

# Best Evidence Summaries of Topics in Mental Healthcare

**BEST** *in* **MH** *clinical question-answering service*

## Question

“What is the cost benefit of assistive technology for adults with dementia in reducing wandering behaviour?”

## Clarification of question using PICO structure

*Patients:* In adults with dementia

*Intervention:* Assistive technology

*Comparator:* Any other intervention

*Outcome:* Reduction of wandering behaviour

## **Clinical and research implications**

One health technology assessment was identified which considered non-pharmacological interventions to prevent wandering in dementia. However, no evidence was found which evaluated the cost-effectiveness of assistive technologies for wandering behaviour. Limited literature was available on the potential costs of behavioural symptoms but not specifically regarding wandering.

### **What does the evidence say?**

*Number of included studies/reviews (number of participants)*

N/A

*Main Findings*

N/A

*Authors Conclusions*

N/A

*Reliability of conclusions/Strength of evidence*

N/A

### **What do guidelines say?**

Neither NICE nor SIGN guidelines do not discuss the use of assistive technology for wandering behaviour in dementia.

**Date question received:** 14/02/2014

**Date searches conducted:** 06/03/2014

**Date answer completed:**

## **References**

Robinson, L., Hutchings, D., Corner, L., Beyer, F., Dickinson, H., Vanoli, A., Finch, t., Hughes, J., Ballard, C., May, C. and bond, J. (2006) A systematic literature review of the effectiveness of non-pharmacological interventions to prevent wandering in dementia and evaluation of the ethical implications and acceptability of their use. *Health Technology Assessment* 10 (26).

## Results


### Systematic Reviews


Author (year)	Search Date	Inclusion criteria	Number of included studies	Summary of results	Risk of bias
Robinson et al. (2006)	31/03/2005	<p>P: People with acute or chronic cognitive impairment of any age who exhibited wandering behaviour. Studies were included if diagnostic criteria such as DSM-IV or ICD10, or equivalents, were rigorously applied or, less adequately, where a description of patient assessment clearly indicates the presence of acquired cognitive impairment.</p> <p>I: Non-pharmacological interventions (excluding subjective barriers) in the prevention of wandering.</p> <p>C: Usual care or sham therapy.</p> <p>O: Studies were included if they reported outcomes likely to be meaningful to those making decisions about interventions to prevent wandering in people with cognitive impairment, including; primary outcomes; any measure of wandering behaviour (e.g. number of wandering occurrences, number of attempted exits, number of successful exits, time until person found, distance wandered/unit time, time spent not wandering, wandering as measured by subscales of psychiatric behaviour scales).</p>	10		

**Risk of Bias: SRs**

Author (year)	Risk of Bias				
	Inclusion criteria	Searches	Review Process	Quality assessment	Synthesis
Robinson et al. (2006)					

 Low Risk

 High Risk

 Unclear Risk

## Search Details

Source	Search Strategy	Number of hits	Relevant evidence identified
<b><i>SRs and Guidelines</i></b>			
NICE	Assistive Technology AND dementia	11	0
DARE	<ol style="list-style-type: none"> <li>1 (technology) IN DARE</li> <li>2 (device) IN DARE</li> <li>3 (ict) IN DARE</li> <li>4 (assistive) IN DARE</li> <li>5 (orthotic) IN DARE</li> <li>6 (telecare) IN DARE</li> <li>7 (information adj communication* adj technology) IN DARE</li> <li>8 (electronic) IN DARE</li> <li>9 (prosthetic*) IN DARE</li> <li>10 (digit*) IN DARE</li> <li>11 MeSH DESCRIPTOR Biomedical Technology EXPLODE ALL TREES</li> <li>12 MeSH DESCRIPTOR Technology EXPLODE ALL TREES</li> <li>13 MeSH DESCRIPTOR Self-Help Devices EXPLODE ALL TREES</li> <li>14 (dementia) IN DARE</li> <li>15 (alzheimer*) IN DARE</li> <li>16 (lewy adj bod*) IN DARE</li> <li>17 (cognitive* adj2 impair*) IN DARE</li> <li>18 MeSH DESCRIPTOR Alzheimer Disease EXPLODE ALL TREES</li> <li>19 MeSH DESCRIPTOR Dementia EXPLODE ALL TREES MeSH DESCRIPTOR Delirium, Dementia, Amnestic, Cognitive Disorders EXPLODE ALL TREES</li> <li>21 MeSH DESCRIPTOR Mild Cognitive Impairment EXPLODE ALL TREES</li> </ol>	145	

