Author’s response to reviews

Title: Use of handheld computers in clinical practice: a systematic review

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Version: 2
Date: 29 December 2013

Author’s response to reviews: see over
December 29, 2013

The Editor
BMC Medical Informatics and Decision Making

Dear Editor,

Please find attached our submission of an original systematic review titled “Use of handheld computers in clinical practice: a systematic review”.

Today’s health care professionals routinely use handheld computers (smartphones, tablets, etc) in practice. However, evidence for their effectiveness has been unclear. In October of 2013 we published a scoping review synthesizing systematic reviews on this topic providing a snapshot of evidence for effectiveness of handheld computers in supporting clinical practice. We identified evidence for effectiveness in four key functions: 1) timely access to information; 2) instant access to evidence-based decision support and patient management systems; 3) accurate and complete documentation; and 4) work practice efficiencies.

This systematic review we are submitting to BMC Medical Informatics and Decision Making deepens our investigation into the first two key functions. We have synthesized the best available evidence regarding effectiveness of handheld computers for accessing information and using clinical decision support tools. Our results are not only pleasantly surprising but highly relevant to medical and health care professionals, managers, and researchers. We found evidence that use of handheld computers improved healthcare professionals’ clinical knowledge, adherence to guidelines, and accuracy in diagnostic decision-making. Furthermore, the numbers needed to test/screen for included studies were all less than 10.

A shortcoming of the best available evidence on this topic is that all of the studies were conducted using the now obsolete personal digital assistant (PDA). However, we believe that our systematic review provides clear guidance for research and practice design and evaluation. Additionally, we believe that the review will impact how healthcare professionals learn about and use this technology. We have chosen BMC Medicine to publish this work because of its originality, broad relevance and potential significance for practice improvement.

This manuscript has been read and approved by all authors. All listed authors have contributed to preparing the manuscript and no other persons have contributed significantly to its preparation. The contents of this manuscript are our original work and have not been published, in whole or in part.

The study was completed without any independent funding. This manuscript is submitted together with 3 figures and an appendix.

Thank you for your time in reviewing this manuscript. Please contact me for any further information.

Yours sincerely,
Dr Sharon Mickan