



**TITLE:** Appropriate Use of Hand-Held Wireless Devices in Health Care Settings: Guidelines

**DATE:** 14 May 2014

## **RESEARCH QUESTION**

What are the evidence-based guidelines associated with the appropriate use of hand-held wireless devices for the delivery of patient care in a variety of health care settings?

## **KEY MESSAGE**

Four systematic reviews were identified regarding the use and effectiveness of hand-held wireless devices for the delivery of patient care in a variety of health care settings.

## **METHODS**

A limited literature search was conducted on key resources including PubMed, The Cochrane Library (2014, Issue 5), University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. Methodological filters were applied to limit retrieval to health technology assessments, systematic reviews, meta-analyses and guidelines. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2009 and May 7, 2014. Internet links were provided, where available.

The summary of findings was prepared from the abstracts of the relevant information. Please note that data contained in abstracts may not always be an accurate reflection of the data contained within the full article.

## **RESULTS**

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by evidence-based guidelines.

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Four systematic reviews were identified regarding the use and effectiveness of hand-held wireless devices for the delivery of patient care in a variety of health care settings. No health technology assessment reports, meta-analyses, or evidence-based guidelines were identified.

Additional references of potential interest are provided in the appendix.

## **OVERALL SUMMARY OF FINDINGS**

Four systematic reviews<sup>1-4</sup> were identified regarding the use and effectiveness of hand-held wireless devices for the delivery of patient care in a variety of clinical settings.

The use of mobile devices in general,<sup>3</sup> and personal digital assistants (PDAs) in particular,<sup>1</sup> was associated with increased accuracy and completeness of patient data collection. One systematic review<sup>1</sup> reported that the appropriateness of diagnoses improved with the use of PDAs, but the results of another systematic review<sup>2</sup> demonstrated that diagnoses made from mobile device-based photos were significantly less accurate compared with those made via traditional methods.

Wireless device use may offer some efficiencies and improvements in workflow management for health care workers<sup>1-4</sup> and improved clinical outcomes for patients;<sup>1</sup> however, there was insufficient evidence to conclude the extent of this effect<sup>4</sup> or to provide specific guidelines for their appropriate use.<sup>1</sup>

## REFERENCES SUMMARIZED

### Health Technology Assessments

No literature identified.

### Systematic Reviews and Meta-analyses

1. Divall P, Camosso-Stefinovic J, Baker R. The use of personal digital assistants in clinical decision making by health care professionals: a systematic review. *Health Informatics J*. 2013 Mar;19(1):16-28.  
[PubMed: PM23486823](#)
2. Free C, Phillips G, Watson L, Galli L, Felix L, Edwards P, et al. The effectiveness of mobile-health technologies to improve health care service delivery processes: a systematic review and meta-analysis. *PLoS Med* [Internet]. 2013 [cited 2014 May 9];10(1):e1001363. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3566926>  
[PubMed: PM23458994](#)
3. Mickan S, Tilson JK, Atherton H, Roberts NW, Heneghan C. Evidence of effectiveness of health care professionals using handheld computers: a scoping review of systematic reviews. *J Med Internet Res* [Internet]. 2013 [cited 2014 May 9];15(10):e212. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3841346>  
[PubMed: PM24165786](#)
4. Prgomet M, Georgiou A, Westbrook JI. The impact of mobile handheld technology on hospital physicians' work practices and patient care: a systematic review. *J Am Med Inform Assoc* [Internet]. 2009 Nov [cited 2014 May 9];16(6):792-801. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3002124>  
[PubMed: PM19717793](#)

### Guidelines and Recommendations

No literature identified.

