use it and found it easy to use and very self explanatory. He handed his results in after a week but was not advised would happen with them at the time. He is going back to see a cardiologist and thinks this is related.

Regarding other types of self-monitoring, Chris would be happy to take part as long as it was clear why he was doing it and exactly what to do and he would be happy to use an App to share the results with the practice if this was possible.

Chris has no issues with the digitalisation of services, as long as he is able to see someone face-to-face, when required. When he returned from holiday with a really bad headache and rang the GP Surgery, they asked him to come in straight away, but if it was something less serious, he would be happy to have a consultation over the phone or on zoom.

Confident using apps for day-to-day tasks, online searching, social media, and virtual communication

"I used to use salt on my food as this was the way I was brought up, but over the past 10 years, since having the regular health checks, I've been very aware of what I eat and try to avoid processed food and salt. I always look at the back of packets when shopping and anything that is in red, I do not touch. I was told to exercise more, reduce my salt intake and alcohol consumption, which I have done."



47

(Gloucestershire4, 50-64)

Healthwatch England BP@Home Research 08/03/2022

Jim's experience

Not on the programme, GP prompted purchase



"I feel one should take personal responsibility for looking after your health...I've always had a sense of it being my job to look after my health. So, I exercise regularly and I monitor my weight as well. When the GP or the practice nurse suggested I could check my blood pressure, I was motivated to do it because it was another thing I could do to check that I was keeping healthy...

...remote management of your health is fine and having the GP buying into that is good..." Jim takes a keen interest in his health and feels a sense of personal responsibility to look after himself. Monitoring his BP is part of a general desire to monitor and maintain his health and avoid the need for GP appointments and taking up his GP's time.

After his BP readings were a little high 2 years in a row, and in order to avoid 'white coat syndrome', the GP suggested that he buy his own monitor. The GP didn't give any guidance or instructions on how to use one, however, Jim got one from a local pharmacy and the pharmacist explained how to take readings and gave useful tips. He feels that people need clear instructions before being asked to monitor their own BP.

Since 2017, Jim has kept a list of all his BP readings in a spreadsheet, including graphs, to chart the variations against his target readings. His GP practice contacts him every year, through an automatically generated email asking him to send in 7 days of readings. He doesn't know what his GP does with the annual readings but assumes they are just added to his patient record. He doesn't get any feedback, and although he would like some acknowledgment, he doesn't follow-up because his BP is within the normal range.

Confident using apps for day-to-day tasks, online searching, social media, and virtual communication

(Oxfordshirel, 65-79)

Clara's experience

Not on programme, not GP prompted

Clara's been monitoring her BP for 3-4 years after buying a monitor. She worries about her health and BP because she has a family history of strokes and her BP fluctuates. She takes an active interest in her health and wellbeing, and believes that monitoring has had a positive impact on her understanding of BP and health/lifestyle behaviours. However, it has not led to a healthier lifestyle, perhaps in part because her financial/social conditions and disabilities constrain her opportunities.

Clara finds monitoring reassuring and it's helped her monitor her condition and to know when to rest, be calmer etc., but it has not improved her BP levels.

Clara lives alone with no support and so sometimes is unable to use the monitor so she feels that people with disabilities, limited mobility, and live alone need support. she is positive towards having communications via an App. – suggesting it could be used to submit readings, ask questions, and provide feedback and suggestions to lower her BP – and is generally in favour of digital monitoring. She thinks Apps are ok as long as they are easy to use and need to be tested for useability to be sure that all types of people can use them.

Digitally confident using apps for day-to-day tasks, online searching, social media, and video communication (only has access via mobile phone)

(Oxfordshire3, 50-64)

"I know when my BP is high because my hands start swelling... I immediately take my reading. I also find, because I have disabilities, when I'm walking, it goes sky high again, so I have to have to be careful with that...

...it can be a tick box exercise. 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?"



Bridget's experience

Not on programme, GP prompted purchase

"I think I'm the kind of person that is very aware of looking after my health. Not always doing the right things, but I'm at least aware of what I should and shouldn't do.

...they tell me if it's gone up, and if it's gone up what can be done.

I do feel that you can do things online, so you don't need to try and get through to busy receptionists and take up their time."



Bridget feels that she is in pretty good health, although she has high BP. She exercises regularly and eats well. Her blood pressure was good until she was over 60 and then it suddenly started to go up.

She was given a BP monitor to use for 24 hours by her GP and then she bought her own monitor for £29 in Boots - she didn't want to spend too much money! She finds using the monitor simple and usually takes readings twice a week.

She only submits readings to her GP when asked and she last had it checked at the GP surgery during her annual health review. She says that whenever she speaks to her GP regarding her BP readings, they always provide her with appropriate information.

Bridget says that those who need it, could be issued with a simple BP monitor... it could work like prescriptions, so that if you are over 60, then the BP monitor would be free, but for working people, there could be a small fee.

Bridget thinks the best way to submit readings is online.

She tried to contact her doctor on the day of the interview and had found it very difficult.

