

# Tracking Ourselves?

*Caring for ourselves through everyday monitoring.*

**Executive Summary for commercial partners.**

March 2020



## Project overview

Tracking Ourselves<sup>2</sup> is a research project concerned with exploring the everyday practices of people who undertake self-monitoring, focussing on the cases of blood pressure (BP) and body mass index (BMI). The project involved qualitative interviews with people who monitor their own BP or BMI and focus groups with primary care professionals. The research is funded by the [Leverhulme Trust](#), and is a collaborative project between the Universities of [Sheffield](#), [Sussex](#) and [Brighton](#).

## Background

Consumer technology for people to track or monitor their own health has become increasingly popular. In the past, these technologies were largely the preserve of clinicians, who routinely used devices to measure body mass index (BMI), blood pressure (BP), heart rate, blood glucose or oxygen monitors. Now, these devices are widely available to buy and might link with apps that store the data. There are hopes that this kind of monitoring might increase people's management of their own health and save healthcare costs. Yet, beyond studies undertaken through clinics where devices are allocated to patients as part of research, not much is known about how and why people buy devices such as BP and BMI monitors, and engage in self-monitoring.

## Why do people buy monitoring technologies?

People bought devices for many reasons. Several of our participants bought devices to monitor BMI when they wanted to track and lose weight for a life event such as a family holiday or a wedding. Others were prompted to track BMI and lose weight as part of a more general plan to 'get back on track', for example:

*"I just wanted to keep track of my weight. I felt a bit lethargic, I had an operation on my knee, and so was inactive. I bought scales to try and get back on track."* (Participant who measured BMI)

Buying a BP monitor was often prompted by readings taken elsewhere for example a high reading at the doctors' surgery, pharmacy or at a gym induction.

*"I just happened to be at the chemist and they were advertising, you know, have your blood pressure taken here. [...] So she took it and she said, oh, it's really high, will you see the doctor."* (Participant who measured BP)

Healthcare professionals suggest pharmacies as a source of advice on purchasing monitoring technologies. Health professionals may explicitly encourage self-monitoring at home. For example:

*"He [the doctor] said...you ought to get a blood pressure monitor. And I said, well, had thought about it and I'd looked on Amazon, there are hundreds of them, how do I know which one to buy. So I said that to him and he said, oh...you know, he quickly looked on Amazon and said, buy this one."* (Participant who measured BP)

People linked blood pressure monitoring not just to concerns, broadly, for long term heart health, but also to more immediate concerns about daily stresses. One participant referred to monitoring their blood pressure as a 'stress monitor'. For example, one participant explained that their monitoring was not only about blood pressure, but a check on 'feelings'.

*"It's a reflection, you want to know how you feel, and you know say if you come in from a stressful day at work you might want to know how you feel and how you feel different on a Sunday or a Saturday."* (Participant who measured BP)

In some cases, individuals are simply gifted monitoring devices by family. People don't always monitor using their own devices, but might wait to visit friends and family to use theirs, or happen across devices and 'have a go' at other people's homes. This included having a 'sneaky weigh' when visiting an extended family members bathroom, or the opportunity of learning about their blood pressure when visiting a close relative. For example, one participant explained how a visit to a family member led to impromptu monitoring:

*"One day, just for the sheer fun of it almost, he said why don't you take your blood pressure?"* (Participant who measured BP)

They might also borrow a device of a family member or colleague which sometimes, but not always led to purchasing their own.

## What products and functions do they look for?

People sometimes buy a blood pressure monitor because it was recommended by a health care professional that they trust, or because it is the same one that their clinic uses, which, they deduce must be reliable and trustworthy. One couple, for example, explained that they thought about buying a new device as theirs was getting old, but decided against it because their current blood pressure monitor 'matched the doctors'. Similarly, weighing scales were bought with this reliability in mind:

*"I bought Salter because it's a well-known brand. I bought a basic model. I can't remember, but I would have either have bought it online or from Boots."* (Participant who measured BMI)

Others cited that they chose a monitor based on the cheapest price on Amazon or based on ratings.

*"It was just purely that I looked on the Amazon reviews...it was all five stars, a few thousand."* (Participant who measured BP).

On some occasions purchases of monitors appeared opportunistic. For example:

*"So it wasn't a dedicated journey...They were in a shop piled at end of aisle on offer and I said oh I need some because the previous ones were a bit old and rusty and clanky..."* (Participant who measured BMI)

People might upgrade scales because of the additional functions, such as BMI, offered by other devices. For example:

*"I had a previous pair, and I can't remember now but I must have decided that BMI was something I needed to check, and those scales didn't have BMI. So I think that's why I got those, because they were far better, all singing, all dancing, and much more accurate too."* (Participant who measured BMI)

However, the provision of lots of functions was sometimes experienced as overwhelming or unnecessary, and even when devices were purchased with an interest in their multiple functions, this interest might dissipate in practice. For example:

*"It was telling me water and fat...eventually when I worked out I could switch that off...I wasn't really interested in that."* (Participant who measured BMI)

People also often did not know about all the functions their device had. For example one participant who weighed themselves every day, was unaware that their device also measured muscle density and had a diversity of functions. People often share devices too - this can mean people borrow devices, or monitor together using the same BP monitor or scales. Devices can have multi-user settings, but in practice, people don't always use them even when they are monitoring together. They can use one user profile for multiple measures.

