

## 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.

### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	Patients' of using an eHealth tool for self-management support after prostate cancer surgery - a deductive interview study explained through the FITT framework
<b>AUTHORS</b>	Nilsson, Lina; Hellström, Amanda; Wennerberg, Camilla; Ekstedt, Mirjam; Schildmeijer, Kristina

### VERSION 1 - REVIEW

<b>REVIEWER</b>	Anna Janssen The University of Sydney, Australia
<b>REVIEW RETURNED</b>	13-Nov-2019

<b>GENERAL COMMENTS</b>	<p>The article is well written and discusses an interesting research question. The use of user-centred design methodologies and approaches such as think aloud are important for eHealth research and reading about the application of the methodology in this article will likely have broad appeal to the readers. Although the article is good overall, there are some areas where it could be improved. My suggestions for improvement are itemised below.</p> <p>1) INTRODUCTION: The introduction was well written and provided a good overview of the context. However, it could have been strengthened through the addition of some more detail regarding other eHealth tools used for patients with prostate cancer. There is a reference to these tools in the introduction, but it would be valuable to describe these slightly or expand on how the tool in this study was different/similar.</p> <p>2) METHODS: The description of the design of the study and theoretical framework is very clearly. However, I would recommend providing additional detail into the design section of the methods on think aloud sessions by describing what they are and why they are used, as readers may not be familiar with this measurement approach.</p> <p>3) METHODS: The "Patient and Public Involvement" section needs to be revised to clarifying the role of patients in designing the research approach as opposed to designing the ePATH platform. It may be possible to clarify this distinction by describing how the patients were involved in the process of developing the research question, and then describing their involvement in the evaluation of the ePATH platform itself.</p> <p>4) METHODS: Following on from the point above, the methods would benefit from additional detail on the way the interviews were</p>
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	<p>structured during the thin aloud protocol. Did the researchers have an interview outline going in to the think aloud, or where the interviews 100% informed by the questions asked by the participants during the think-aloud sessions.</p> <p>5) METHODS: Consider including a table that outlines the number of tasks that need to be completed in the think aloud sessions and describing what each task was. You may also wish to include detail about the completion rate for each participant for the individual tasks.</p> <p>6) RESULTS: Did the participants provide any feedback on areas where ePATH could be refined or improved in future iterations? If so it would have been valuable to include some of this data in the results section.</p> <p>7) DISCUSSION: The discussion is good, but it is very focused on the benefits of ePATH. It would be beneficial to the reader if the authors could more clearly link their findings to the literature on similar eHealth solutions. This may help with generalisability of the findings. Additionally, there are some findings that could be strengthened through links to the literature. For example one finding “The importance of heaving technical support available to education and promptly correct bugs and systems failures is also highlighted”, could have been enhanced through a reference to how this aligns with or expands on the literature regarding technical supports for eHealth implementation.</p> <p>8) DISCUSSION: Please include a limitations and future research paragraph to your discussion.</p>
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<b>REVIEWER</b>	Linda Fleisher Fox Chase Cancer Center, USA
<b>REVIEW RETURNED</b>	19-Dec-2019

<b>GENERAL COMMENTS</b>	<p>This is an interesting study and a well written manuscript. The methods are sound and well thought out. The use of the talk aloud as well as the qualitative analysis of the interview provided rich insights and guidance for future revisions to ePath and similar digital tools that are becoming more common place in patient education..</p> <p>There are a few suggestions for improvement</p> <ul style="list-style-type: none"> <li>- Definitions of usability vary - but this definition is widely used. Typically, usability is before a digital tool is coded and the ePATH seems further along in development (see below from usability.gov). Rather this seems like an early pilot study to validate the usability and acceptability of the program.</li> <li>- more description and references for the FITT framework would be helpful in the background</li> <li>- need more description of the team who conducted the coding and also more detail about the number of coders and processes for coding conference to address differing perspectives - see SRQR methods</li> <li>- The attached figures don't have headings</li> <li>-</li> </ul> <p>Usability testing refers to evaluating a product or service by testing it with representative users. Typically, during a test, participants will try to complete typical tasks while observers watch, listen and takes</p>
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	<p>notes. The goal is to identify any usability problems, collect qualitative and quantitative data and determine the participant's satisfaction with the product.</p> <p>To run an effective usability test, you need to develop a solid test plan, recruit participants , and then analyze and report your findings.</p> <p>Benefits of Usability Testing</p> <p>Usability testing lets the design and development teams identify problems before they are coded. The earlier issues are identified and fixed, the less expensive the fixes will be in terms of both staff time and possible impact to the schedule. During a usability test, you will:</p> <ul style="list-style-type: none"> <li>• Learn if participants are able to complete specified tasks successfully and</li> <li>• Identify how long it takes to complete specified tasks</li> <li>• Find out how satisfied participants are with your Web site or other product</li> <li>• Identify changes required to improve user performance and satisfaction</li> <li>• And analyze the performance to see if it meets your usability objectives</li> </ul>
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### VERSION 1 – AUTHOR RESPONSE

