

Evidence Review

Green Care Farms and Dementia

Key messages

- Dementia Green Care Farms originated in Norway and the Netherlands, key features include:
 - Regular access to a variety of outdoor spaces
 - Access to activities including both creative and practical activities, for example caring for animals or plants, cleaning, sweeping, cooking as well as music, art, games etc.
 - On average, the number of participants are slightly smaller but of a comparative size of those in other day care facilities, but substantially smaller than traditional nursing home settings
 - More male service users than female
 - Often generally otherwise physically healthy service users with mild or early stage dementia
- Studies have shown that access to green space, increased autonomy, access to the outdoors are positively associated with reduced agitation and improved wellbeing in people with dementia.
- Although research has not shown any great difference in cognitive outcomes for people with dementia, positive outcomes in service users' quality of life, mood, sense of self, feelings of personal empowerment (for example, in performing tasks perceived as 'useful'), physical activity and, to a lesser extent food and drink intake, have been found in those at green care farm.
- Some recent comparative studies have shown minimal differences in quality of life outcomes between green care farms and other small person-centred day centres
- More research is needed as there is a lack of longitudinal research and further exploration is needed into the demographics of users. Studies highlight the need for person-based care which appeals to the individual's own preferences.



The Evidence

- 1. Mmako NJ, Courtney-Pratt H, Marsh P. Green spaces, dementia and a meaningful life in the community: A mixed studies review. Health & Place. 2020 May 1;63:102344.**

This review examined the effects of green spaces, including farms, gardens, parks and other outdoor environments on people living with dementia. The studies revealed that green spaces provided a variety of activities for people with dementia, which acted as channels for meaningful engagement. Activities varied from walking, crafts, looking after plants or animals, exercise and social interaction. Some studies highlighted that some participants engaged in green farm work or gardening had an understanding that they were “going about their normal jobs and did not associate their activities with that of a day care facility”. Studies also suggested that those with access to green space experienced improved sense of agency, including how to engage in those spaces. Overall the review found that there were a range of “positive impacts from contact with green spaces for people living with dementia in the community” including access to activities, improved social interaction but also a sense of personhood, meaningful engagement and positive risk-taking associated with feelings of empowerment. Green spaces “offer the means to improve subjective experiences” for those living with dementia.



Mmako et al 2020
Green spaces deme



2. Ibsen TL, Kirkevold Ø, Patil GG, Eriksen S. People with dementia attending farm-based day care in Norway—Individual and farm characteristics associated with participants' quality of life. Health & Social Care in the Community. 2020 May;28(3):1038-48.

This study sought to examine the quality of life of a sample of 94 people who attended farm-based day care in Norway across 25 sites. 62% of the sample were men and 54% had mild dementia, the average age of the sample was 76 years. The study found higher levels of social support and reduced levels of depression were associated with being out of doors and improved physical activity. The papers findings however suggested that the study does not reveal whether the farm setting in particular was significant compared to other outdoor spaces for activity. The findings did suggest that this intervention reached a different audience than traditional day care services, and recommended that facilitation of outdoor access and activities should be considered a priority in all dementia care.



Ibsen et al 2019
People with demen



3. de Bruin SR, Pedersen I, Eriksen S, Hassink J, Vaandrager L, Patil GG. Care farming for people with dementia; what can healthcare leaders learn from this innovative care concept?. Journal of Healthcare Leadership. 2020;12:11.

This paper provides an overview of the history and development of Green Care Farms in Norway and the Netherlands and their key features. It draws on research to date highlighting the evidence around the psychosocial and perceived improvements in well-being for patients and caregivers in this environment, and the use of innovation in organising services and staff to make caring for residents a more person-centred approach. It also highlights the need for further research, particularly noting the knowledge gaps around long-term attendance to both day services and living in green care farm settings, the demographics of people currently there- in which more men than women currently utilise green care farms and the role of volunteers in this setting.



de Bruin 2020 Care farming for people v



4. de Boer B, Verbeek H, Zwakhalen SM, Hamers JP. Experiences of family caregivers in green care farms and other nursing home environments for people with dementia: a qualitative study. BMC geriatrics. 2019 Dec;19(1):149.

