

Botilbud til mennesker med demens

Notat fra Kunnskapssenteret
Systematisk litteratursøk med sortering
Desember 2014

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Desember 2014

 kunnskapssenteret

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Nasjonalt kunnskapssenter for helsetjenesten fremskaffer og formidler kunnskap om effekt av metoder, virkemidler og tiltak og om kvalitet innen alle deler av helsetjenesten. Målet er å bidra til gode beslutninger slik at brukerne får best mulig helsetjenester. Kunnskapssenteret er formelt et forvaltningsorgan under Helsedirektoratet, men har ingen myndighetsfunksjoner og kan ikke instrueres i faglige spørsmål.

Nasjonalt kunnskapssenter for helsetjenesten
Oslo, desember 2014

Hovedfunn

Nasjonalt kunnskapssenter for helsetjenesten oppsummerte i 2009 tilgjengelig forskning vedrørende effekt av Botilbud til mennesker med demens (1).

Kunnskapssenteret ble bedt av Helsedirektoratet om å oppdatere rapporten fra 2009 ved å søke etter nyere relevante publikasjoner.

Vi oppdaterte det systematiske litteratursøket fra vår forrige rapport, og søket ble avgrenset til systematiske oversikter. Søket ble utført i november 2014 og det ble søkt i flere medisinske databaser. To personer gikk uavhengig av hverandre gjennom identifiserte referanser og vurderte relevans i forhold til inklusjonskriteriene. Vi identifiserte totalt 476 nye referanser i litteratursøket. Av disse fant vi seks mulige relevante oversiktsartikler. Fem av de seks var publisert i 2014, den siste var fra 2013. Tematisk fordelte de seg slik:

- To oversikter om effekt av tiltak for bedre utendørsmiljø og bruk av hage (2, 3),
- En oversikt om effekt av teknologisk støtte (4) og
- Tre oversikter om effekt av tiltak for å forebygge fall og tiltak for et støttende bomiljø (5-7).

Oversiktene vi fant ble ikke lest i fulltekst. Dokumentasjonen i oversiktene er ikke oppsummert eller kvalitetsvurdert av Kunnskapssenteret.

Tittel:

Botilbud til mennesker med demens – systematisk litteratursøk med sortert referanseliste

Publikasjonstype:

Systematisk litteratursøk med sortering

Systematisk litteratursøk med sortering er resultatet av å
- søke etter relevant litteratur ifølge en søkestrategi og utarbeide en sortert referanseliste

Svarer ikke på alt:

- Ingen helseøkonomiske vurderinger
- Ingen anbefalinger

Hvem står bak denne publikasjonen?

Kunnskapssenteret har gjennomført oppdraget etter forespørsel fra Helsedirektoratet

Når ble litteratursøket utført?

Søk etter studier ble avsluttet i november 2014.

Key messages

The Ministry of Health commissioned the National Knowledge Center for The Health Care Services to review the available evidence on the physical environment for people with dementia. This work was published in 2009, report number 11 (1).

The Norwegian Directorate of Health asked us to update the report. We have performed a literature search to find potential new and relevant systematic reviews. We updated the previous systematic literature search and searched several relevant medical databases. The search was performed in November 2014. Thereafter, two persons independently read through all the titles and abstracts to find potential new reviews that met the pre-defined inclusion criteria. We read 476 references from the literature search and included six potentially relevant reviews. Five out of six articles were published in 2014, one was from 2013. Themes were:

- Outdoor and gardening (2, 3)
- Assistive technology (4)
- Fallprevention and supportive environment (5-7).

The reviews was not read in full text nor was the documentation critically appraised.

Title:

The physical environment for people with dementia – systematic literature search

Type of publication:

Systematic reference list

A systematic reference list is the result of a search for relevant literature according to a specific search strategy.

Doesn't answer everything:

- No economic evaluations
 - No recommendations
-

Publisher:

Norwegian Knowledge Centre for the Health Services

Updated:

Last search for studies: November 2014.

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Forord

Helsedirektoratet ba Nasjonalt kunnskapssenter for helsetjenesten om å oppdatere en rapport fra 2009 (1). Vi begrenset oss til å søke etter nyere systematiske oversikter. Oppdateringen inngår i arbeidet med den nye nasjonale veilederen om behandling av personer med demens.

Prosjektgruppen har bestått av:

- Therese Kristine Dalsbø, seniorrådgiver,
- Ingvild Kirkehei, forskningsbibliotekar og
- Kristin Thuve Dahm, forsker

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Avdelingsdirektør

Liv Merete Reinar
Seksjonsleder

Therese Kristine Dalsbø
Prosjektleder

Innledning

Nasjonalt kunnskapssenter for helsetjenesten oppsummerte i 2011 tilgjengelig forskning vedrørende effekt av tiltak for pårørende til hjemmeboende personer med demens (1). Hovedfunnene var presentert på side fire i rapporten slik:

«Studiene viste at forhold i fysiske omgivelser har vist bedring for personer med demens på fire hovedområder: nivå på dagligfunksjoner, adferdsforstyrrelser, positiv adferd og livskvalitet. Dokumentasjon taler for at små, tilrettelagte enheter med hjemlig miljø og lavere beboertetthet har gunstig effekt på personer med demens.

Enkel utforming fremmet rom- og stedssans. Korte korridorer med få veivalg, grupper av rom med tilknyttede fellesarealer. Det ble ikke funnet effekt av skilting og fargekoder, fallforebygging eller subjektive barrierer, avhengig av grad av kognitiv svikt. Nøytral design og farger ga færre katastrofereaksjoner og lavere medikamentbruk. Overordnet bygningskonfigurasjon kan svekke orienteringsevne. Særpreget på hvert rom, kortere korridorer, rolige omgivelser og få avslutningspunkter lettet orienteringsevne. Romsans og fremkommelighet er bedre i mindre enheter med tilknyttede fellesrom.

Visuell modifisering og tilrettelegging kan omdirigere vandrere til trygge områder. Det foreligger noe evidens for å kamouflere utgangsdør eller håndtak mot utgang.