	22 #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13		
	23 #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21		
	24 #22 AND #23		
<b>Primary studies</b>			
CENTRAL	#1 MeSH descriptor: [Dementia] explode all trees #2 dementia #3 alzheimer* #4 "lewy bodies" #5 #1 or #2 or #3 or #4 #6 MeSH descriptor: [Self-Help Devices] explode all trees #7 "assistive technolog*" #8 MeSH descriptor: [Cellular Phone] explode all trees #9 orthot* #10 prosthetic* #11 "moblie device" #12 electronic #13 digit* #14 alarm #15 #6 or #7 or #8 or #9 or #10 or #12 or #13 or #14 #16 #5 and #15 #17 MeSH descriptor: [Wandering Behavior] explode all trees #18 wander #19 disorientation #20 confusion #21 #17 or #18 or #19 or #20 #22 #16 and #21 Central only 1	1	
PsycINFO	1. PsycINFO; ALZHEIMER'S DISEASE/ OR exp DEMENTIA/; 51047 results. 2. PsycINFO; dement*.ti,ab; 44286 results. 3. PsycINFO; alzheimer*.ti,ab; 38641 results. 4. PsycINFO; (lewy* adj2 bod*).ti,ab; 2340 results.	5	

<p>5. PsycINFO; 1 OR 2 OR 3 OR 4; 67442 results.</p> <p>6. PsycINFO; ASSISTIVE TECHNOLOGY/; 811 results.</p> <p>7. PsycINFO; "assistive technolog*".ti,ab; 860 results.</p> <p>9. PsycINFO; ASSISTIVE DEVICES/ OR AUGMENTATIVE COMMUNICATION [+NT]/ OR MOBILITY AIDS/; 2674 results.</p> <p>10. PsycINFO; TECHNOLOGICAL INNOVATION/ OR TECHNOLOGY/ OR SCIENCES [+NT]/; 39438 results.</p> <p>11. PsycINFO; ("information communications technology" OR ICT).ti,ab; 1835 results.</p> <p>12. PsycINFO; orthot*.ti,ab; 206 results.</p> <p>13. PsycINFO; prosthetic*.ti,ab; 673 results.</p> <p>14. PsycINFO; device*.ti,ab; 22982 results.</p> <p>15. PsycINFO; "mobile device*".ti,ab; 610 results.</p> <p>16. PsycINFO; electronic.ti,ab; 14570 results.</p> <p>17. PsycINFO; digit*.ti,ab; 22328 results.</p> <p>18. PsycINFO; CELLULAR PHONES/ OR MOBILE DEVICES/; 2004 results.</p> <p>19. PsycINFO; 6 OR 7 OR 9 OR 10 OR 11 OR 12 OR 13 OR 14 OR 15 OR 16 OR 17 OR 18; 97152 results.</p> <p>20. PsycINFO; 5 AND 19; 1211 results.</p> <p>21. PsycINFO; WANDERING BEHAVIOR/ OR MENTAL CONFUSION/ OR PLACE DISORIENTATION/; 1011 results.</p> <p>22. PsycINFO; wander*.ti,ab; 1673 results.</p> <p>23. PsycINFO; "disordered thought*".ti,ab; 67 results.</p> <p>24. PsycINFO; 21 OR 22 OR 23; 2585 results.</p> <p>25. PsycINFO; 20 AND 24; 27 results.