This qualitative study involved 43 interviews with informal caregivers of people with dementia, exploring their experiences around traditional nursing homes, small-scale residential facilities and green care farms. The positive and negative experiences were clustered into five themes: physical environment and atmosphere; activities; person-centred care; communication and staff. Interviewees at green care farms were more positive about the physical environment, activities and person-centred care compared to those in other types of nursing homes, however both positive and negative experiences regarding communication appeared across all types of nursing homes. Experiences were often dependent of the relationships between individual staff members looking after the patient and overall experiences were also often related in all locations to the interpersonal relationships between staff, patients and carers. The study identified that across all services a cultural change is occurring towards improving communication and more person-centred care.





5. Buist Y, Verbeek H, de Boer B, de Bruin SR. Innovating dementia care; implementing characteristics of green care farms in other long-term care settings. International psychogeriatrics. 2018 Jul;30(7):1057-68.

This study involved 23 semi-structured interviews with professionals working at Green Care Farms in the Netherlands. The study explored to what extent and how principles from Green Care Farms could be adapted for other long-term care settings. Three key themes from the discussion around the features of green care farms were identified: psychosocial environment, activities offered and the physical environment. Professionals discussed the importance of enabling residents to make their own decisions about “how to spend their day” and a strong focus on stimulating the remaining capabilities of each individual and making sure they felt understood and appreciated. In terms of activities, people at GCFs are engaged with normal everyday activities including cleaning, sweeping, collecting eggs in the manner in which “normal daily life activities can emerge throughout the day”, the paper noted that professionals identified these as having positive impact in engaging people and imbuing a sense of purpose and responsibility in their activities giving them an improved feeling of contribution, however other meaningful activities such as films and games can also be scheduled. Characteristics of the physical environment included a homelike, active environment with regular access to the outdoors as well as to people and animals. The paper then reviews the barriers to implementing this in other facilities, such as urbanisation or the need both additional materials and larger changes to the way work is structured. The study found that to realise such adaptations in other places, it is not only the physical environment but organisational, social and staff environments and outlooks would also require change and a willingness to adapt.





6. Ibsen TL, Eriksen S, Patil GG. Farm-based day care in Norway—a complementary service for people with dementia. Journal of Multidisciplinary Healthcare. 2018;11:349.

This study mapped existing day care farms in Norway and collected information using cross-sectional surveys. The services offered at farms varied in size and half had young people (under 65 years) with dementia and people with primary stage dementia as their target demographic. The average service size was 4-6 participants, slightly fewer than the average size for other residential day care in Norway. Most farms had animals, and all reported that people spent daily time out of doors. The review identified key features of an average day and highlighted that the variety of activities available could offer users a choice of participation activity influenced by the environment and seasons, indoor activity was often related to domestic tasks and meals and activities including music, crafts and singing were reported alongside farm-based activities such as preparing food and feeding the animals, or woodwork tasks.



Ibsen et al 2018
Farm based day care



7. de Boer B, Hamers JP, Zwakhalen SM, Tan FE, Verbeek H. Quality of care and quality of life of people with dementia living at green care farms: a cross-sectional study. BMC geriatrics. 2017 Dec 1;17(1):155.

A cross-sectional study in the Netherlands, involving three types of nursing homes: green care farms, small-scale living facilities and traditional nursing homes were examined assessing data on quality of care, process indicators and questionnaires around activities, cognition, and daily living. The study found no large differences in terms of quality of care between all three. Residents at the green care farms and those in small-scale facilities scored higher on the quality of life domains compared to traditional nursing homes. The study concluded that whilst access to clinical treatment, care quality and processes were comparable at all three types of facility, traditional nursing homes scored lower in terms of measures around self-reported quality of life including engagement with activities. The study indicated that differences in quality of life cannot be explained by differences in staffing levels at facilities, highlighting that staff at green care farms and smaller residential facilities have different roles and tasks compared with traditional nursing homes, and that the increased focus on individualised and psychosocial care in these smaller environments may explain the improved mood-scores.



de Boer 2017
Quality of care and c



8. de Boer B, Hamers JP, Zwakhalen SM, Tan FE, Beerens HC, Verbeek H. Green care farms as innovative nursing homes, promoting activities and social interaction for people with dementia. Journal of the American Medical Directors Association. 2017 Jan 1;18(1):40-6.

This longitudinal study involving 100 nursing care home residents sought to establish whether residents in green care farms participate in more physical activities and social interaction compared with residents at traditional nursing homes and small-scale residential facilities. The study found that residents at Green Care Farms were more physical active than those at other nursing home services, and when activities are carried out residents are more often engaged, more access to the outdoors and have more social interaction than those in traditional nursing homes. The authors noted that the welcoming outdoor environment, the presence of 'purposeful' and every day tasks and of animals may be drivers in encouraging residents to be more active, and give them more opportunity to engage in a variety of activities.