Høyere omgivelseslys hadde en beskjeden effekt på økning av søvnlengde, reduserte adferdsavvik og fremmet orienteringsevne. Enerom med muligheten for personlig og hjemlig preg, eiendeler og innredning ga mindre psykiske symptomer. Toalett som var lett tilgjengelig (synlig, åpen dør, nær soverom eller oppholdsrom) førte til økt bruk blant beboere med demens. Det er ikke vist at fysiske omgivelser påvirker progresjon av demens. Formålmessig bygd fysisk miljø har positiv effekt på livskvalitet».

Kunnskapssenteret ble bedt av Helsedirektoratet om å oppdatere rapporten fra 2009 ved å søke etter nyere relevante publikasjoner. Vi har valgt å gjøre oppdateringen ved å søke etter nyere systematiske oversikter. Vi har ikke kvalitetsvurdert

oversiktene og resultatene er ikke sammenstilt og diskutert. Oppdateringen inngår i arbeidet med den nye nasjonale veilederen om behandling av personer med demens.

I rapporten fra Kunnskapscenteret fra 2009 (søk utført i januar 2009) ble det søkt etter både systematiske oversikter og nyere enkeltstudier. Vi har gjort ett oppdatert søk etter systematiske oversikter publisert fra og med 2009.

Problemstilling

Hensikten var å oppdatere søket i rapporten fra 2009 som tok sikte på å oppsummere forskningsbasert kunnskap om botilbud for personer med demens.

Hovedspørsmål var:

- Hvordan bør botilbudet konkret utformes for personer med demens når disse ikke lenger er i stand til å ta vare på seg selv?

Delspørsmål var:

- Hvilke generelle trekk i arkitektur og design har best effekt for personer med demens?
- Hvordan bør bomiljø utformes for å tilrettelegge for personer med demens?
- Hvilken effekt har enkeltelementer i inne- og utemiljø på personer med demens?
- Hvordan bør boligrommene utformes for personer med demens når disse ikke lenger er i stand til å ta vare på seg selv?

Metode

Litteratursøking

Vi søkte systematisk etter litteratur i følgende databaser:

- Embase
- MEDLINE
- PsycINFO
- Cochrane Database of Systematic Reviews
- Database of Abstracts of Reviews of Effects (DARE)
- Health Technology Assessment Database (HTA)
- ISI Web of Science
- Cinahl
- PubMed

Forskningsbibliotekar Ingvild Kirkehei planla og utførte samtlige søk. Søket ble utført i november 2014. Vi brukte søkestrategiene fra søket som ble utført i 2009, og gjorde noen endringer i søkeord. Søket bestod av emneord og tekstord for demens eller kognitiv svikt kombinert med ulike søkeord for «utforming av bolig». Søket ble videre avgrenset til systematiske oversikter publisert fra og med år 2009. Alle søkestrategiene finnes i vedlegg 1.

Nedenfor har vi listet opp inklusjons- og eksklusjonskriteriene slik de var presentert i rapporten fra 2009.

Inklusjonskriterier

Vi inkluderte systematiske oversikter (SR) med følgende inklusjonskriterier:

Populasjon: Personer med demens, kognitiv svikt

Intervensjon: Tilpasset utforming av bolig, interiør og bomiljø - inne og ute

Sammenlikning: Ikke tilrettelagt bomiljø eller egen bolig

Utfallsmål: Autonomitet, trygghet/skadeforebygging, brukertilfredshet hos pasient og pårørende, livskvalitet

Språk: Ingen språkbegrensning

Eksklusjonskriterier

Studiedesign: Enkeltstudier.

Populasjon: Eldre uten angitt kognitiv svikt, mentalt retarderte uten demens-utvikling

Tiltak: Medikamenter, ikke-fysisk miljø, behandlingstilbud som miljø/adferds-terapi, hjelpemidler, elektronikk og alarmer, smarthus, Snoezelen-rom, m.m.

Artikkelseleksjon

To av forfatterne (Dalsbø og Dahm) gikk gjennom alle titler og sammendrag for å vurdere relevans i henhold til inklusjonskriteriene.

Oversiktene vi fant ble ikke lest i fulltekst. Dokumentasjonen i oversiktene er ikke oppsummert eller kvalitetsvurdert av Kunnskapssenteret.

Resultat

Resultat av søk

Søket resulterte i 594 referanser. Etter å ha sjekket for dubletter var det 476 referanser. Disse 476 referansene ble gjennomgått av to personer, uavhengig av hverandre og sammenlignet i etterkant.

Vi vurderte seks av de identifiserte referansene som mulig relevante i henhold til inklusjonskriteriene. Disse referansene ble ikke lest i fulltekst.

Fem av de seks var publisert i 2014, den siste var fra 2013. Tematisk fordelte de seg slik:

- To oversikter om effekter av tiltak for bedre utendørsmiljø og bruk av hage (2, 3),
- En oversikt om effekt av bruk av teknologisk støtte (4) og
- Tre oversikter om effekt av tiltak for å forebygge fall og tiltak for et støttende bomiljø (5-7).

Mulige relevante oversiktsartikler, titler og sammendrag

De seks mulige relevante oversiktene er listet opp nedenfor (2-7).

1. Anderiesen H, Scherder EJ, Goossens RH, Sonneveld MH. A systematic review--physical activity in dementia: the influence of the nursing home environment. *Applied Ergonomics* 2014;45(6):1678-1686.

Abstract: Most older persons with dementia living in nursing homes spend their days without engaging in much physical activity. This study therefore looked at the influence that the environment has on their level of physical activity, by reviewing empirical studies that measured the effects of environmental stimuli on the physical activity of nursing home residents suffering from dementia. The electronic databases PubMed, PsycINFO, EMBASE, CINAHL and the Cochrane Library were used for the search. The search covered studies published between January 1993 and December 2012, and revealed 3187 abstracts. 326 studies were selected as potentially relevant; of these, 24 met all the inclusion criteria. Positive results on the residents' levels of

physical activity were found for music, a homelike environment and functional modifications. Predominantly positive results were also found for the small-scale group living concepts. Mixed results were found for bright or timed light, the multisensory environment and differences in the building footprint. Copyright 2014 Elsevier Ltd and The Ergonomics Society. All rights reserved.

2. Che Me R, Biamonti A. Spatial disorientation in Alzheimer's disease (AD): Systematic review on supportive environment in assisting the constant activities of daily living (ADLs). *European Geriatric Medicine* 2014;5:S92.

