TITLE: Wearable Global Positioning System Tracking Device: Clinical Benefits and Harms

DATE: 18 December 2009

RESEARCH QUESTION:
What are the clinical benefits and harms for use of wearable global positioning system (GPS) tracking devices for patients in continuing care?

METHODS:
A limited literature search was conducted on key health technology assessment resources, including PubMed, the Cochrane Library (Issue 4, 2009), University of York Centre for Reviews and Dissemination (CRD) databases, ECRI, EuroScan, international health technology agencies, and a focused Internet search. The search was limited to English language articles published between 2004 and December 2009. No filters were applied to limit the retrieval by study type. 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:
HTIS 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 randomized controlled trials, controlled clinical trials, and observational studies.

One systematic review1 and four observational studies were identified.2-5 No relevant health technology assessment reports, randomized controlled trials, or controlled trials were identified regarding the clinical benefits and harms for use of wearable GPS tracking devices for patients in continuing care.

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OVERALL SUMMARY OF FINDINGS:

The systematic review assessed the effectiveness and acceptability of non-pharmacological interventions, including tracking and tagging devices, to reduce wandering in dementia. It reported that no robust evidence could be found for any intervention. The review also suggested that, although the tracking devices were acceptable to caregivers, there exist considerable ethical issues.¹

The first observational study highlighted the importance of involving end users in the design of tracking devices.² The second study showed evidence of the contrasting perceptions from caregivers on technology used in dementia care at home, where ethical issues might play a central role.³ Female family caregivers were more likely to appreciate the use of the devices than male family caregivers. The third study reported that elderly persons from a homecare setting viewed that tracking devices could help them to be mobile, supervised and safe. The elderly clients thought that position tracking was ethical but home care personnel did not agree.⁴ The fourth study reported the acceptability of the use of tracking devices for elderly with dementia through a survey of 11 users.⁵ However, it is unclear if the satisfaction expressed was reported by the end-users or by the caregivers.

No information was identified regarding the use of GPS tracking devices to decrease client’s risk, decrease the time to locate an individual once identified as lost, and improve caregiver quality of life. The ongoing assessment and monitoring information of the GPS tracking devices was also not identified.
REFERENCES SUMMARIZED:

Health technology assessments
No literature identified

Systematic reviews and meta-analyses


Randomized controlled trials
No literature identified

Controlled clinical trials
No literature identified

Observational studies


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APPENDIX – FURTHER INFORMATION:

Review articles


Additional references

