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ORAL ABSTRACT

Title

Assessing The Potential Value Of Wearable Digital Health Technologies In Chronic Kidney Disease Using Early HTA Methods (17/18 words)

Theme:

Innovating HTA to Support Novel Interventions

Authors

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Abstract Summary:

Early HTA methods aim to inform R&D decisions by evaluating the potential costs and benefits of innovative health technologies in the initial phases of their life cycle. We describe the development, application and findings from suitable early HTA methods to guide the development of a wearable digital health technology to support self-management of chronic kidney disease.

Introduction:

Wearable digital health technologies (WDHTs) offer several solutions in terms of disease monitoring, management and delivery of specific interventions. In chronic conditions, WDHTs can be used to support individuals' self-management efforts, potentially improving adherence to (and outcomes resulting from) interventions. Early HTA methods can inform considerations about the potential clinical and economic benefits of technology in the initial phases of the product's lifecycle, facilitating identification of those R&D investments with the greatest potential stakeholders' payoff. We report our experience of using early HTA methods to support R&D decisions relating to novel WDHT being designed to support self-management of chronic kidney disease (CKD).

Methods:

We performed a literature review, focus-group interviews with patients, and qualitative interviews with the prototype development team to understand the relevant characteristics of WDHTs, quantity relevant clinical indications and existing technological constraints. An early economic evaluation was used to identify the key drivers of value for money, and a discrete choice experiment shed light onto patient preferences towards what key features the WDHT should have for the users to adopt it. Then a model-based cost-effectiveness analysis was undertaken incorporating headroom analysis, return on investment, one-way sensitivity analysis and scenario analyses using data from secondary sources.

Results:

The review of the literature, focus groups with CKD patients, and qualitative interview with technology developer helped to understand relevant characteristics of WDHT and user preferences helped inform the next R&D iteration. Compared to the standard care, WDHT that support stage ≥3 CKD patients self-management at home by measuring blood pressure and monitor mobility has the potential to be cost-effective at conventional cost-effectiveness threshold levels. From the headroom analysis, novel WDHT can be priced up to £280 and still be cost-effective compared to standard home blood pressure monitoring.

Conclusions:

Our study provides valuable information for the further development of the WDHT, such as defining a go/no-go decision, as well as providing a template for performing early HTA of Digital Health Interventions.

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