Abstract: Introduction: Individuals with Alzheimer's disease (AD) alongside with cognitive and behavioral changes, spatial disorientation and declining wayfinding abilities are the other major reasons for them to be institutionalized. These problems were associated with the reducing of mobility, navigation and autonomy in the environment they live in. As a result, they require high level of care with over-the-clock supervision to reach certain places and to perform activities of daily living (ADLs). This paper presents a general review on how improvement of environmental design may support spatial anticipation in performing constant ADLs. Method: A review on available literature using major electronic databases was performed on the difficulties of AD patients in performing ADLs mainly caused by the spatial disorientation. Nonpharmacological interventions by means of supportive environment and possible technological solutions are the main aspects of the review. Results: The largest number of studies focused on purposive design, environment and applicable technologies which are relevant in assisting individuals with AD in performing ADLs. Spatial disorientation resulted in getting lost in both familiar and unfamiliar environments. Environmental factors play a major role in designing the appropriate environment in assisting their orientation within their environment or space. Conclusion: Providing the supportive environment may sustain the ability of AD patients to remain active and perform ADLs independently as long as possible. As spatial disorientation leads to various orientation and mobility issues, the adoption of virtual environment system could possibly enhance the assessment in measuring the efficacy of the purposive designed environment.

3. Fleming R, Sum S. Empirical studies on the effectiveness of assistive technology in the care of people with dementia: a systematic review. *Journal of Assistive Technologies* 2014;8(1):14-34.

Abstract: Purpose: – The purpose of this paper is to assess the empirical support for the use of assistive technology in the care of people with dementia as an intervention to improve independence, safety, communication, wellbeing and carer support.

Design/methodology/approach: – A total of 232 papers were identified as potentially relevant. Inclusion criteria were: studies published between 1995 and 2011, incorporated a control group, pre-test-post-test, cross sectional or survey design, type of interventions and types of participants. The 41 papers that met criteria were sub-

jected to an assessment of their validity using the model provided by Forbes. Following the assessment seven papers were considered as strong, ten moderate and 24 weak. The review is presented around the following topics: independence, prompts and reminders; safety and security; leisure and lifestyle, communication and tele-health; and therapeutic interventions. Findings: – The literature exploring the use of assistive technologies for increasing independence and compensating for memory problems illustrate the problems of moving from the laboratory to real life. The studies are usually limited by very small samples, high drop-out rates, very basic statistical analyses and lack of adjustment for multiple comparisons and poor performance of the technology itself. Originality/value: – Research to date has been unable to establish a positive difference to the lives of people with dementia by the general use of the assistive technology reviewed here.

4. Gonzalez MT, Kirkevold M. Benefits of sensory garden and horticultural activities in dementia care: a modified scoping review. *Journal of Clinical Nursing* 2014;23(19-20):2698-2715.

Abstract: AIMS AND OBJECTIVES: To provide a review on the benefits associated with the use of sensory gardens and horticultural activities in dementia care.

BACKGROUND: Maintaining quality of life is important in dementia care. Sensory gardens and horticultural activities are increasingly used in dementia care, yet their benefits are uncertain.

DESIGN: A modified scoping review with descriptive analysis of selected empirical studies.

METHODS: Systematic searches in Amed, CINAHL, MEDLINE, ISI Web of Science, Embase and Scopus were used. Search terms were the free-text concepts 'healing garden', 'horticultural therapy', 'restorative garden' and 'wander garden' which were combined with dementia and Alzheimer.

RESULTS: Sixteen studies were included with included participants ranging from eight to 129 participants. Research designs were case studies (n = 2), survey (n = 1), intervention studies with pretest/post-test design (n = 11) and randomised controlled studies (n = 2). Of these 16 studies, eight examined the benefits of sensory gardens, seven examined horticultural therapy or therapeutic horticulture and one examined the use of plants indoors. This study offers a review of the research addressing benefits of sensory gardens, therapeutic horticulture, horticultural therapy and other purposeful use of plants in dementia care. The reported findings are mainly on issues related to behaviour, affect and well-being. The findings are in general mutually supportive, however, with some contradictory findings. In addition, sleep pattern, well-being and functional level seem to improve.

CONCLUSIONS: These types of nonpharmacological interventions may improve well-being and affect and reduce the occurrence of disruptive behaviour. Additionally, the use of psychotropic drugs, incidents of serious falls, sleep and sleep pattern also seem to improve.

RELEVANCE TO CLINICAL PRACTICE: To further improve the use of the existing or planned gardens, an educational programme for staff that also includes skill training is recommended. 2013 John Wiley & Sons Ltd.

5. Whear R, Coon JT, Bethel A, Abbott R, Stein K, Garside R. What is the impact of using outdoor spaces such as gardens on the physical and mental well-being of those with dementia? A systematic review of quantitative and qualitative evidence. *Journal of the American Medical Directors Association* 2014;15(10):697-705.

Abstract: **OBJECTIVE:** To examine the impact of gardens and outdoor spaces on the mental and physical well-being of people with dementia who are resident in care homes and understand the views of people with dementia, their carers, and care home staff on the value of gardens and outdoor spaces.

DESIGN: Systematic review.

METHODS: Fourteen databases were searched from inception to February 2013. Forward and backward citation chasing of included articles was conducted; 38 relevant organizations were contacted to identify unpublished reports. Titles, abstracts, and full texts were screened independently by 2 reviewers in a 2-stage process and were discussed with a third reviewer where necessary. Results were synthesized narratively.

RESULTS: Seventeen studies were included: 9 quantitative, 7 qualitative, and 1 mixed methods. The quantitative studies were of poor quality but suggested decreased levels of agitation were associated with garden use. The views and experiences of the garden are discussed in relation to themes of how the garden was used, nature of interactions, impact/effect of the gardens, mechanisms/how the garden was thought to have an effect, and negatives (such as perception of the garden as a hazard and the limited staff time).

CONCLUSION: There are promising impacts on levels of agitation in care home residents with dementia who spend time in a garden. Future research would benefit from a focus on key outcomes measured in comparable ways with a separate focus on what lies behind limited accessibility to gardens within the residential care setting. Copyright 2014 AMDA - The Society for Post-Acute and Long-Term Care Medicine. Published by Elsevier Inc. All rights reserved.

