

Best Evidence Summaries of Topics in Mental Healthcare

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

Question

In older adults with dementia, what is the effect of admission to nursing home care comparison to continued care at home, upon life expectancy?

Clarification of question using PICO structure

Patients: Older adults with dementia

Intervention: Admission to nursing home care

Comparator: Continued care at home

Outcome: Improved life expectancy

Clinical and research implications

No definite clinical implications can be made from the available evidence. Some observational data does suggest that there are no significant differences in mortality rates for *Alzheimer's patients* who stay at home compared to those who are placed in a nursing home. These results, however, need to be confirmed by additional high-quality studies.

One observational study conducted in patients with *fronto-temporal lobar degeneration* found that mortality risk was significantly higher in patients admitted to a nursing home. In order to explain these differences, the authors suggested that future studies will have to evaluate reasons for nursing home admissions, taking into consideration behavioural disturbances and somatic illnesses, as well as the need for care. In addition, the circumstances leading to death in institutions should be compared with those in a domestic setting.

What does the evidence say?

Number of included studies/reviews (number of participants)

Three observational studies met the inclusion criteria for this BEST summary.

Main Findings

One prospective longitudinal study of 144 patients with fronto-temporal lobar degeneration reported that the mortality risk for patients who were admitted to a nursing home was 4 (since diagnosis) to 5 (since onset of symptoms) times higher than those who were cared at home (Diehl-Schmid et al. 2012). This study was conducted in Germany.

Another prospective longitudinal study conducted in Korea evaluated 252 patients with Alzheimer's disease (AD). The authors found that there was no significant difference in AD mortality rates between patients who continued to be cared for at home and AD patients who were in a nursing home. Another observational study also found that longevity of AD patients cared for at home did not differ from that of AD patients who entered a nursing home. (Peterson et al. 2008). This latter study was conducted in 890 patients living in the United States.

Authors Conclusions

The study by Diehl-Schmid et al. (2012) did not make any conclusions based on the mortality rates observed. The authors hypothesised that the increased risk in nursing homes may be partly due to the fact that patients are mainly committed to a nursing home when they are in bad physical condition, and when the families are no longer in a position to support them.

In contrast, the authors of both studies conducted in Alzheimer's Disease patients concluded there was no difference in AD mortality rates by type of care, and that families, and nurses counselling families, should not feel that they are curtailing life by placing an AD patient in a nursing home.

Reliability of conclusions/Strength of evidence

All of the observational studies were well-conducted. Although randomised controlled trials would be inappropriate for this research question, observational studies are prone to some degree of bias.

What do guidelines say?

'As far as possible, dementia care services should be community-based, but psychiatric inpatient admission may be considered in certain circumstances, including if: the person with dementia is severely disturbed and needs to be contained for his or her own health and safety and/or the safety of others (in some cases, this might include those liable to be detained under the Mental Health Act 1983) assessment in a community setting is not possible, for example if a person with dementia has complex physical and psychiatric problems.' (NICE CG42, pp.41).

Date question received: 23/01/2013

Date searches conducted: 23/01/2013

Date answer completed: 01/02/2013

References

Guidelines

National Institute for Health and Clinical Excellence (2006, amended 2011) Dementia: supporting people with dementia and their carers in health and social care. CG42. London: National Institute for Health and Clinical Excellence. <http://www.nice.org.uk/nicemedia/live/10998/30318/30318.pdf>

Primary Studies

Diehl-Schmid, J., Last, D., Schuster, T., Forstl, H., Scheider-Schelte, H. and Kurz, A. (2012) Health Care Utilization in Frontotemporal Lobar Degeneration. *Alzheimer Dis Assoc Disord* 26 (2) pp. 166-170.

Peterson, BL., Fillenbaum, GG., Peiper, CF. and Heyman, A. (2008) Home or Nursing Home: does Place of Residence Affect Longevity in Patients With Alzheimer's Disease? The Experience of CERAD Patients. *Public Health Nursing* 25 (5) pp. 490-497.

Suh, G-H., Yeon, B.Y., Shah, A. and Lee, J-Y. (2005) Mortality in Alzheimer's disease: a comparative prospective Korean study in the community and nursing homes. *International journal of Geriatric Psychiatry* 20, pp. 26-34.



