</p> <p>26. PsycINFO; CLINICAL TRIALS/; 7349 results.</p> <p>27. PsycINFO; random*.ti,ab; 126950 results.</p> <p>28. PsycINFO; groups.ti,ab; 361016 results.</p> <p>29. PsycINFO; (double adj3 blind).ti,ab; 17657 results.</p> <p>30. PsycINFO; (single adj3 blind).ti,ab; 1381 results.</p> <p>31. PsycINFO; EXPERIMENTAL DESIGN/; 8959 results.</p> <p>32. PsycINFO; controlled.ti,ab; 79049 results.</p>		
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	<p>33. PsycINFO; (clinical adj3 study).ti,ab; 7768 results.</p> <p>34. PsycINFO; trial.ti,ab; 66889 results.</p> <p>35. PsycINFO; "treatment outcome clinical trial".md; 26186 results.</p> <p>36. PsycINFO; 26 OR 27 OR 28 OR 29 OR 30 OR 31 OR 32 OR 33 OR 34 OR 35; 558256 results.</p> <p>37. PsycINFO; 25 AND 36; 5 results.</p> <p>38. PsycINFO; 37 [Limit to: Publication Year 2005-2014]; 5 results.</p>		
Embase	<p>26. EMBASE; ALZHEIMER'S DISEASE/ OR exp DEMENTIA/; 225022 results.</p> <p>27. EMBASE; dement*.ti,ab; 94561 results.</p> <p>28. EMBASE; alzheimer*.ti,ab; 116455 results.</p> <p>29. EMBASE; (lewy* adj2 bod*).ti,ab; 7989 results.</p> <p>30. EMBASE; 26 OR 27 OR 28 OR 29; 256665 results.</p> <p>31. EMBASE; ASSISTIVE TECHNOLOGY/; 715 results.</p> <p>32. EMBASE; "assistive technolog*".ti,ab; 1284 results.</p> <p>33. EMBASE; ASSISTIVE DEVICES/ OR AUGMENTATIVE COMMUNICATION [+NT]/ OR MOBILITY AIDS/; 240 results.</p> <p>34. EMBASE; TECHNOLOGICAL INNOVATION/ OR TECHNOLOGY/ OR SCIENCES [+NT]/; 65684 results.</p> <p>35. EMBASE; ("information communications technology" OR ICT).ti,ab; 3496 results.</p> <p>36. EMBASE; orthot*.ti,ab; 30561 results.</p> <p>37. EMBASE; prosthetic*.ti,ab; 45558 results.</p> <p>38. EMBASE; device*.ti,ab; 273720 results.</p> <p>39. EMBASE; "mobile device*".ti,ab; 731 results.</p> <p>40. EMBASE; electronic.ti,ab; 117443 results.</p> <p>41. EMBASE; digit*.ti,ab; 149721 results.</p> <p>42. EMBASE; CELLULAR PHONES/ OR MOBILE DEVICES/; 1 results.</p> <p>43. EMBASE; 31 OR 32 OR 33 OR 34 OR 35 OR 36 OR 37 OR 38 OR 39 OR 40 OR 41 OR 42; 653526 results.</p> <p>44. EMBASE; 30 AND 43; 4008 results.</p> <p>45. EMBASE; WANDERING BEHAVIOR/ OR MENTAL CONFUSION/ OR PLACE DISORIENTATION/; 171880 results.</p> <p>46. EMBASE; wander*.ti,ab; 3298 results.</p>	22	