6. Winter H, Watt K, Peel NM. Falls prevention interventions for community-dwelling older persons with cognitive impairment: A systematic review. *International Psychogeriatrics* 2013;25(2):215-227.

Abstract: **Background:** Globally, falls in older people are a leading cause of injury-related mortality and morbidity. Cognitive impairment is a well-known risk factor for falls in this population group. While there is now a large body of evidence to support effective interventions for falls reduction across care settings, very little is known about interventions in the vulnerable, but increasing population of cognitively impaired community-dwelling older people. Therefore, the purpose of this

systematic review is to investigate interventions designed to reduce falls in community-dwelling, cognitively impaired older adults. **Methods:** A literature search of databases was conducted to identify original research published in English, which met predefined inclusion and exclusion criteria for effective (non-pharmacological) falls prevention interventions in cognitively impaired community-dwelling people over 65 years of age. Data from the selected papers were extracted into data extraction tables and analyzed according to study characteristics, measures, results, and quality. **Results:** The review identified 11 studies providing data from 1,928 participants. Interventions included exercise, health assessment and management of risk, multi-component and cognitive behavioral programs, and hip protectors as falls risk reduction strategies. Seven of the selected studies showed an intervention effect in decreasing falls risk; however, only two of these showed a significant improvement in physical performance measures specifically in a cognitively impaired group. **Conclusions:** The diversity of interventions, study designs, populations, and quality of the studies, which met inclusion criteria, resulted in conflicting evidence and inconclusive results for falls prevention interventions in this highly complex population. (PsycINFO Database Record (c) 2013 APA, all rights reserved) (journal abstract).

Referanser

1. Landmark B, Kirkehei I, Brurberg KG, Reinart LM. Botilbud til mennesker med demens. Nasjonalt kunnskapssenter for helsetjenesten; 2009
2. Gonzalez MT, Kirkevold M. Benefits of sensory garden and horticultural activities in dementia care: a modified scoping review. *Journal of Clinical Nursing* 2014;23(19-20):2698-2715.
3. Whear R, Coon JT, Bethel A, Abbott R, Stein K, Garside R. What is the impact of using outdoor spaces such as gardens on the physical and mental well-being of those with dementia? A systematic review of quantitative and qualitative evidence. *Journal of the American Medical Directors Association* 2014;15(10):697-705.
4. Fleming R, Sum S. Empirical studies on the effectiveness of assistive technology in the care of people with dementia: a systematic review. *Database of Abstracts of Reviews of Effects* 2014(4):14-34.
5. Anderiesen H, Scherder EJ, Goossens RH, Sonneveld MH. A systematic review--physical activity in dementia: the influence of the nursing home environment. *Applied Ergonomics* 2014;45(6):1678-1686.
6. Che Me R, Biamonti A. Spatial disorientation in Alzheimer's disease (AD): Systematic review on supportive environment in assisting the constant activities of daily living (ADLs). *European Geriatric Medicine* 2014;5:S92.
7. Winter H, Watt K, Peel NM. Falls prevention interventions for community-dwelling older persons with cognitive impairment: A systematic review. *International Psychogeriatrics* 2013;25(2):215-227.

Vedlegg

1 - Søkestrategi for oppdateringssøk november 2014

Søketreff totalt: 476 (594 før dublettkontroll).

MEDLINE, Embase, PsycINFO (via Ovid)

Dato: 21.11.2014

Søketreff:

Embase 1980 to 2014 Week 46: 59

Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations, Ovid MEDLINE(R) Daily, Ovid MEDLINE(R) and Ovid OLDMEDLINE(R) 1946 to Present: 187

PsycINFO 1806 to November Week 3 2014: 73

Totalt etter dublettkontroll: 258

1. exp Dementia/
2. (demens* or dement*).tw.
3. alzheimer*.tw.
4. ((cognitiv* or memory) adj2 (impair* or disorder* or defici* or weakness* or lapse* or decline or dysfunction* or defect*)).tw.
5. delirium, dementia, amnesic, cognitive disorders/ or exp amnesia/ or alcohol amnesic disorder/ or cognition disorders/ or huntington disease/
6. confusion/ or exp memory disorders/ or memory disorder*.tw.
7. exp Residential Facilities/ or Housing for the elderly/ or (nursing home* or residential home* or residential facilit* or living facilit* or sheltered unit* or sheltered residen* or sheltered home* or sheltered hous*).tw.
8. exp Aged/ and (housing/ or public housing/)
9. or/1-8
10. Environment Design/ or Environment/
11. Architecture as Topic/ or architectur*.tw.
12. exp Environmental Health/
13. exp "Facility design and construction"/
14. exp "Health facility environment"/
15. ((healing or therapeutic* or restorative or home or protective* or safety) adj2 (design* or environment*)).tw.
16. (environment* adj2 (design* or modificat* or planning or adjust*)).tw.
17. (building adj2 (layout or design)).tw.
18. ((physical or built) adj3 environment).tw.
19. exp Art/ or exp color/ or Photic Stimulation/ or Lighting/
20. Air conditioning/ or temperature/ or Humidity/ or Heating/ or Ventilation/ or exp Noise/ or exp Sound/
21. Color therapy/ or Socioenvironmental therapy/ or milieu therapy/
22. Ecology/