Referee 1:

Introduction/Background:

1) The introduction was well written and provided a good overview of the context. However, it could have been strengthened through the addition of some more detail regarding other eHealth tools used for patients with prostate cancer. There is a reference to these tools in the introduction, but it would be valuable to describe these slightly or expand on how the tool in this study was different/similar.

We appreciate your comment and acknowledge that comment no 7 also implies that we further describe ePATH and the link between ePATH and other eHealth solutions. We have expanded the text in the introduction concerning other eHealth solutions and do it further in the discussion section.

Method:

2) The description of the design of the study and theoretical framework is very clearly. However, I would recommend providing additional detail into the design section of the methods on think aloud sessions by describing what they are and why they are used, as readers may not be familiar with this measurement approach. Content analysis would be the procedure for analysis vs. a method for data collection.

Thank you for your fruitful comments on the method section. In the revised version, we have tried to evolve the process of the think-aloud process. In this study, we were inspired by the think-aloud method in the 'usability-discussions' between users and researchers. We have tried to explain the process in the revised version of the text.

3) The “Patient and Public Involvement’ section needs to be revised to clarifying the role of patients in designing the research approach as opposed to designing the ePATH platform. It may be possible to clarify this distinction by describing how the patients were involved in the process of developing the research question, and then describing their involvement in the evaluation of the ePATH platform itself.

Thank you for pointing this out and we agree that the section could be perceived as unclear. We have clarified this section, and added adequate references.

4) Following on from the point above, the methods would benefit from additional detail on the way the interviews were structured during the think aloud protocol. Did the researchers have an interview outline going in to the think aloud, or where the interviews 100% informed by the questions asked by the participants during the think-aloud sessions.

Thank you for also pointing out the need of clarification in the method chapter of the text. In the revised version of the text, the think-aloud session is more thoroughly explained.

5) Consider including a table that outlines the number of tasks that need to be completed in the think aloud sessions and describing what each task was. You may also wish to include detail about the completion rate for each participant for the individual tasks.

We value your suggestion of including a table of the think-aloud process. Being influenced by the think-aloud method, we have discussed and chosen not to include a figure. Instead, we have described how the study used think-aloud during discussions between users and researchers.

#### Results:

6) Did the participants provide any feedback on areas where ePATH could be refined or improved in future iterations? If so it would have been valuable to include some of this data in the results section.

The feedback on areas where ePATH could be improved is a part of the reporting of the results and not presented in a paragraph of its own. Summarized, important views from the participants were that registration of symptoms when only small changes occurred, or to perform self-care activities with no clear purpose were demotivating. Registrations was suggested to be based on occurrence rather than in specific time-intervals and the reason for performing specific activities needs to be explained better in order to seem relevant. The participants also preferred tailored information in favor of generic information about the disease, symptoms and self-care. The possibility to use the ePATH on a smartphone and to connect ePATH to the electronic health record was put forth.

All those views of the participants are included in the results section.

#### Discussion:

7) The discussion is good, but it is very focused on the benefits of ePATH. It would be beneficial to the reader if the authors could more clearly link their findings to the literature on similar eHealth solutions. This may help with generalizability of the findings. Additionally, there are some findings that could be strengthened through links to the literature. For example one finding “The importance of having technical support available during education and promptly correct bugs and systems failures is also highlighted”, could have been enhanced through a reference to how this aligns with or expands on the literature regarding technical supports for eHealth implementation.

We have considered the comments regarding the discussions section and the need for additional references in the text. We have now re-written parts of the discussion and added suitable references about similar eHealth solutions, design and eHealth literacy.

8) Please include a limitations and future research paragraph to your discussion.

Since the study limitations are provided in a section following the abstract and we have limited space, we chose only to add a section about future research to the discussion.