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## APPENDIX – FURTHER INFORMATION:

### Systematic Reviews and Meta-analyses

#### *Patterns of Wireless Device Use in Health Care Delivery*

5. Braun R, Catalani C, Wimbush J, Israelski D. Community health workers and mobile technology: a systematic review of the literature. PLoS ONE [Internet]. 2013 [cited 2014 May 9];8(6):e65772. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3680423>  
PubMed: PM23776544

### Guidelines and Recommendations

#### *Position Statements and Best Practice Guidelines with Unclear Methodology*

6. Ramsberger G, Messamer P. Best practices for incorporating non-aphasia-specific apps into therapy. Semin Speech Lang. 2014 Feb;35(1):17-24.  
PubMed: PM24449462
7. Canadian Nurses Protective Society. Mobile healthcare apps. InfoLAW [Internet]. 2013 Dec [cited 2014 May 9];21(2). Available from: <http://www.cnps.ca/index.php?page=246>  
See: *Section on Current Best Practices for Mobile Healthcare Apps*
8. RCN guidance. Nursing staff using personal mobile phones for work purposes [Internet]. London: Royal College of Nurses; 2012 [cited 2014 May 9]. Available from: [http://www.rcn.org.uk/\\_data/assets/pdf\\_file/0009/472464/004259.pdf](http://www.rcn.org.uk/_data/assets/pdf_file/0009/472464/004259.pdf)

#### *Security and Confidentiality*

9. Mobile and remote access working security policy [Internet]. Nottingham (UK): Nottinghamshire Healthcare, NHS Trust; 2014 [cited 2014 May 9]. Available from: <http://www.nottinghamshirehealthcare.nhs.uk/EasySiteWeb/GatewayLink.aspx?allid=15003>
10. Canadian Nurses Protective Society. Mobile devices in the workplace. InfoLAW [Internet]. 2013 Nov [cited 2014 May 9];21(1). Available from: <http://www.cnps.ca/index.php?page=236>  
See: *Section on Consider Implementing the Following Precautions for the Security of Mobile Devices*
11. Policy on the use of mobile communication equipment in patient areas [Internet]. Bristol (UK): University Hospitals Bristol, NHS Foundation Trust; 2012 [cited 2014 May 9]. Available from: <http://www.uhbristol.nhs.uk/media/1529656/uhrbristolmobilephonepolicy.pdf>
12. ICT Directorate. Mobile phone device policy [Internet]. Version 2. Dublin (Ireland): Health Service Executive; 2010 [cited 2014 May 9]. Available from: [http://www.hse.ie/eng/services/Publications/pp/ict/Mobile\\_Phone\\_Device\\_Policy.pdf](http://www.hse.ie/eng/services/Publications/pp/ict/Mobile_Phone_Device_Policy.pdf)

13. Policy summary no. 6: wireless networking [Internet]. Vancouver: Office of the Chief Information Officer, Ministry of Citizens' Services, Province of British Columbia; 2010 [cited 2014 May 9]. Available from: [http://www.cio.gov.bc.ca/local/cio/informationsecurity/policy/summaries/6\\_wirelessnetworking.pdf](http://www.cio.gov.bc.ca/local/cio/informationsecurity/policy/summaries/6_wirelessnetworking.pdf)
14. Information technology acceptable use [Internet]. Edmonton: Alberta Health Services; 2009 [cited 2014 May 9]. Available from: <http://medicine.ucalgary.ca/files/med/IM-06-acceptable-use.pdf>

### Review Articles

15. Bert F, Giacometti M, Gualano MR, Siliquini R. Smartphones and health promotion: a review of the evidence. *J Med Syst.* 2014 Jan;38(1):9995.  
[PubMed: PM24346929](#)
16. Fitzner K, Moss G. Telehealth--an effective delivery method for diabetes self-management education? *Popul Health Manag.* 2013 Jun;16(3):169-77.  
[PubMed: PM23216062](#)

### Additional References

17. Doran DM, Haynes RB, Kushniruk A, Straus S, Grimshaw J, Hall LM, et al. Supporting evidence-based practice for nurses through information technologies. *Worldviews Evid Based Nurs.* 2010 Mar;7(1):4-15.  
[PubMed: PM20028493](#)  
*Security*
18. Prestigiacomo J. Policy plays catch up to mobile technology. *ONC, OCR discussion highlights gulf between real-world usage and security guidelines. Healthc Inform.* 2012 May;29(5):45-6.  
[PubMed: PM22655447](#)

### *Environmental Scan*

19. Looand-Stiver, L. Canadian hospital policies on wireless communication device use [Internet]. Ottawa: Canadian Agency for Drugs and Technologies in Health; 2011 [cited 2014 May 9]. (Environmental Scan; issue 31). Available from: <http://www.cadth.ca/en/products/environmental-scanning/environmental-scans/environmental-scan-31>