23. ((nature adj2 (access* or view*)) or (outdoor* or garden* or window* or plants or sanctuar* or horticultur* or landscape* or flower* or biophilia)).tw.
24. (natural light or fluorescent light).tw.
25. temperature*.tw.
26. Toilet Facilities/ or Cookery/ or Baths/
27. (kitchen* or toilet* or lavator* or bathroom* or bedroom* or dining room* or living room* or hallway*).tw.
28. ((fire adj (alarm* or safety or prevent* or protect*)) or smoke alarm* or evacuation).tw.
29. ((door* or window*) adj1 (lock* or sill*)).tw.
30. (interior or furniture* or screen* wall* or floor plan*).tw.
31. (staircase* or stairs).tw.
32. socket.tw.
33. (window or fireplace).tw.
34. Accidents, home/pc or Accidental Falls/pc or Accident Prevention/
35. ((accident* or fall* or wandering) adj2 prevent*).tw.
36. or/10-35
37. 9 and 36
38. animal/ not human/
39. 37 not 38
40. (case reports or letter or editorial).pt.
41. 39 not 40
42. (((systematic* or literature or cumulative or integrative) adj2 review*) or meta-anal* or pubmed or medline or ((systematic* or database* or literature) adj2 search*)).mp.
43. 41 and 42
44. (2009* or 2010* or 2011* or 2012* or 2013* or 2014*).ed,dp,yr.
45. 43 and 44
46. 45 use pmoz [MEDLINE]
47. exp Dementia/
48. (demens* or dement*).tw.
49. alzheimer*.tw.
50. cognitive motor complex*.tw.
51. ((cognitiv* or memory) adj2 (impaire* or disorder* or defici* or weakness* or lapse* or decline or dysfunction* or defect*)).tw.
52. exp confusion/ or exp memory disorder/ or cognitive defect/
53. assisted living facility/ or nursing home/ or residential home/
54. (nursing home* or residential home* or residential facilit* or living facilit* or sheltered unit* or sheltered residen* or sheltered home* or sheltered hous*).tw.
55. (Aged/ or Elderly Care/ or Aging/) and housing/
56. or/47-55
57. environmental planning/ or home environment/ or Environmental Factor/ or Environmental Impact/
58. architecture/ or architectur*.tw.
59. "construction work and architectural phenomena"/ or building/
60. exp art/ or color/ or Photostimulation/ or exp furniture/
61. noise/ or noise reduction/ or noise standard/ or air conditioning/ or room ventilation/ or room temperature/ or humidity/ or heating/ or Sound/
62. ((healing or therapeutic* or restorative or home or protective* or safety) adj2 (design* or environment*)).tw.
63. (environment* adj2 (design* or modificat* or planning or adjust*)).tw.
64. (building adj2 (layout or design)).tw.
65. ((physical or built) adj3 environment).tw.
66. color therapy/ or milieu therapy/
67. ecology/

68. ((nature adj2 (access* or view*)) or (outdoor* or garden* or window* or plants or sanctuar* or horticultur* or landscape* or flower* or biophilia)).tw.
69. (natural light or fluorescent light).tw.
70. temperature.tw.
71. Kitchen/ or Bath/ or exp Furniture/
72. (kitchen* or toilet* or lavator* or bathroom* or bedroom* or dining room* or living room* or hallway*).tw.
73. Fire Protection/ or evacuation/ or ((fire adj (alarm* or safety or prevent* or protect*)) or smoke alarm* or evacuation).tw.
74. (lock* or sill*).tw.
75. (interior or furniture* or screen* wall* or floor plan*).tw.
76. (staircase* or stairs).tw.
77. (fireplace or socket*).tw.
78. home safety/ or accident prevention/
79. ((accident* or fall* or wandering) adj2 prevent*).tw.
80. (accident/ or falling/ or home accident/ or home safety/ or Wandering Behavior/) and prevention/
81. or/57-80
82. 56 and 81
83. (ANIMAL/ or Animal Experiment/ or Nonhuman/) not Human/
84. 82 not 83
85. (editorial or letter).pt.
86. 84 not 85
87. (((systematic* or literature or integrative or cumulative) adj2 review*) or meta-anal* or pubmed or medline or ((systematic* or database* or literature) adj2 search*)).mp.
88. 86 and 87
89. (2009* or 2010* or 2011* or 2012* or 2013* or 2014*).dd,dp,yr.
90. 88 and 89
91. limit 90 to embase
92. 91 use emez
93. limit 92 to exclude medline journals [Embase]
94. exp dementia/ or exp alzheimers disease/
95. (demens* or dement*).tw.
96. alzheimer*.tw.
97. ((cognitiv* or memory) adj2 (impaire* or disorder* or defici* or weakness* or lapse* or decline or dysfunction* or defect*)).tw.
98. cognitive impairment/ or exp memory disorders/
99. mental confusion/
100. residential care institutions/ or halfway houses/ or nursing homes/ or group homes/ or retirement communities/
101. (nursing home* or residential home* or residential facilit* or living facilit* or sheltered unit* or sheltered residen* or sheltered home* or sheltered hous*).tw.
102. (aged 65 yrs older or very old 85 yrs older).ag. and housing/
103. or/94-102
104. exp Home Environment/ or exp Therapeutic Environment/ or exp Facility Environment/
105. built environment/ or exp architecture/
106. exp Environmental Psychology/ or exp Environmental Planning/ or exp Environmental Effects/
107. architectur*.tw.
108. exp Environmental Psychology/
109. exp Art/ or Aesthetics/
110. exp Color/ or furniture/ or interior design/
111. Visual Stimulation/

112. ((healing or therapeutic or restorative or home or protective* or safety) adj (design or environment)).tw.
113. (environment* adj2 (design* or modificat* or planning or adjust*)).tw.
114. (building adj2 (layout or design)).tw.
115. ((physical or built) adj3 environment).tw.
116. exp illumination/
117. auditory stimulation/
118. milieu therapy/ or sociotherapy/
119. ecology/ or exp ecological factors/
120. ((nature adj2 (access* or view*)) or (outdoor* or garden* or window* or plants or sanctuar* or horticultur* or landscape* or flower* or biophilia)).tw.
121. (natural light or fluorescent light).tw.
122. ((temperature adj2 room) or temperature effect*).tw.
123. physical comfort/
124. (kitchen* or toilet* or lavator* or bathroom* or bedroom* or dining room* or living room* or hallway*).tw.
125. Fire Prevention/ or ((fire adj (alarm* or safety or prevent* or protect*)) or smoke alarm* or evacuation).tw.
126. ((door* or window*) adj1 (lock* or sill*)).tw.
127. (interior or furniture* or screen* wall* or floor plan*).tw.
128. (staircase* or stairs).tw.
129. socket cover*.tw.
130. ((window or fireplace or socket) adj safety).tw.
131. (accidents/ or falls/ or home accidents/) and prevention/
132. accident prevention/
133. ((accident* or fall* or wandering) adj2 prevent*).tw.
134. or/104-133
135. 103 and 134
136. (animal not human).po.
137. 135 not 136
138. (((systematic* or literature or integrative or cumulative) adj2 review*) or meta-anal* or pubmed or medline or ((systematic* or database* or literature) adj2 search*)).mp,md.
139. 137 and 138
140. (2009* or 2010* or 2011* or 2012* or 2013* or 2014*).up,dp,yr.
141. 139 and 140
142. 141 use psych [PsycINFO]
143. 46 or 93 or 142
144. remove duplicates from 143