Results
Non-RCTs


Author (year)	Inclusion criteria	Number of participants	Summary of results	Risk of bias
Diehl-Schmid et al. (2012)	<p><i>Patients:</i> Patients with fronto-temporal lobar degeneration (FTLD) all of whom had been consecutively referred to a memory clinic between 1998 and 2008.</p> <p><i>Intervention:</i> Patients cared for at home.</p> <p><i>Comparison:</i> Patients in a nursing home.</p> <p><i>Outcome:</i> To find out how patients with FTLD are cared for, to which extent family caregivers utilize professional support, which medical treatment patients receive, and mortality rates.</p>	N=144	<p>Informant interviews were available on 124 (86.1%) of the patients who had been initially diagnosed with FTLD. 57% of the patients lived at home.</p> <p>The mortality risk for patients who were admitted to a nursing home was 4 (since diagnosis) to 5 (since onset of symptoms) times higher than those who were cared at home. HR since diagnosis: 3.78 (95% CI 1.88, 7.56), $p < 0.001$; HR since onset of symptoms: 4.94 (95% CI 2.46, 9.95), $p < 0.001$). The HRs were adjusted for MMSE, sex, age onset, education, and the Clinical Dementia Rating.</p>	Well-conducted study, but this observational study design has inherent bias
Peterson et al. (2008)	<p><i>Patient:</i> White Alzheimer's dementia patients enrolled in the Consortium to Establish a Registry for Alzheimer's Disease (CERAD) between 1986 and 1995, aged 50–93 years.</p> <p><i>Intervention:</i> AD patients cared for at home.</p> <p><i>Comparison:</i> AD patients in a nursing home or tertiary care medical centres.</p> <p><i>Outcome:</i> To determine whether placement in a nursing home reduces remaining years of life.</p>	N=890	<p>After controlling for gender, marital status, education, region of country, age and Clinical Dementia Rating (CDR) stage at landmark*, the survival hazard ratio (HR) was 1.06 (95% confidence interval [CI] 0.75–1.51; $p = 0.74$) indicating a slightly greater, but non-significant, survival hazard for those in the nursing home compared to those not in a nursing home.</p> <p>For all patients entering a nursing home, median time to death was 3.3 years (95% CI: 2.8–3.9) after nursing home admission.</p>	Well-conducted study, but this observational study design has inherent bias


			*the landmark approach is designed to avoid statistical bias caused by not measuring outcomes from the same starting point. One year after entry into a registry database (CERAD) was used as the landmark date for determining whether or not a patient was in a nursing home.	
Suh et al. (2005)	<p><i>Patients:</i> Alzheimer's dementia (AD) subjects from the ongoing Dementia Patient Registry in the community cohort of Asan city, Korea, or AD patients residing at a semi-hospitalized long-term care (nursing home) in Seoul; ≥ 50 years.</p> <p><i>Intervention:</i> Patients who continued to be cared for at home</p> <p><i>Comparison:</i> Patients in the nursing home. Controlled for age, group (nursing home or community), severity of dementia, Mini-Mental State Examination (MMSE) score and vascular risk factors, Global Deterioration Scale (GDS) stage, longer duration of AD, presence of tactile hallucination, wandering and depression.</p> <p><i>Outcome:</i> Mortality rates and to investigate the predictors of mortality in AD.</p>	N= 252	<p>After one-year follow-up, 22 out of 107 subjects in the community-based cohort (mortality rate: 20.6%) and 25 out of 145 subjects in the nursing home cohort (mortality rate: 17.2%) died. Mortality rate in the community-based cohort was higher than that in the nursing home cohort. However, they were not statistically significantly different ($p = 0.094$). Overall one-year mortality rate in AD for both groups was 18.7%.</p> <p>After controlling for age, group (nursing home or community), severity of dementia, Mini-Mental State Examination (MMSE) score and vascular risk factors, the following variables were independent predictors of mortality in AD: advanced age [risk ratio (RR) 1.06; 95% confidence interval (CI) 1.04-1.09], advanced Global Deterioration Scale (GDS) stage (RR 1.98; 95% CI 1.41-2.77), longer duration of AD (RR 1.07; 95% CI 1.04-1.10), presence of tactile hallucination (RR 1.74; 95% CI 1.08-2.78), wandering (RR 1.89; 95% CI 1.18-3.02) and depression (RR 1.07; 95% CI 1.02-1.10).</p>	Well-conducted study, but this observational study design has inherent bias


Risk of Bias:

Non-RCTs

Study	RISK OF BIAS					
	Aims and objectives clearly stated?	Is the study design appropriate?	Adequate description of groups?	Objective and reliable measures?	Power calculation/ justification of numbers?	Appropriate statistical analysis?
Diehl-Schmid 2012						
Peterson 2008						
Suh 2005						