(Ham&Ful3, 65-79)



Jack's experience

Not on programme, GP prompted purchase

"It's a constant in my life... taking my BP is just routine now, and taking 2 tablets a day is not an issue.

'My GP got in touch by text message once, just to say that the average that month was quite high asked if I was taking my tablets and doing everything I should be doing... I said 'yes' he said you better come in and see me.''

...I'll have a run of readings that are not what I expect and I think 'I wonder what's caused that?' so I might just take it easy for a couple of days''.



Jack had a medical to renew his commercial driving licence and it revealed high blood pressure. He later bought his monitor after a conversation with his doctor who said he might get more regular readings [unlike at the surgery]. His wife shares use of the monitor (which has a heart rate built in).

Jack has lost weight and is very conscious of needing to keep track. His fitness regime that includes cardio and some lightweight training and aims to get 10k steps a day.

He enters the readings onto the Samsung phone health app which produces a graph allowing him to see how it's going – which he finds very useful. He takes the readings on paper to the GP practice.

He would like to be able to submit readings via an app. He also suggested that a bit more publicity, for example a poster, would be good saying **"take 5 mins to take your blood pressure (and it could save your life)".**

Jack only discovered his hypertension 'by accident' is interesting, as is the way he has responded, taking responsibility and engaging with the GP and his local practice in a very constructive way.

Very competent digital skills.

(Hampshire5, 25-49)

Other kinds of remote monitoring (1 of 2) Based on analysis of case studies

If able, respondents are generally open to using remote monitoring for other conditions as well as blood pressure, recognising it is in their interests, so long as conditions are met:

- Clear purpose/benefit to the monitoring
- User-friendly online/digital systems
- Clear guidelines/instructions on what to do, how to do it, why they should be doing it, what the results mean for them
- A customised plan to suit the patient
- Feedback is necessary based on results
- Don't remove the option of seeing GP when necessary
- Some may need support to use the equipment e.g. from carers

However...

Other kinds of remote monitoring (2 of 2) Based on analysis of case studies

...however,

- Not all have the money, devices, internet, ability or even the will to use technology, so it's vital to offer alternative solutions. The same principles remain either way inform, guide, feedback, advise.
- Some still want face-to-face interaction with their GP with the GP taking the bulk of responsibility for proactive care while others are content to take more personal responsibility.

Regardless of how remote monitoring progresses for the NHS, patients will need clear guidance on what the **patient and NHS roles are in their health and wellbeing**. The relationship between the NHS and patients has shifted significantly over the last generation (accelerated through covid). Many are unaware of this or unwilling to accept it, leading to frustration and disappointment when expectations are not met. Patients need to be involved in the journey of change for them to accept it and cooperate with the changes.

Research and engagement can help to ensure patients are at the heart of the design of new systems and processes whilst ensuring access remains fair for all.

1. Increase blood pressure monitoring overall

GPs should proactively offer blood pressure monitors (ideally on prescription) to patients **with high-risk factors**, including family history, relevant long-term conditions, as well as those who need one for medication.

NHS 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**".

Public campaign: to support uptake, delivering clear messaging around benefits: cheap and easy to purchase, easy to use, wellbeing (prevention better than cure), feel empowered and in control of own health, have peace of mind etc.

NHS website messaging: clear signposting to a blood pressure monitoring page from pages on related conditions such as stroke, cardiovascular disease etc.

The blood pressure monitoring page should encourage uptake and provide comprehensive information around blood pressure and blood pressure monitoring.

2. Improve patient experience with BP monitoring		
Inform	 Online information: Provide a dedicated, easy-to-find blood pressure monitoring page on the NHS website. Signpost it from related pages within NHS website (e.g. cardiovascular disease). Ask supporting organisations, such as Blood Pressure UK, British Heart Foundation, Diabetes UK etc to provide signposting links from their website to the NHS page. FAQs section: what blood pressure is, what it means for them, how to manage/improve it, advice on models etc. For non-digital patients a comprehensive booklet should be provided Specific information should be provided relevant to the person, for example, what "normal" looks like for them, and when they should be taking action. 	
Guide	 When and how to take readings. How to keep a record and what to do with it. Recommend submission of readings, how to do this, and what to expect when they do What to do if a reading is outside normal parameters <u>for them (e.g. if numbers above/below x, call 111/999.)</u> 	
Feedback	GP should acknowledge receipt of readings, indicating that they have been checked, and then provide appropriate feedback – even if just to say that readings are within normal parameters and to continue to submit readings.	
advise	If action is required, prompt call/visit to GP, change medication, changes to life-style etc.	