Referee 2:

Definitions of usability vary - but this definition is widely used. Typically, usability is before a digital tool is coded and the ePATH seems further along in development (see below from usability.gov). Rather this seems like an early pilot study to validate the usability and acceptability of the program.

Thank you. The first development process of ePATH was informed by interviews with patients (Schildmeijer et al. 2019). Next step was to convert the findings into a web-based support tool (ePATH), which was tested in the present study. The ePATH has been developed further both in a web-based format and as a mobile application.

more description and references for the FITT framework would be helpful in the background

Thank you for your suggestion. The reference we choose is the developer of the FITT framework and we consider it as an advantage to refer to the original source. We do not agree that other references will add valuable information. Instead, we have tried to expand the text and clarify the framework as described by Ammenworth et al. We also chose to keep both the original text and the more detailed information about the FITT framework in the Method section. If you feel our article loose in value because of this, we will change of course.

need more description of the team who conducted the coding and also more detail about the number of coders and processes for coding conference to address differing perspectives - see SRQR methods.

We agree and have now added more information about the coders.

The attached figures don't have headings

Thank you for noticing that headings of Figure 1 and 2 were missing. In the revised version of the text, headings are added.

## VERSION 2 – REVIEW

<b>REVIEWER</b>	Linda Fleisher Fox Chase Cancer Center USA
<b>REVIEW RETURNED</b>	10-Mar-2020

<b>GENERAL COMMENTS</b>	This is a very interesting paper focusing on user testing of an eHealth tool using the FITT framework. My main concern is that the interview occurred after 4 weeks of potential use of the tool, which is a major limitation and relies strictly on participants self-reported recollection not observation of the research team. I don't think this discounts the feedback, but needs to be addressed. Typically usability testing would be done in real time with both talk alouds and observation. There is also no data regarding the actual use of the tool during the 4 week period - how frequently did participants go to the site, how long did they stay on, how completely did they use the tool. These are important and may have influenced the feedback. In addition, a careful final edit would be needed. There are some typographical errors (missing letters, different fonts). Overall an important example of the value of user feedback and interesting analysis with the FITT framework.
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<b>REVIEWER</b>	Marc Saez University of Girona, Spain
<b>REVIEW RETURNED</b>	16-Feb-2020

<b>GENERAL COMMENTS</b>	The authors have responded quite well to the comments of all reviewers. In addition, they have incorporated much of them into the new version of the manuscript. I have no further comments.
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<b>REVIEWER</b>	Lauren Howard Duke Cancer Institute, USA
<b>REVIEW RETURNED</b>	20-Feb-2020

<b>GENERAL COMMENTS</b>	Nilsson et al. present a qualitative analysis of implementing a digital tool for patient communication, education, and evaluation after radical prostatectomy. This tool is very valuable and well-evaluated in this descriptive study. The authors have made appropriate changes in this revision.
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## VERSION 2 –RESPONSE

Referee 2:

This is a very interesting paper focusing on user testing of an eHealth tool using the FITT framework. My main concern is that the interview occurred after 4 weeks of potential use of the tool, which is a major limitation and relies strictly on participants self-reported recollection not observation of the research team. I don't think this discounts the feedback, but needs to be addressed. Typically usability

testing would be done in real time with both talk alouds and observation. There is also no data regarding the actual use of the tool during the 4 week period - how frequently did participants go to the site, how long did they stay on, how completely did they use the tool. These are important and may have influenced the feedback. In addition, a careful final edit would be needed.

There are some typographical errors (missing letters, different fonts).

Overall an important example of the value of user feedback and interesting analysis with the FITT framework.

Thank you for noticing the typographical errors. We have made corrections of the typographical errors. After the corrections were made, a second proofreading of the text has been conducted.

Thank you for your kind remark on the lack of clarity regarding the usability-testing period of ePATH. For four weeks, patients who agreed to participate in the study were encouraged to test the functions of ePATH. After four weeks, and after the time for testing, interviews were made. We have chosen not to focus on the frequency of use of the ePATH in this study. Instead patients' experiences when using a web-based application have been analyzed and presented in the text. To exclude the actual use of different modules in the web-based application may be a limitation of the study. We have addressed this in the limitation section.

#### VERSION 3 - REVIEW

<b>REVIEWER</b>	Linda Fleisher Fox Chase Cancer Center, USA
<b>REVIEW RETURNED</b>	03-May-2020

<b>GENERAL COMMENTS</b>	The authors have adequately addressed the concerns raised in the initial review including the addition of limitations, more clarity on the user testing process and final copy editing.
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