*"What we do is we leave it on my partner's setting all the time, so I don't keep flicking around with it."* (Participant who measured BMI)

## What problems do people encounter?

### Within the home

Finding a hard enough surface on which to place bathroom scales can be a problem. One participant told us he put his scales in the shower to weigh himself:

*"I noticed at the beginning of this I kept weighing differently on the bathroom floor because of the give in the lino, and I realised it has to be hard...So that's when I started doing it in the shower...I lost a few pounds."* (Participant who measures BMI)



Participant using their weighing scales in the shower tray.

The visibility of screens on weighing scales kept in the bathroom can also be a problem, as screens or people's glasses get steamed up. People might also take their glasses off when weighing is undertaken before or after showering.

*"You have to stare at the...without your glasses on...that's why I asked my Dad for these new digital displays so that I don't need my glasses."* (Participant who measures BMI)

Participants noted having to get off the scales and bend down to read the screen, complained about the short length of time their measures were displayed and sometimes found other ways to make the display visible.

*"The idea of having a big number that would flash up at me, I felt that would be useful. I have in the past taken a picture on my phone so I can zoom in later and see what the numbers were. Because it flicks round so quickly and I don't know what that's saying."* (Participant who measured BMI)

Using blood pressure monitors also has challenges. People can find it difficult using only one hand to place the strap around their arm, or that the pressure of the band can be uncomfortable. We noted the importance of being ambidextrous. For example, one man required the assistance of his wife to put the blood pressure strap on his arm following a stroke. These accounts were telling that using a blood pressure monitor at home was not always a one person job. This participant demonstrated the challenges of using multiple parts of her body in order to use the blood pressure device on her own:

*"It isn't a struggle exactly but it's got to be half an inch above your joint in your elbow, crease in your elbow. That little arrow has got to point towards your middle finger. So to get it, you have to do it like this. [Holds cuff in place with chin, whilst using hands to tighten Velcro]"* (Participant who measured BP)

Some people also worried about the visibility of monitoring devices within the home to loved ones such as their children, wanting to protect them from being involved in monitoring too young. One participant explained that they kept their weighing scales under their bed, out of sight and reach of their children.

*"When we first got [the scales], they had fun jumping up and down on it and standing on it together, but they're not interested and that's good because we don't want them to be particularly interested."* (Participant who measured BMI)

### Problems raised by clinicians

Just as people observed functions they didn't use, clinicians worried about individuals buying devices that were too high in spec or too expensive. For example, one practice nurse explained:

*"They can probably spend a fortune on Amazon and get something that they really don't need that's all singing, all dancing. All they need is something that takes their blood pressure and something they can use easily, something with a cuff that they can get on easily enough."* (Participant nurse)

Clinicians also raised concerns about the anxiety self-monitoring can provoke. There are also challenges around what constitutes 'routine' monitoring. What is suggested as routine within the clinic is very different to routines performed in everyday practice. One GP explained:

*"There's no reason for people to be checking it four times a day, or check their blood pressure every day. So, sometimes it's generating more work for us, if they keep coming in to say, I've*

*had this reading, I've had that reading. It does cause health anxiety.”* (Participant GP)

However, the commercial stories about daily monitoring practices clash with the clinical imperatives for such data at less regular intervals. Healthcare professionals suggest that monitoring at home is only required a week before an appointment, rather than data on a daily basis.

Although manufactures offer calibration at regular intervals, clinicians and patients/users find ways of checking monitors together. We found accounts where individuals take their monitor into the clinic as a way of measuring for accuracy through comparing their own device with that of the clinic. Within the clinic, learning about the device is important too. Patients can come to learn how to use their monitor and interpret readings through clinical interactions.

There are some anxieties around self-monitoring identified in clinic. These include concerns around the sharing or uncontrolled data flow and suspicions around this. There are also interests in the portability of the data and the device, which allows for patient generated data to be downloaded and for it to be easily presented when visiting the clinic.

## How could you support healthy monitoring?

Commercial manufacturers might want to consider devices being made more *user-friendly* within the home. This includes increased accessibility in terms of the visual screen, the time the display screen is kept on and the ease of access for using blood pressure straps alone. For some, this means limited functions that benefit their needs.

Manufacturers might also ensure that the marketing of self-monitoring devices is inclusive of the collective practices and care that happens within the home. Similarly, manufacturers might make devices *discrete* and *storable* in order to protect vulnerable members of the household such as young children or those who are anxious. Finally, the role of pharmacists, healthcare assistants and clinicians are important in the information and support given in using self-monitoring devices. Manufacturers could be inclusive of not only user experience, but be aware of the role these actors play in advising patients on purchasing self-monitoring devices. This includes clinicians concerns regarding the unnecessary costs that some patients pay for devices. There is also the important consideration of how often individuals monitor and how this may not be in line with clinician's recommendations on what they see as appropriate self-monitoring within the home.

## Where can I find out more information about the project?

If you would like to read more, you can find some of our published papers through our project website here: <http://tracking-ourselves.group.shef.ac.uk/>

Dr Kate Weiner ([k.weiner@sheffield.ac.uk](mailto:k.weiner@sheffield.ac.uk))

## Acknowledgements

Thanks to all who participated in this study, to our advisory board and colleagues who have provided administrative support. The research was supported by the Leverhulme Trust Research Grant RPG-2015-348. This research was conducted by [Dr Kate Weiner](#) (University of Sheffield), [Dr Catherine Will](#) (University of Sussex), [Professor Flis Henwood](#) (University of Brighton), [Dr Ros Williams](#) (University of Sheffield), Dr Jacob Andrews (University of Nottingham) and [Lauren White](#) (University of Sheffield)



The University  
Of  
Sheffield.

**US**  
UNIVERSITY  
OF SUSSEX

**University of Brighton**

**LEVERHULME  
TRUST**