Author's response to reviews

Title: How residents and interns utilise and perceive the personal digital assistant and UpToDate

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Author's response to reviews: see over
Manuscript: How residents and interns utilise and perceive the personal digital assistant and UpToDate

Dear Dr Zauner,

Thank you for considering our manuscript. We truly appreciate the very constructive comments provided by the referees. We have addressed all these comments. Below is a point-by-point description of the changes made to the manuscript. We used italics and bold font for the referees’ original comments to improve visual clarity.

Referee 2

Overall this paper attempts to address a very important issue----which medical information resources (PDAs vs. UpToDate) are perceived as most useful by resident physicians. It also investigates the features of these two resources reported to be most useful and barriers to PDA use among other variables (PDA ownership, medical software used by PDA owners, time spent on UpToDate and PDAs). It uses a survey developed for another study by the same authors and samples resident physicians in one tertiary care hospital in 2004.

Major Compulsory Revisions
1. It is not appropriate to directly compare all users to determine relative usefulness of UpToDate and PDAs as there is varying levels of use of the two resources and installed programs on the PDAs. In the first place, the PDA is a hardware tool and UpToDate is a software program, so that comparison alone is simply not relevant. I think that the information could be better presented reporting use patterns among these two resources. If a comparison is to be made at all, it should probably be between PDA users who have reference software installed (e.g. at least one reference program) who also used UpToDate.

This is a very valid comment. We have now downplayed any direct comparisons between PDAs and UpToDate. Instead, we now emphasise the use patterns of the two resources up front. We have shifted the section on direct comparisons to the back of the results section, where we focus on doctors who are both PDA users with installed medical software and UpToDate users. In fact, we have even
changed the phrase “personal digital assistant versus UpToDate” in our title to “personal digital assistant and UpToDate”.

2. Another problem with this direct comparison as currently reported is that median use of the PDA is 0 hours. Therefore, it’s not surprising at all that respondents found UpToDate more useful as median use for that resource was 0.5 hours. Once again, reporting on the frequencies of use would be more helpful and perhaps isolating any direct comparisons between users who had actually used both resources.

We have now focused our attention on doctors who have used either or both resources. In addition, we now provide details on frequencies of use – not just duration of use. We have downplayed the general analysis of all 134 respondents, which we agree presents a skewed picture with a very short median duration of use.

3. Another major concern is the date of this survey. Many innovations in both PDAs and UpToDate have occurred over the past 3 years, so that the information simply may not be relevant at this point. If this survey could be updated it would certainly be more applicable to the current technologies that are available. That being said, if not, at least informing the readers of changes since 2004 would be important information.

We have now highlighted the innovations in both resources that have occurred since the time of our study in the section on limitations of our study.

4. Finally, although the survey response rate is high, comparing respondents to non-respondents would help to determine if a response bias was present. Additionally, more information on the available resources at this hospital is necessary (e.g. were PDAs purchased for all/some residents, what other online resources were used in this hospital setting, what is the computer literacy of respondents?).

Unfortunately, we do not have sufficient information on the non-respondents to determine if a response bias was present – we have now acknowledged this as a limitation of our study in the discussion. We have now provided the necessary information on the available resources at our hospital and the computer literacy of the respondents in the methods section as suggested.

**Minor Essential Revisions**

1. I would recommend not using the word “junior” doctors throughout the manuscript. Perhaps just stating that these are “resident” physicians or “physicians in training” or some other more widely acceptable term.

We have removed the term “junior doctors” accordingly.
2. Please update the references referred to in the second sentence of the “Background” section. You list only 3 references supporting the use of electronic resources to retrieve evidence and I’m certain there are more that can be provided.

We have added more references to this sentence.

3. In the background section, you state that UpToDate is not portable, however there are versions for Pocket PC and Palm, and it can conceivably be viewed on a portable device with a browser. I agree that it is not usually used in this manner, but clarifying this would be helpful.

We have now clarified this in both the background section and the discussion section.

Discretionary revisions
1. The following sentence: “The questionnaire captured information on who owned a PDA, the time spent using a PDA, how useful the doctors deemed the PDA was for acquiring medical knowledge, the medical software used by PDA owners, and doctors’ perceptions of the various functions and potential disadvantages of the PDA.” should be changed to: “The questionnaire captured information on PDA ownership, time spent using a PDA, usefulness of PDA for acquiring medical knowledge….”

We have made this change.