ISI Web of Knowledge

Dato: 21.11.2014

Søketreff: 151

13 #11 AND #10 AND #9 Refined by: Databases: (WOS), Timespan=2009-2014

12 #11 AND #10 AND #9

11 #8 OR #7 OR #6 OR #5 OR #4 OR #3

10 #2 OR #1

9 TOPIC: (((systematic* or literature or cumulative or integrative) near/2 review*) or "meta-anal*" or pubmed or medline or ((systematic* or database* or literature) near/2 search*))

8 TOPIC: (((accident* or fall* or wandering) near/2 prevent*))

- # 7 TOPIC: (temperature* or kitchen* or toilet* or lavator* or bathroom* or bedroom* or "dining room*" or "living room*" or hallway*)
- # 6 TOPIC: ((building near/2 (layout or design)))
- # 5 TOPIC: (((physical or built) near/3 environment))
- # 4 TOPIC: (environment* near/2 (design* or modificat* or planning or adjust*))
- # 3 TOPIC: (architectur* or ((healing or therapeutic or restorative or home or protective* or safety) near/2 (design* or environment*)))
- # 2 TOPIC: ("nursing home*" or "residential home*" or "residential facilit*" or "living facilit*" or sheltered unit* or sheltered residen* or "sheltered home*" or "sheltered hous*")
- # 1 TOPIC: (dementia* or alzheimer* or ((cognitiv* or memory) near/2 (impaire* or disorder* or defici* or weakness* or lapse* or decline or dysfunction* or defect*)))

Cochrane Library

Cochrane Database of Systematic Reviews

Dato: 24.11.2014

Søketreff: 26

- #1 MeSH descriptor: [Dementia] explode all trees
- #2 demens* or dement*:ti,ab,kw
- #3 alzheimer*:ti,ab,kw
- #4 ((cognitiv* or memory) near/2 (impaire* or disorder* or defici* or weakness* or lapse* or decline or dysfunction* or defect*)):ti,ab,kw
- #5 MeSH descriptor: [Delirium, Dementia, Amnestic, Cognitive Disorders] this term only
- #6 MeSH descriptor: [Amnesia] explode all trees
- #7 MeSH descriptor: [Alcohol Amnestic Disorder] explode all trees
- #8 MeSH descriptor: [Cognition Disorders] this term only
- #9 MeSH descriptor: [Huntington Disease] explode all trees
- #10 MeSH descriptor: [Confusion] this term only
- #11 MeSH descriptor: [Memory Disorders] explode all trees
- #12 MeSH descriptor: [Residential Facilities] explode all trees
- #13 MeSH descriptor: [Housing for the Elderly] explode all trees
- #14 ((nursing next home*) or (residential next home*) or (residential next facilit*) or (living next facilit*) or "living at home" or (own next home*) or (sheltered next unit*) or (sheltered next residen*) or (sheltered next home*) or (sheltered next hous*)):ti,ab,kw
- #15 MeSH descriptor: [Aged] explode all trees
- #16 MeSH descriptor: [Housing] explode all trees
- #17 #15 and #16
- #18 #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 or #14 or #17

- #19 MeSH descriptor: [Environment Design] explode all trees
- #20 MeSH descriptor: [Architecture as Topic] explode all trees
- #21 architectur*:ti,ab,kw
- #22 MeSH descriptor: [Environmental Health] this term only
- #23 MeSH descriptor: [Facility Design and Construction] explode all trees
- #24 MeSH descriptor: [Health Facility Environment] explode all trees
- #25 ((healing or therapeutic or restorative or home or environment* or protective* or safety) next (design* or environment*)):ti,ab,kw
- #26 (environment* or architectur*) near/2 (design* or modificat* or planning):ti,ab,kw
- #27 MeSH descriptor: [Art] this term only
- #28 MeSH descriptor: [Color] explode all trees
- #29 MeSH descriptor: [Photic Stimulation] explode all trees
- #30 MeSH descriptor: [Lighting] explode all trees
- #31 MeSH descriptor: [Air Conditioning] explode all trees
- #32 MeSH descriptor: [Temperature] explode all trees
- #33 MeSH descriptor: [Humidity] explode all trees
- #34 MeSH descriptor: [Heating] explode all trees
- #35 MeSH descriptor: [Ventilation] explode all trees
- #36 MeSH descriptor: [Noise] explode all trees
- #37 MeSH descriptor: [Sound] explode all trees
- #38 MeSH descriptor: [Color Therapy] explode all trees
- #39 MeSH descriptor: [Socioenvironmental Therapy] explode all trees
- #40 MeSH descriptor: [Milieu Therapy] this term only
- #41 MeSH descriptor: [Ecology] this term only
- #42 (nature near/2 (access or view)) or garden or window or plants or sanctuary or horticultur* or landscape* or flowers or biophilia:ti,ab,kw
- #43 ("natural light" or "fluorescent light"):ti,ab,kw
- #44 (temperature near/2 room):ti,ab,kw
- #45 MeSH descriptor: [Toilet Facilities] explode all trees
- #46 MeSH descriptor: [Cookery] explode all trees
- #47 MeSH descriptor: [Baths] explode all trees
- #48 MeSH descriptor: [Beds] explode all trees
- #49 (kitchen* or toilet* or lavator* or bathroom* or bedroom* or (dining next room*) or (living next room*) or hallway*):ti,ab,kw
- #50 ((fire next (alarm* or safety or prevent*)) or (smoke next alarm*) or evacuation):ti,ab,kw
- #51 ((door* or window*) near/1 (lock* or sill*)):ti,ab,kw
- #52 ("interior design" or furniture* or (screen* next wall*) or (floor next plan*)):ti,ab,kw
- #53 (staircase* or stairs):ti,ab,kw
- #54 MeSH descriptor: [Accidents, Home] explode all trees
- #55 MeSH descriptor: [Accidental Falls] explode all trees