3. Improve	3. Improve data collection, response and processing	
Collection	 Provide digital option to submit readings to GPs, ideally via an app/website (this already exists in some cases). SMS is an option for those who only have a basic phone or don't have the digital skills/confidence to use their smart phone effectively. Paper should be a last resort (but this option must be available). 	
Response	Acknowledge submission. This can be done automatically with digital systems. <i>"we have received your BP readings and will be in touch if any action is required. Your next reading is due xx/xx/xx".</i>	
Check	 Digital processes should to provide automatic feedback specific to an individual e.g. "we have checked your BP and it is within normal parameters." "we have checked your BP and they are slightly elevated. We would like you to submit readings twice a day for the next 7 days and we will review again." "we have checked your BP and they are elevated. We would like you call the surgery and ask for an appointment to see the nurse within the next 7 days." "we have check your BP and they are high. We would like you call 111 today and discuss your blood readings with them." 	
Uptake	Using digital processes could reduce demand on resources in GP practices, and reduce manual handling of data, data security risk, infection risk etc; therefore, GP's should encourage and support the uptake of these.	

3. Improve data collection and processing (cont.)		
Design	 Digital data collection process, must be simple and intuitive with clear buttons and simple language (user-testing highly recommended) The Omron app has much room for improvement, but it does have some good features – such as an automatic warning for high readings (and advice to visit a GP) – worth a look! Ideally, the app could also provide some further supporting information either in the app or links to other relevant sources. 	
Digital Prompts	 Periodic prompts can encourage continued monitoring, deliver reminders when lapsed and provide helpful prompts on diet and life-style. "you haven't submitted a blood pressure reading this week/month, please submit a reading as soon as you can. Remember monitoring your blood pressure is important to help us to help you manage your [health condition]/[wellbeing]." "By continuing to submit blood pressure readings, you are helping us to help you manage your health. Remember walking a little further each day can help you manage your BP." Language and tone should be carefully considered – friendly, caring, reassuring. 	
Back-end	Combine BP data with other relevant patient health data to create a digital patient record, such as heart rate, weight, blood sugar (diabetes patients), etc GP alerted when results amber (watch!) or red (initiate contact if patient doesn't)	

4. Win buy-in from medical practitioners at all levels – there needs to be a consistent message – and process

This research suggests significant **inconsistencies** in the delivery of blood pressure monitoring at home via GPs. There is **much room for improvement**, not only in practical terms around processes but also in communications with patients.

5. Promote partnership between GPs and patients for health and long-term wellbeing

There are substantial potential benefits here for the NHS in reduced demand, and some of that will require time and up-front investment in systems. In the meantime, it's essential to improve the partnership between patients and GPs, as, without patient buy-in, the systems themselves will have limited impact. For many patients, expectations of their GPs are low, and unfortunately often their experiences match that.

It's better to be a partner in wellness, rather than a fixer in a crisis

Virtuous Cycle of Blood Pressure Monitoring



Participating Local Healthwatch

Thanks to all the members of the local Healthwatch teams who contributed throughout the research, but especially with promoting the online survey via local channels and for carrying out depth interviews!

Special thanks to Glyn Alcock and Guy Patterson who contributed significantly to the questionnaire design.

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Darlington	Michelle Thompson, Chief Executive Officer Diane Lax, Healthwatch Operations Manager
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Hampshire	Guy Patterson, Healthwatch Officer (Project Lead) Kate Knowlton, Deputy Manager
Gloucestershire	Suzie Compton, Engagement Officer Helen Webb, Manager
Hammersmith & Fulham	Jaime Walsh, Director of Operations for Healthwatch and Engagement Services Carleen Duffy, Operations Manager

Data collection

Local Healthwatch, each promoted the survey in their local area via a variety of channels. Where possible, attempts were made to contact programme participants by distributing letters via GPs.

	LHW	Methods
		Survey distributed via a link to our ebulletin, social media (Facebook and twitter) and we also posted 30 out via one of the GP practices in the programme.
	Oxfordshire/ Bucks	Oxford Academic Health Science Network were asked to promote the survey to clinical leads and GPs Asked GP practices identified as part of the BP@Home programme to contact patients to take part in the study (because of patient confidentiality, we could not contact patients directly). Invited anyone who has used a BP monitor through: - Patient Participation Groups (PPGs) at local GP practices - Social media (FB, Twitter, Healthwatch Oxfordshire website) - Parish newsletter - Healthwatch Oxfordshire news briefings - Short piece in the Oxfordshire Clinical Commissioning Group (CCG) newsletter.
	Hampshiro	Survey link sent to county-wide network of stakeholder organisations (incl. surgeries), and promoted via social media. Significant increase in engagement resulted from a concerted publicity campaign using a range of communication channels (e.g. targeted emails, social media, newsletters etc.).
(Gloucestershire	Contacted the 5 GP Practices taking part in the Pilot and provided 100 letter to go out to all those on the project. Within the letter they provided links to the survey and a telephone number if they wished to complete it over the phone. An incentive was offered to those happy for their experiences to become a Case Study and 5 people came forward for this. They also promoted the project on Facebook and included the link.
	Hammersmith	Survey promoted via weekly news pieces on their website and social media (Facebook and twitter) Created QR code posters which were distributed in 15 surgeries. Survey link and poster shared in the weekly Clinical Commissioning Group (CCG) newsletter. Resent and promoted survey to Practice managers at the Practice manager forum

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