 Low Risk

 High Risk

 Unclear Risk

Search Details

Source	Search Strategy	Number of hits	Relevant evidence identified
<i>SRs and Guidelines</i>			
NICE	Dementia Hospital admission Home care	828	1
DARE	(dement*) IN DARE 437 2 (resident* ADJ2 care) IN DARE 72 3 (nursing ADJ2 home) IN DARE 113 4 (hospital ADJ2 admission) IN DARE 234 5 (hospitali*) IN DARE 1114 6 (inpatient) IN DARE 161 7 (rehabilitation*) IN DARE 1311 8 (home ADJ2 based) IN DARE 156 9 (hospital ADJ3 home) IN DARE 85 10 (community ADJ3 based) IN DARE 276 11 (home ADJ3 based) IN DARE 166 12 (home ADJ3 hospital*) IN DARE 84 13 (home ADJ3 care) IN DARE 214 14 MeSH DESCRIPTOR Alzheimer Disease EXPLODE ALL TREES 220 15 MeSH DESCRIPTOR Dementia EXPLODE ALL TREES 393 16 MeSH DESCRIPTOR Dementia, Multi-Infarct EXPLODE ALL TREES 0 17 MeSH DESCRIPTOR Dementia, Vascular EXPLODE ALL TREES 16 18 MeSH DESCRIPTOR Frontotemporal Dementia		

	<p>EXPLODE ALL TREES 0 19 MeSH DESCRIPTOR Lewy Body Disease EXPLODE ALL TREES 2 20 MeSH DESCRIPTOR Residential Facilities EXPLODE ALL TREES 163 21 MeSH DESCRIPTOR Residential Treatment EXPLODE ALL TREES 12 22 MeSH DESCRIPTOR Home Care Services, Hospital-Based EXPLODE ALL TREES 60 23 MeSH DESCRIPTOR Inpatients EXPLODE ALL TREES 113 24 MeSH DESCRIPTOR Nursing Homes EXPLODE ALL TREES 125 25 MeSH DESCRIPTOR Home Nursing EXPLODE ALL TREES 53 26 #1 OR #7 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 1942 27 #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #20 OR #21 OR #23 OR #24 2915 28 #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #22 OR #25 714 29 #26 AND #27 AND #28</p>		
Primary studies			
PsycINFO	<p>12. PsycINFO; COMMUNITY SERVICES/; 11337 results. 13. PsycINFO; "informal care".ti,ab; 540 results. 14. PsycINFO; "community care".ti,ab; 1838 results. 15. PsycINFO; HOME CARE/; 4116 results. 16. PsycINFO; "home based care".ti,ab; 193 results. 17. PsycINFO; "own home".ti,ab; 397 results. 18. PsycINFO; "at home".ti,ab; 13688 results. 19. PsycINFO; 12 OR 13 OR 14 OR 15 OR 16 OR 17 OR</p>	38	

	<p>18; 30284 results.</p> <p>20. PsycINFO; "nursing home*".ti,ab; 8067 results.</p> <p>21. PsycINFO; "residential care".ti,ab; 2034 results.</p> <p>22. PsycINFO; NURSING HOMES/; 6171 results.</p> <p>23. PsycINFO; RESIDENTIAL CARE INSTITUTIONS/; 7941 results.</p> <p>24. PsycINFO; 20 OR 21 OR 22 OR 23; 17124 results.</p> <p>25. PsycINFO; dementia.ti,ab; 38474 results.</p> <p>26. PsycINFO; alzheimer*.ti,ab; 35008 results.</p> <p>27. PsycINFO; exp DEMENTIA/; 46795 results.</p> <p>28. PsycINFO; ALZHEIMER'S DISEASE/; 28166 results.</p> <p>29. PsycINFO; 25 OR 26 OR 27 OR 28; 60331 results.</p> <p>30. PsycINFO; LIFE EXPECTANCY/; 1951 results.</p> <p>31. PsycINFO; "life expectancy".ti,ab; 2187 results.</p> <p>32. PsycINFO; DEATH AND DYING/; 20367 results.</p> <p>33. PsycINFO; mortality.ti,ab; 21214 results.</p> <p>34. PsycINFO; survival.ti,ab; 22529 results.</p> <p>35. PsycINFO; (dying OR death).ti,ab; 54689 results.</p> <p>36. PsycINFO; 30 OR 31 OR 32 OR 33 OR 34 OR 35; 94353 results.</p> <p>37. PsycINFO; 19 AND 24 AND 29 AND 36; 38 results.</p>		
EMBASE	<p>38. EMBASE; COMMUNITY CARE/; 45061 results.</p> <p>39. EMBASE; "informal care".ti,ab; 953 results.</p> <p>40. EMBASE; "community care".ti,ab; 3485 results.</p> <p>41. EMBASE; HOME CARE/; 44373 results.</p> <p>42. EMBASE; "home based care".ti,ab; 438 results.</p> <p>43. EMBASE; "own home".ti,ab; 860 results.</p> <p>44. EMBASE; "at home".ti,ab; 36023 results.</p> <p>45. EMBASE; 38 OR 39 OR 40 OR 41 OR 42 OR 43 OR 44; 119433 results.</p> <p>46. EMBASE; "nursing home*".ti,ab; 24341 results.</p> <p>47. EMBASE; "residential care".ti,ab; 2141 results.</p> <p>48. EMBASE; NURSING HOMES/; 36180 results.</p>	119	

