Reviewer’s report

Title: Tea, talk and technology: patient and public involvement to improve connected health ‘wearables’ research in dementia.

Version: 0 Date: 08 Feb 2017

Reviewer: Matt Murray

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This is a well-written article of interest and relevance to those seeking to undertake dementia research which includes wearable technologies and those with an interest in patient and public involvement methodologies surrounding technologies. Although lengthy and occasionally repetitive (I felt that I didn't learn anything new in the discussion that wasn't already in the results) I think it would make an important contribution to the developing literature in this work, especially since the DPUK platform is developing and expanding the number of research projects within it. Wearable technologies feature in a number of research studies I am either involved in or are aware of and the findings within this paper should improve the acceptability and delivery of future research.

In presenting the background evidence of patient and public involvement (and participation) in dementia research, as well as the sentence on p21 about calls for people affected by dementia to have more opportunities to participate in and influence research I was surprised that the authors did not reference the Join Dementia Research initiative (increasing participation) nor the Alzheimer's Society's Research Network (formerly QRD) which for over 17 years has involved people affected by dementia across the whole of the research process, particularly in setting research priorities, funding decisions and supporting the delivery of research.

The justification of people to involve in the workshops seems sound, although given that many people with dementia are likely to have co-morbidities or health conditions which could affect their participation in research of this kind, it might have been wise to have made more effort to recruit people with dementia with more complex needs. This could perhaps have been achieved through extending the recruitment to other groups. This could be reflected in the discussion section where multiple long-term health conditions are mentioned as a recommendation for future involvement. I also wonder what steps the researchers took in addressing the lack of recruitment of people with MCI- e.g. did they approach memory assessment services?

On page 17 there is a very helpful description of the support that people with dementia and their carers will need in relation to the set up of devices and having access to smartphones/tablets. It would be useful to acknowledge the impact on the costs of future studies to provide this.

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