- #56 MeSH descriptor: [Accident Prevention] explode all trees
- #57 ((accident* or fall* or wandering) near/2 prevent*):ti,ab,kw
- #58 #19 or #20 or #21 or #22 or #23 or #24 or #25 or #26 or #27 or #28 or #29 or #30 or #31 or #32 or #33 or #34 or #35 or #36 or #37 or #38 or #39 or #40 or #41 or #42 or #43 or #44 or #45 or #46 or #47 or #48 or #49 or #50 or #51 or #52 or #53 or #54 or #55 or #56 or #57
- #59 #18 and #58 Online Publication Date from Jan 2009 to Nov 2014

Database of Abstracts of Reviews of Effects (DARE) og Health Technology Assessment Database (HTA)

Dato: 24.11.2014

Søketreff: DARE 74, HTA 15

- #1 MeSH descriptor: [Dementia] explode all trees
- #2 demens* or dement*
- #3 alzheimer*
- #4 ((cognitiv* or memory) near/2 (impaire* or disorder* or defici* or weakness* or lapse* or decline or dysfunction* or defect*))
- #5 MeSH descriptor: [Delirium, Dementia, Amnestic, Cognitive Disorders] this term only
- #6 MeSH descriptor: [Amnesia] explode all trees
- #7 MeSH descriptor: [Alcohol Amnestic Disorder] explode all trees
- #8 MeSH descriptor: [Cognition Disorders] this term only
- #9 MeSH descriptor: [Huntington Disease] explode all trees
- #10 MeSH descriptor: [Confusion] this term only
- #11 MeSH descriptor: [Memory Disorders] explode all trees
- #12 MeSH descriptor: [Residential Facilities] explode all trees
- #13 MeSH descriptor: [Housing for the Elderly] explode all trees
- #14 ((nursing next home*) or (residential next home*) or (residential next facilit*) or (living next facilit*) or "living at home" or (own next home*) or (sheltered next unit*) or (sheltered next residen*) or (sheltered next home*) or (sheltered next hous*))
- #15 MeSH descriptor: [Aged] explode all trees
- #16 MeSH descriptor: [Housing] explode all trees
- #17 #15 and #16
- #18 #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 or #14 or #17
- #19 MeSH descriptor: [Environment Design] explode all trees
- #20 MeSH descriptor: [Architecture as Topic] explode all trees
- #21 architectur*
- #22 MeSH descriptor: [Environmental Health] this term only
- #23 MeSH descriptor: [Facility Design and Construction] explode all trees
- #24 MeSH descriptor: [Health Facility Environment] explode all trees
- #25 ((healing or therapeutic or restorative or home or environment* or protective* or safety) next (design* or environment*))
- #26 (environment* or architectur*) near/2 (design* or modificat* or planning)
- #27 MeSH descriptor: [Art] this term only
- #28 MeSH descriptor: [Color] explode all trees
- #29 MeSH descriptor: [Photic Stimulation] explode all trees
- #30 MeSH descriptor: [Lighting] explode all trees
- #31 MeSH descriptor: [Air Conditioning] explode all trees
- #32 MeSH descriptor: [Temperature] explode all trees

- #33 MeSH descriptor: [Humidity] explode all trees
- #34 MeSH descriptor: [Heating] explode all trees
- #35 MeSH descriptor: [Ventilation] explode all trees
- #36 MeSH descriptor: [Noise] explode all trees
- #37 MeSH descriptor: [Sound] explode all trees
- #38 MeSH descriptor: [Color Therapy] explode all trees
- #39 MeSH descriptor: [Socioenvironmental Therapy] explode all trees
- #40 MeSH descriptor: [Milieu Therapy] this term only
- #41 MeSH descriptor: [Ecology] this term only
- #42 (nature near/2 (access or view)) or garden or window or plants or sanctuary or horticultur* or landscape* or flowers or biophilia
- #43 ("natural light" or "fluorescent light")
- #44 (temperature near/2 room)
- #45 MeSH descriptor: [Toilet Facilities] explode all trees
- #46 MeSH descriptor: [Cookery] explode all trees
- #47 MeSH descriptor: [Baths] explode all trees
- #48 MeSH descriptor: [Beds] explode all trees
- #49 (kitchen* or toilet* or lavator* or bathroom* or bedroom* or (dining next room*) or (living next room*) or hallway*)
- #50 ((fire next (alarm* or safety or prevent*)) or (smoke next alarm*) or evacuation)
- #51 ((door* or window*) near/1 (lock* or sill*))
- #52 ("interior design" or furniture* or (screen* next wall*) or (floor next plan*))
- #53 (staircase* or stairs)
- #54 MeSH descriptor: [Accidents, Home] explode all trees
- #55 MeSH descriptor: [Accidental Falls] explode all trees
- #56 MeSH descriptor: [Accident Prevention] explode all trees
- #57 ((accident* or fall* or wandering) near/2 prevent*)
- #58 #19 or #20 or #21 or #22 or #23 or #24 or #25 or #26 or #27 or #28 or #29 or #30 or #31 or #32 or #33 or #34 or #35 or #36 or #37 or #38 or #39 or #40 or #41 or #42 or #43 or #44 or #45 or #46 or #47 or #48 or #49 or #50 or #51 or #52 or #53 or #54 or #55 or #56 or #57
- #59 #18 and #58 Publication Year from 2008 to 2014

Cinahl

Dato: 24.11.2014

Søketreff: 48

S57 S51 AND S55 Limiters - Exclude MEDLINE records; Published Date: 20090101-20141131

S56 S51 AND S55

S55 S52 OR S53 OR S54

S54 (MH "Meta Analysis")

S53 (MH "Systematic Review")

S52 TI ((((systematic* or literature or cumulative or integrative) N2 review*) or meta-anal* or pubmed or medline or ((systematic* or database* or literature) N2 search*))) OR AB ((((systematic* or literature or cumulative or integrative) N2 review*) or meta-anal* or pubmed or medline or ((systematic* or database* or literature) N2 search*)))

S51 S14 AND S50

S50 S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24 OR S25 OR S26 OR S27 OR S28 OR S29 OR S30 OR S31 OR S32 OR S33 OR

S34 OR S35 OR S36 OR S37 OR S38 OR S39 OR S40 OR S41 OR S42 OR S43
OR S44 OR S45 OR S46 OR S47 OR S48 OR S49

S49 TI (((accident* or fall* or wandering) N2 prevent*)) OR AB (((accident* or fall* or wandering) N2 prevent*))

