

CHE Research Summary 7

Designing wearable digital health technologies: what do people want?

Written by [Andrea Manca](#)

Research Team: Andrea Manca, Vijay Gc (Centre for Health Economics, University of York), [Cynthia Iglesias](#) (Department of Health Sciences, University of York), [Ibrahim Habli](#) (Computer Science, York), [Niels Peek](#), [Matthew Sperrin](#), [Chris Taylor](#), [Ian Buchan](#), [Shon Lewis](#), [John Ainsworth](#), [Bijan Parsia](#), [Lamiece Hassan](#), [Alex Casson](#) (University of Manchester)



An ageing population with more chronic healthcare problems puts pressure on healthcare systems around the world. There are many ways to help people safely self-manage their own conditions which can improve health outcomes and ease the pressure on healthcare providers. However, individuals embracing self-management need support, and one way of doing this is to use wearable digital health technologies (DHTs) such as wristwatches and smartphones that collect data from each person and send it back automatically to healthcare providers. These can give people more control over their own health, safety and well-being.

For these technologies to be successful and adopted widely, it is vital to ensure that their development involves those who will eventually be using them, so that the design takes account of their views and preferences at an early stage.

Our research explored what people with chronic kidney disease (CKD) wanted from a wearable device to help them manage their health condition. To do this we designed and conducted both focus group interviews and a survey and we found that patients' preferences vary significantly. People's views differed with respect to characteristics of the device such as its appearance, format, and the type of information it provided. Most of the respondents favoured a small non-intrusive device that could carry out

more than one task. People preferred information provided in formats other than audio, and one-third preferred information in text format. Participants were clear that they wanted a device that provided them with options for their self-management, rather than a technology that told them what to do.

Our analysis showed that preferences differ between individuals and this supports the case for developing a device whose features are tailored to meet the needs of different groups of patients, rather than taking a one-size-fits-all approach to its design. Our study showed how important it is to listen to the views of future users of DHTs so that the early steps of the R&D process can reflect their preferences for different characteristics of the devices they would wear to manage their long-term health conditions.

Funding was provided by the Engineering and Physical Science Research Council (EPSRC) Project EP/P010148/1.

Further information on the Wearable Clinic project can be found at the website [‘The Wearable Clinic’](#).

Read the paper in the journal [Technology Assessment in Healthcare](#).

June 2023