

## PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

This paper was submitted to a another journal from BMJ but declined for publication following peer review. The authors addressed the reviewers' comments and submitted the revised paper to BMJ Open. The paper was subsequently accepted for publication at BMJ Open.

(This paper received three reviews from its previous journal but only two reviewers agreed to published their review.)

## ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	Patient Work from a Context and Time Use Perspective – A Mixed-Methods Study Protocol
<b>AUTHORS</b>	Yin, Kathleen; Harms, Teresa; Ho, Kenneth; Rapport, Frances; Vagholkar, Sanjyot; Laranjo, Liliana; Coiera, Enrico; Gershuny, Jonathan; Lau, Annie Y.S.

## VERSION 1 – REVIEW

<b>REVIEWER</b>	Souraya Sidani Ryerson University Canada
<b>REVIEW RETURNED</b>	27-Mar-2018

<b>GENERAL COMMENTS</b>	<p>In this paper, the authors present the protocol for a mixed method study. The unique feature of the study is the use of technology and interview for collecting data on “patients’ work” in their daily life context.</p> <p>Although the study is of potential interest, there is limited explanation of its conceptualization and description of the methods. The authors may want to consider the following points:</p> <ol style="list-style-type: none"><li>1. Why is the concept under investigation called “patient work”, when the same concept is reflected by the term “self-management”, which is also known to be affected by context? How do these 2 terms differ?</li><li>2. What is the relevance of the point on digitally-distributed health interventions, mentioned in the introduction, to the argument for the study?</li><li>3. It may be important to expand on the limitations of the approaches / techniques used in previous research on patient work, to justify the use of the new methods / technology. Also, it may be worth providing more explanation on the benefits of the proposed methods, that is, how would the technology used overcome the limitations of the approaches / techniques used in previous research?</li><li>4. Overall, the conceptualization of the study is not quite clear making it difficult to understand its contribution (above and beyond trialing new technology) to the assessment or the care of patients with diabetes or other chronic disease, at least for readers who are unfamiliar with “patient work”. The authors did not present a strong argument to support the importance or need for this study.</li><li>5. It appears that the study focuses on physical activities (as mentioned in the introduction and measure sections of the paper).</li></ol>
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	<p>What about other elements or activities related to the patient work?</p> <p>6. The aim of the study (not the paper) should be clearly stated in the Aims section of the paper.</p> <p>7. There is no characterization of the overall study design.</p> <p>8. How will the eligibility criteria be ascertained, when, by whom, using what screening tools?</p> <p>9. Is the sample size 40 or between 30 and 40? Please, be consistent.</p> <p>10. What evidence is available to support the reliability and validity of the measures? What about the completion rates for use of diary (which are well known to be burdensome, resulting in low completion rate or withdrawal from the study)? What about the acceptance rate for continuous camera recording? Please, provide findings from previous studies to strengthen the argument for using them in this study, or explain that the study aims to examine their rate of use.</p> <p>11. What is the rationale for assessing illness perceptions, to the exclusion of other conceptually relevant variables?</p> <p>12. How will the researchers collect data on factors that affect health-related work? Is it through observation or interview, structured or unstructured? Is there any list of potential factors to look for?</p> <p>13. How will the 24-hour of data collection using diary and camera be selected to increase the likelihood of capturing a “typical day in patients’ lives”?</p> <p>14. There is no discussion. For protocol papers, the discussion could address potential challenges and strategies to overcome them; strengths and limitations of the methods used; or report on progress to-date. Since recruitment for this study started in September 2017, could the authors report on the number of patients recruited, consented, declined enrollment and reasons for non-enrollment, as well as challenges they may have encountered to-date?</p>
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### VERSION 1 – AUTHOR RESPONSE

1. Why is the concept under investigation called “patient work”, when the same concept is reflected by the term “self-management”, which is also known to be affected by context? How do these 2 terms differ?

‘Self-management’ describes the approach, strategies and resources involved in managing the health condition, while ‘patient work’ is primarily concerned with the ‘work’ (e.g. time, effort, tasks) involved for patients to execute these strategies, as well as the contextual factors that influence how much self-management is achieved.

The introduction section of the manuscript (Pages 4-5) has been edited to reflect this clarification.

2. What is the relevance of the point on digitally-distributed health interventions, mentioned in the introduction, to the argument for the study?