S48 (MH "Accidental Falls")

S47 (MH "Accidents, Home")

S46 TI (socket* or window* or fireplace*) OR AB (socket* or window* or fireplace*)

S45 TI ((staircase* or stairs)) OR AB ((staircase* or stairs))

S44 TI ((interior or furniture* or screen* wall* or floor plan*)) OR AB ((interior or furniture* or screen* wall* or floor plan*))

S43 TI (((door* or window*) N1 (lock* or sill*))) OR AB (((door* or window*) N1 (lock* or sill*)))

S42 TI (((fire N1 (alarm* or safety or prevent* or protect*)) or smoke alarm* or evacuation) OR AB (((fire N1 (alarm* or safety or prevent* or protect*)) or smoke alarm* or evacuation)

S41 TI ((kitchen* or toilet* or lavator* or bathroom* or bedroom* or dining room* or living room* or hallway*)) OR AB ((kitchen* or toilet* or lavator* or bathroom* or bedroom* or dining room* or living room* or hallway*))

S40 (MH "Bathing and Baths")

S39 (MH "Toilet Facilities")

S38 TI temperature* OR AB temperature*

S37 TI ("natural light" or "fluorescent light") OR AB ("natural light" or "fluorescent light")

S36 TI (((nature N2 (access* or view*)) or (outdoor* or garden* or window* or plants or sanctuar* or horticultur* or landscape* or flower* or biophilia))) OR AB (((nature N2 (access* or view*)) or (outdoor* or garden* or window* or plants or sanctuar* or horticultur* or landscape* or flower* or biophilia)))

S35 (MH "Ecology")

S34 (MH "Milieu Therapy (Iowa NIC)")

S33 (MH "Socioenvironmental Therapy+")

S32 (MH "Sound+")

S31 (MH "Noise")

S30 (MH "Ventilation+")

S29 (MH "Heating")

S28 (MH "Humidity")

S27 (MH "Temperature+")

S26 (MH "Air Conditioning")

S25 (MH "Lighting")

S24 (MH "Color Therapy") OR (MH "Color")

S23 (MH "Art+")

S22 TI (((physical or built) N3 environment)) OR AB (((physical or built) N3 environment))

- S21 TI ((building N2 (layout or design))) OR AB ((building N2 (layout or design)))
- S20 TI (environment* N2 (design* or modificat* or planning or adjust*)) OR AB (environment* N2 (design* or modificat* or planning or adjust*))
- S19 TI (((healing or therapeutic* or restorative or home or protective* or safety) N2 (design* or environment*))) OR AB (((healing or therapeutic* or restorative or home or protective* or safety) N2 (design* or environment*)))
- S18 (MH "Architectural Accessibility")
- S17 (MH "Architecture+")
- S16 (MH "Facility Design and Construction+")
- S15 (MH "Home Environment") OR (MH "Health Facility Environment") OR (MH "Environment+")
- S14 S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S13
- S13 S9 AND S12
- S12 S10 OR S11
- S11 (MH "Public Housing")
- S10 (MH "Housing+")
- S9 (MH "Aged+")
- S8 TI ("nursing home*" or "residential home*" or "residential facilit*" or "living facilit*" or "sheltered unit*" or "sheltered residen*" or "sheltered home*" or "sheltered hous*") OR AB ("nursing home*" or "residential home*" or "residential facilit*" or "living facilit*" or "sheltered unit*" or "sheltered residen*" or "sheltered home*" or "sheltered hous*")
- S7 (MH "Housing for the Elderly") OR (MH "Residential Facilities+") OR (MH "Nursing Homes+") OR (MH "Rural Health Centers")
- S6 (MH "Memory Disorders+")
- S5 (MH "Confusion+")
- S4 TI (((cognitiv* or memory) N2 (impaire* or disorder* or defici* or weakness* or lapse* or decline or dysfunction* or defect*))) OR AB (((cognitiv* or memory) N2 (impaire* or disorder* or defici* or weakness* or lapse* or decline or dysfunction* or defect*)))
- S3 TI alzheimer* OR AB alzheimer*
- S2 TI (demens* or dement*) OR AB (demens* or dement*)
- S1 (MH "Delirium, Dementia, Amnestic, Cognitive Disorders+")

PubMed

Dato: 24.11.2014

Søketreff: 12

(dementia OR alzheimer) AND (design OR architecture OR environment) AND (systematic review OR meta-analysis) AND publisher[sb]

CRD Databases (HTA og DARE)

Dato: 24.11.2014

Søketreff: 9

- 1 MeSH DESCRIPTOR Delirium, Dementia, Amnestic, Cognitive Disorders EXPLODE ALL TREES
- 2 MeSH DESCRIPTOR Memory Disorders EXPLODE ALL TREES
- 3 MeSH DESCRIPTOR Confusion EXPLODE ALL TREES
- 4 MeSH DESCRIPTOR Residential Facilities EXPLODE ALL TREES
- 5 MeSH DESCRIPTOR Housing for the Elderly EXPLODE ALL TREES
- 6 #1 OR #2 OR #3 OR #4 OR #5
- 7 MeSH DESCRIPTOR Environment Design EXPLODE ALL TREES
- 8 MeSH DESCRIPTOR Environment EXPLODE ALL TREES
- 9 MeSH DESCRIPTOR Architecture as Topic EXPLODE ALL TREES
- 10 MeSH DESCRIPTOR Environmental Health EXPLODE ALL TREES
- 11 MeSH DESCRIPTOR Facility Design and Construction EXPLODE ALL TREES
- 12 MeSH DESCRIPTOR Health Facility Environment EXPLODE ALL TREES
- 13 #7 OR #8 OR #9 OR #10 OR #11 OR #12
- 14 #6 AND #13
- 15 * IN DARE, HTA
- 16 #14 AND #15
- 17 * IN DARE, HTA WHERE LPD FROM 01/11/2009 TO 24/11/2014
- 18 #16 AND #17
- 19 (design or architectur* or environment*):TI AND (dementia or alzheimer* or cognitive or memory):TI IN DARE, HTA WHERE LPD FROM 01/11/2009 TO 24/11/2014
- 20 #18 OR #19