	<p>47. EMBASE; "disordered thought*".ti,ab; 36 results.</p> <p>48. EMBASE; 45 OR 46 OR 47; 174953 results.</p> <p>49. EMBASE; 44 AND 48; 161 results.</p> <p>50. EMBASE; random*.ti,ab; 890099 results.</p> <p>51. EMBASE; factorial*.ti,ab; 23083 results.</p> <p>52. EMBASE; (crossover* OR cross-over*).ti,ab; 70225 results.</p> <p>53. EMBASE; placebo*.ti,ab; 203014 results.</p> <p>54. EMBASE; (doubl* ADJ blind*).ti,ab; 145155 results.</p> <p>55. EMBASE; (singl* ADJ blind*).ti,ab; 14518 results.</p> <p>56. EMBASE; assign*.ti,ab; 241537 results.</p> <p>57. EMBASE; allocat*.ti,ab; 83697 results.</p> <p>58. EMBASE; volunteer*.ti,ab; 179167 results.</p> <p>59. EMBASE; CROSSOVER PROCEDURE/; 40108 results.</p> <p>60. EMBASE; DOUBLE BLIND PROCEDURE/; 120876 results.</p> <p>61. EMBASE; RANDOMIZED CONTROLLED TRIAL/; 368808 results.</p> <p>62. EMBASE; SINGLE BLIND PROCEDURE/; 19116 results.</p> <p>63. EMBASE; 50 OR 51 OR 52 OR 53 OR 54 OR 55 OR 56 OR 57 OR 58 OR 59 OR 60 OR 61 OR 62; 1431463 results.</p> <p>64. EMBASE; 49 AND 63; 28 results.</p> <p>65. EMBASE; 64 [Limit to: Publication Year 2005-2014]; 22 results.</p> <p>66. EMBASE; 64 [Limit to: Publication Year 2005-2014]; 22 results.</p>		
Medline	<p>26. MEDLINE; ALZHEIMER'S DISEASE/ OR exp DEMENTIA/; 117207 results.</p> <p>27. MEDLINE; dement*.ti,ab; 69313 results.</p> <p>28. MEDLINE; alzheimer*.ti,ab; 88866 results.</p> <p>29. MEDLINE; (lewy* adj2 bod*).ti,ab; 5912 results.</p> <p>30. MEDLINE; 26 OR 27 OR 28 OR 29; 165150 results.</p> <p>31. MEDLINE; ASSISTIVE TECHNOLOGY/; 3371 results.</p> <p>32. MEDLINE; "assistive technolog*".ti,ab; 879 results.</p> <p>33. MEDLINE; ASSISTIVE DEVICES/ OR AUGMENTATIVE COMMUNICATION [+NT]/ OR MOBILITY AIDS/; 3371 results.</p>	6	

	<p>34. MEDLINE; TECHNOLOGICAL INNOVATION/ OR TECHNOLOGY/ OR SCIENCES [+NT]/; 21361 results.</p> <p>35. MEDLINE; ("information communications technology" OR ICT).ti,ab; 2601 results.</p> <p>36. MEDLINE; orthot*.ti,ab; 23108 results.</p> <p>37. MEDLINE; prosthetic*.ti,ab; 39549 results.</p> <p>38. MEDLINE; device*.ti,ab; 226986 results.</p> <p>39. MEDLINE; "mobile device*".ti,ab; 598 results.</p> <p>40. MEDLINE; electronic.ti,ab; 108632 results.</p> <p>41. MEDLINE; digit*.ti,ab; 127615 results.</p> <p>42. MEDLINE; CELLULAR PHONES/ OR MOBILE DEVICES/; 4124 results.</p> <p>43. MEDLINE; 31 OR 32 OR 33 OR 34 OR 35 OR 36 OR 37 OR 38 OR 39 OR 40 OR 41 OR 42; 532148 results.</p> <p>44. MEDLINE; 30 AND 43; 1963 results.</p> <p>45. MEDLINE; WANDERING BEHAVIOR/ OR MENTAL CONFUSION/ OR PLACE DISORIENTATION/; 70 results.</p> <p>46. MEDLINE; wander*.ti,ab; 2917 results.</p> <p>47. MEDLINE; "disordered thought*".ti,ab; 30 results.</p> <p>48. MEDLINE; 45 OR 46 OR 47; 2974 results.</p> <p>49. MEDLINE; 44 AND 48; 35 results.</p> <p>50. MEDLINE; "randomized controlled trial".pt; 366900 results.</p> <p>51. MEDLINE; "controlled clinical trial".pt; 87837 results.</p> <p>52. MEDLINE; randomized.ab; 286635 results.</p> <p>53. MEDLINE; placebo.ab; 151364 results.</p> <p>54. MEDLINE; "drug therapy".fs; 1674296 results.</p> <p>55. MEDLINE; randomly.ab; 207950 results.</p> <p>56. MEDLINE; trial.ab; 296869 results.</p> <p>57. MEDLINE; groups.ab; 1327745 results.</p> <p>58. MEDLINE; 50 OR 51 OR 52 OR 53 OR 54 OR 55 OR 56 OR 57; 3279217 results.</p> <p>59. MEDLINE; 49 AND 58; 8 results.</p> <p>60. MEDLINE; 59 [Limit to: Publication Year 2005-2014]; 6 results.</p>		
<b>Summary</b>	<b>NA</b>	<b>NA</b>	

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