Digitally-distributed health intervention is the latest type of interventions to improve self-management. However, feedback from people trialling digital health interventions specifically states the interventions do not “fit into their daily lives”, suggesting a potential dissonance between participant’s existing life work with the extra work required for healthcare serves.

Parts of the introduction (Page 4 line 23, to Page 5, line 3) has been altered to make the connection clearer.

3. It may be important to expand on the limitations of the approaches / techniques used in previous research on patient work, to justify the use of the new methods / technology. Also, it may be worth providing more explanation on the benefits of the proposed methods, that is, how would the technology used overcome the limitations of the approaches / techniques used in previous research? Part of the introduction (Page 5, lines 20 to Page 6, line 13) have been altered to further elaborate on the benefit to the current study to previous patient work research.

4. Overall, the conceptualization of the study is not quite clear making it difficult to understand its contribution (above and beyond trialing new technology) to the assessment or the care of patients with diabetes or other chronic disease, at least for readers who are unfamiliar with “patient work”. The authors did not present a strong argument to support the importance or need for this study. The introduction and aims sections (Pages 4-5 and Page 7) have been modified to present the need for the manuscript.

5. It appears that the study focuses on physical activities (as mentioned in the introduction and measure sections of the paper). What about other elements or activities related to the patient work? We examine all kinds of work people do for their diabetes and co-morbidities, as described on Page 6, lines 17-19 “These may include diet modification,<sup>32</sup> weight management,<sup>33</sup> exercise,<sup>34</sup> complication prevention,<sup>35</sup> blood glucose tests,<sup>36</sup> and insulin injections.<sup>26</sup>”

6. The aim of the study (not the paper) should be clearly stated in the Aims section of the paper. The Aims section of the paper (Page 7, lines 4-11) has been edited accordingly.

7. There is no characterization of the overall study design. The overall study design has been clarified at the start of the methods section (Page 7, line 14-17) as “This is a mixed-methods, observational study that involves three stages: i) pre-study interview and questionnaires, ii) a 24-hour period during which participants wear a body camera and complete a time-use diary, and a iii) post-study session with interview and study feedback.”

8. How will the eligibility criteria be ascertained, when, by whom, using what screening tools? The eligibility criteria will be ascertained by the research team during the first contact phone call with the potential participant, via asking the participant questions that assess for their eligibility. Page 9, line 23-25 has been edited to reflect this.

9. Is the sample size 40 or between 30 and 40? Please, be consistent. Sample size has been edited to be 40 participants throughout the manuscript.

10. What evidence is available to support the reliability and validity of the measures? What about the completion rates for use of diary (which are well known to be burdensome, resulting in low completion rate or withdrawal from the study)? What about the acceptance rate for continuous camera recording? Please, provide findings from previous studies to strengthen the argument for using them in this study, or explain that the study aims to examine their rate of use. Page 10, lines 14-19 and Page 11, lines 9-12 have been added to provide data for time-use diary and camera acceptance rates from previous studies.

11. What is the rationale for assessing illness perceptions, to the exclusion of other conceptually relevant variables? Illness perceptions directly affect what types of self-management activity the patient is likely going to engage in and provides a context for their behaviour. Page 11, lines 17-20 was added to further elaborate.

12. How will the researchers collect data on factors that affect health-related work? Is it through observation or interview, structured or unstructured? Is there any list of potential factors to look for? Both pre- and post-study interviews will be semi-structured, with the pre-study interview focusing on factors that affected health-related work in the participant's life so far, and the post-study interview focuses on the participant's experience on the study day.

The list of potential factors is mentioned in Page 12, lines 23-25. They are split into "life history, social life and mental health, physical health and medical history, physical environment, and organisational effort and attitude".

13. How will the 24-hour of data collection using diary and camera be selected to increase the likelihood of capturing a "typical day in patients' lives"?

The current study, while capturing one day of study data only, will nonetheless capture significantly more of the patient's daily lives than previous patient work studies with observations of approximately 1 hour, yielding more data on the behaviour of the patient in their usual routine.

14. There is no discussion. For protocol papers, the discussion could address potential challenges and strategies to overcome them; strengths and limitations of the methods used; or report on progress to-date. Since recruitment for this study started in September 2017, could the authors report on the number of patients recruited, consented, declined enrollment and reasons for non-enrollment, as well as challenges they may have encountered to-date?

A discussion has been added to the manuscript (Page 18, line 21 to Page 19, line 22) that addresses the issues the reviewer raised.