DeBoer 2017 Green
care farms as innova

9. Sudmann TT, Børsheim IT. 'It's good to be useful': activity provision on green care farms in Norway for people living with dementia.2017.

This sociological study looked at experiences of 3 care farms for dementia in Norway to examine how participants use and perceive the experiences. The study found that participants on the farm considered the activities real and meaningful (such as feeding the animals, baking, cleaning etc), enhancing a sense of positive achievement and wellbeing. They found the social experience of being part of the farm enhanced a sense of community as well as a sense of personal identity.



Sudmann et al 2017
activity provision on



10. De Bruin S, Oosting S, Tobi H, Enders-Slegers MJ, van der Zijpp A, Schols J. Comparing day care at green care farms and at regular day care facilities with regard to their effects on functional performance of community-dwelling older people with dementia. *Dementia*. 2012 Jul;11(4):503-19.

In this study the primary caregivers of people with dementia based at green care farms and people based at regular socially orientated day care facilities rated their functional performance at three times over one year. Whilst the study was small-scale with a significant drop out-rate between assessments, no major differences were found in the outcomes for either group, although the study does highlight limitations including differences in demographics of those enrolled in these facilities which may warrant further exploration.



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11. De Bruin SR, Oosting SJ, Tobi H, Blauw YH, Schols JM, De Groot CP. Day care at green care farms: A novel way to stimulate dietary intake of community-dwelling older people with dementia?. *The journal of nutrition, health & aging*. 2010 May 1;14(5):352-7.

This study looked at dietary intake of 30 residents of Green Care Farms compared to 23 people from regular day care facilities. This small-scale study identified that both average energy intake, including fluids, protein and carbohydrate intake was higher in those at Green Care Farms than regular facilities. Due to the limitations of the study however more research is needed in this area.



De Bruin 2010 Day
care at green care fa



12.Lu LC, Lan SH, Hsieh YP, Yen YY, Chen JC, Lan SJ. Horticultural therapy in patients with dementia: A systematic review and meta-analysis. American Journal of Alzheimer's Disease & Other Dementias®. 2020 Jan 20;35:1533317519883498.

This systematic review looked at the psychosocial benefits of horticulture interventions for people living with dementia. The review noted that studies on horticulture therapy reported generally reduced accident frequency, lowered agitation and improved well-being, however more research is needed to determine this link with a particular form of horticulture therapy, in contrast with established positive effects felt by people with dementia from being outside in green spaces. The review found that there is a lack of consistent evidence to suggest horticulture therapy improves cognitive function, however the effect may be more similar to that of reminiscence therapy, as well as providing positive psychosocial impact such as increased activity and sensory stimulation. The review found that horticultural therapy programmes positively “contribute to the enrichment and emotional stability of patients with dementia”.



2019 Lu et al
Horticultural therap



13.Uwajeh PC, Iyendo TO, Polay M. Therapeutic gardens as a design approach for optimising the healing environment of patients with Alzheimer's disease and other dementias: A narrative review. EXPLORE. 2019 May 28.

This paper looks at the evidence around access to green space and gardens in healthcare in general and then specifically in relation to the care and outcome measures of people with dementia. The review discusses the available literature and found that access to therapeutic gardens can provide positive outcomes for people with dementia including: increased engagement and physical activity, improved social and psychological wellbeing and positive cognitive effects in stimulating the senses. It also discusses key considerations for designing garden spaces for accessibility and use.



2019 Uwajeh et al
Therapeutic garden:



14. 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 Oct 1;15(10):697-705.

This systematic review looked at research regarding the impact of gardens and outdoor spaces on the mental and physical well-being of people with dementia, up to February 2013. The review highlights that although the quantitative studies overall were of poor quality, a trend was visible linking garden use with decreased agitation symptoms. The evidence for horticulture therapy was also inconclusive. However, findings from qualitative studies generally indicated that residents, family, and staff appreciated the presence of gardens and felt they were beneficial, provided barriers to access and use, and falls risk could be managed. The study suggested that gardens need to offer “a range of ways of interacting, to suit people’s preferences and needs” and that more research with a focus on key measurable outcomes is needed.



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Indicative search strategy

Dementia*; alzheimer*; “green care”; farm*; environment*; green spac*; garden*; outdoor*; horticult*; activit*; Quality of life; social*

Sources searched

AMED; CINAHL; EMCARE; Medline; PsycINFO

A structured public domain search for unpublished research.

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