	<p>49. EMBASE; RESIDENTIAL CARE/; 9129 results.</p> <p>50. EMBASE; 46 OR 47 OR 48 OR 49; 51480 results.</p> <p>51. EMBASE; dementia.ti,ab; 78845 results.</p> <p>52. EMBASE; alzheimer*.ti,ab; 104308 results.</p> <p>53. EMBASE; exp DEMENTIA/; 202996 results.</p> <p>54. EMBASE; ALZHEIMER'S DISEASE/; 111185 results.</p> <p>55. EMBASE; 51 OR 52 OR 53 OR 54; 227212 results.</p> <p>56. EMBASE; LIFE EXPECTANCY/; 26271 results.</p> <p>57. EMBASE; "life expectancy".ti,ab; 21471 results.</p> <p>58. EMBASE; EMBASE; DEATH/; 108335 results.</p> <p>59. EMBASE; mortality.ti,ab; 524804 results.</p> <p>60. EMBASE; survival.ti,ab; 662909 results.</p> <p>61. EMBASE; (dying OR death).ti,ab; 533816 results.</p> <p>62. EMBASE; 56 OR 57 OR 58 OR 59 OR 60 OR 61; 1516010 results.</p> <p>63. EMBASE; 45 AND 50 AND 55 AND 62; 119 results.</p>		
MEDLINE	<p>27. MEDLINE; COMMUNITY SERVICES/; 7677 results.</p> <p>28. MEDLINE; "informal care".ti,ab; 777 results.</p> <p>29. MEDLINE; "community care".ti,ab; 2951 results.</p> <p>30. MEDLINE; HOME CARE/; 26348 results.</p> <p>31. MEDLINE; "home based care".ti,ab; 392 results.</p> <p>32. MEDLINE; "own home".ti,ab; 648 results.</p> <p>33. MEDLINE; "at home".ti,ab; 28530 results.</p> <p>34. MEDLINE; 27 OR 28 OR 29 OR 30 OR 31 OR 32 OR 33; 62992 results.</p> <p>35. MEDLINE; "nursing home*".ti,ab; 20285 results.</p> <p>36. MEDLINE; "residential care".ti,ab; 1742 results.</p> <p>37. MEDLINE; NURSING HOMES/; 26764 results.</p> <p>38. MEDLINE; RESIDENTIAL FACILITIES/ OR HOMES FOR THE AGED/; 14680 results.</p> <p>39. MEDLINE; 35 OR 36 OR 37 OR 38; 42328 results.</p>	56	

	40. MEDLINE; dementia.ti,ab; 58239 results. 41. MEDLINE; alzheimer*.ti,ab; 79473 results. 42. MEDLINE; exp DEMENTIA/; 107792 results. 43. MEDLINE; ALZHEIMER'S DISEASE/; 60186 results. 44. MEDLINE; 40 OR 41 OR 42 OR 43; 146522 results. 45. MEDLINE; LIFE EXPECTANCY/; 12935 results. 46. MEDLINE; "life expectancy".ti,ab; 17020 results. 47. MEDLINE; MORTALITY/; 32371 results. 48. MEDLINE; mortality.ti,ab; 408951 results. 49. MEDLINE; survival.ti,ab; 520731 results. 50. MEDLINE; (dying OR death).ti,ab; 428449 results. 51. MEDLINE; 45 OR 46 OR 47 OR 48 OR 49 OR 50; 1187799 results. 52. MEDLINE; 34 AND 39 AND 44 AND 51; 56 results.		
Summary	NA	NA	

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