2. Since this is an online publication, there is the possibility of including your questionnaire as a link or appendix. I would recommend doing this and modifying the following language: “The questionnaire is available from us upon request. (Other sections in the questionnaire evaluated the use of other information resources, the results of which have previously been reported, and will not be discussed here.)” to this: “Other sections in the questionnaire (see Appendix or link) evaluated the use of other information resources which have been previously reported (citation to previous reports).”

We have now done this.

3. Please describe development of the survey. How were questions generated? Was it adapted from a previous survey somewhere? How was it validated?

Unfortunately, the survey was neither adapted from a previous survey (aside from being the same questionnaire as that used for our prior 2007 paper in the journal Medical Teacher) nor validated. We selected the questions with the aim of our study in mind. We have now listed this as a limitation of our study.
4. Consider modifying this sentence: “The bulk of the doctors were not enrolled in any specialty training programs, as many of them had only recently graduated from medical school, since specialty training only begins in residency and not internship in Singapore.” to this: “.....as many of them had only recently graduated from medical school. In Singapore, specialty training begins in residency (not internship).”

We have now done this.

5. Change this sentence: “One reason for the relatively small amount of time spent using the PDA was that not all but 54 doctors (40.3%) owned a PDA (43 residents and 11 interns)” to this: “One reason for the relatively small amount of time spent using the PDA was that only 54 doctors....”

We have now changed this.

6. Please add references referred to in this sentence: “Most previous studies have found a greater usage of PDAs and UpToDate among doctors.”

We have now added references to this.

7. Change this sentence: “This is despite most owners of PDAS using them....” to: “This is despite most owners of PDAs reporting use...”

We have now changed this.

8. In addition to providing subscriptions to PDA programmes as suggested in your discussion, it might also be helpful to provide technical support and installation of programmes.

We have now added this into the discussion.

9. The following statement: “As this suggests a lack of confidence or ability to integrate new...” should read: “This may reflect a lack of confidence or ability to integrate new...”

We have now modified this.

10. I would include the point that this is conducted in a tertiary care hospital as a limitation. For example, this may not be generalizable to community-based hospitals and residency training programmes.

We have now included this as a limitation of the study.
Referee 1

Major Compulsory Revisions:
(1) A major difficulty with this manuscript is that the comparison of physician use of and preference for PDAs versus Up To Date is misleading. A PDA is a handheld computer and Up To Date is a software application that may be accessed by a PDA. The brochure found at http://www.uptodate.com/img/ppc_broch.pdf describes PDA access to Up To Date. It might be helpful to reframe the comparison as one between certain specific software applications installed on PDAs used by physicians and Up To Date which might in the particular circumstances of the comparison only be available to the physicians on desktop computers.

This point is similar to Referee 2’s first point, and we agree with it. As alluded to above, we have modified the focus of the study and reframed the comparison accordingly.

(2) On page 6, the authors mention several statistical tests they made to compare groups of physicians, but later in the paper they report p-values without explicit reference to specific statistical tests. More explicit accounts of the data analysis are needed.

We have now made explicit reference to the specific statistical tests both in the results section and in Table 5.

(3) There are inconsistencies in the reported median hours per week physicians used Up To Date. On page 7, the median hours per week for use of Up To Date are reported as .5 hours. On page 9, the median hours per week for use of Up To Date are reported as 1 hour. On page 13, the median hours are reported as .5 hours, and in Figure 2 the median hours are reported as 1 hour.

The reason for this is that the 0.5 hours refers to the median value when all 134 respondents are considered, while the 1 hour refers to the median value when only the 76 users of UpToDate are considered. We hope the current text, figures 1 and 2, and Table 5 will help clarify matters. As mentioned above, we have also downplayed the median value of 0.5 hours since this includes non-users of UpToDate.

(4) There are inconsistencies in the reported median hours per week physicians used PDAs. On page 7, the median hours per week physicians used PDAs are reported as 0 hours. On page 8, the median hours are reported as .5 hours, on page 11 the median hours are reported as 0 hours, and on Figure 1 the median hours are reported as .5 hours.
Again, the reason for this is that the 0 hours refers to the median value when all 134 respondents are considered, while the 0.5 hours refers to the median value when only the 54 users of PDAs are considered. We hope the current text, figures 1 and 2, and Table 5 will help clarify matters. Again, we have downplayed the median value of 0 hours since this includes doctors who do not own PDAs.

**Minor Essential Revisions**

(5) Figures 1 and 2 are only partially described and referenced in the text. It would be helpful to have a more complete explanation of the Figures.

We have now made more references to the Figures in the results section.

To conclude, we have spared no efforts in answering every single comment. We will be glad to answer any further queries. Once again, we hope you will consider publishing our study.

Yours sincerely,

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