**Author’s response to reviews**

**Title:** Smartphone and Medical related App use among Medical students and Junior doctors: a multicentre regional survey

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Dear Editor

Please find below our responses to the reviewers comments. There were 4 areas requiring changes (Abstract methods and conclusion; a small section of the Background and the Limitations). Our amendments to the article are below and these have been inserted into the resubmitted article.

Abstract

The following Methods section has been added and the conclusions altered to address the reviewers point and to reduce the work count as a result of the added Methods wordage.

Methods

An online survey of medical student and foundation level junior doctor cohorts was undertaken within one United Kingdom healthcare region. Participants were asked whether they owned a Smartphone and if they used apps on their Smartphones to support their education and practice activities. Frequency of use and type of app used was also investigated. Open response questions explored participants’ views on apps that were desired or recommended and the characteristics of apps that were useful.

Conclusions

This study found a high level of smartphone ownership and usage among medical students and junior doctors. Both groups endorse the development of more apps to support their education and clinical practice.

Background

Within the healthcare population, the utilisation of smartphone and other mobile devices, such as the personal digital assistant (PDA) and handheld tablets, has the potential to have a positive impact upon patient care.
Limitations

This study focused on students and young doctors, both are groups which may be more ‘IT savvy’ and likely to use smartphone technology. Higher trainees and consultants were not questioned within this study. The chosen site for conducting this study comprised a large population fitting the inclusion criteria however the response rate was relatively low (15% and 21.8%, in student and doctor groups respectively), and limits the level to which these results can be generalised to other similar groups. The number of responses received is comparable to similar regional surveys of this kind [20]; in a published review of hand held device use by healthcare providers, the average response rate in 4 of the most up-to-date published studies was 27.6% [21], with one study using an online questionnaire (as in our study) obtaining an 11% response rate. Many study articles in this review did not report a response rate.

The increased likeliness of smartphone users to answer a survey related to smartphone use is noted as a definite source of non-response bias and voluntary response bias and using an online questionnaire may have contributed to this study design limitation. However the prevalence of smartphone ownership was only one objective of the survey and it does provide a snapshot at just one point in time providing a useful benchmark for future studies.

This survey was intentionally conducted during university term time to ensure a representative student response