

Using a Living Lab Workshop to Evaluate a Digital Journaling Application with People Living with Dementia: A Case Study.

Authors: Dean McShane, Grahame Smith, Deborah Morgan & Oladayo Bifarin

Funding declaration: UK Research and Innovation (£10k innovation fund)

Abstract

This case study examines the use of a Living Lab methodology to evaluate the digital journaling application *Leafstory* with people living with dementia, carers, and professionals. The findings demonstrate how participatory, user-centred approaches can generate valuable insights into the usability, acceptability, and perceived benefits of digital technologies. By engaging stakeholders directly in the evaluation process, the study highlights the potential of Living Labs to inform the development and implementation of technologies that are responsive to the needs, preferences, and everyday experiences of people affected by dementia.

Design/methodology/approach

A Living Lab workshop was conducted with 24 participants, including people living with dementia (n=10), unpaid carers (n=9) and healthcare professionals/technologists (n=5). The qualitative methodology combined structured group discussions, participatory methods and

hands-on evaluation of the application. The data was collected through observation, facilitated discussion and affinity diagramming, and analysed using thematic clustering.

Findings

Participants identified journaling as a valuable tool for memory support, emotional reflection and daily organisation, although barriers such as fatigue, forgetfulness and lack of prompting were evident. Existing technology use centred on reminders and communication, but participants raised concerns about usability, safety and confidence. Leafstory was positively received for its conversational interface, multimodal features and reflective prompts. Suggested improvements included retrospective querying, personalised reminders, task acknowledgement, multimedia resilience, community connection and signposting to support services.

Originality/value

This study contributes to the evidence base on participatory dementia research by demonstrating the value of Living Lab approaches for evaluating digital health technologies in real-world settings. The findings highlight how involving people living with dementia, carers, and practitioners can generate meaningful insights into usability, acceptability, and implementation. By adopting a person-centred and collaborative approach, the study provides practical guidance for researchers, developers, and service providers seeking to design, refine, and implement digital interventions that better meet the needs of people affected by dementia.

Introduction

Dementia is a progressive condition characterised by a decline in cognitive functioning, including memory, language, and executive functioning, which impacts daily life and independence. It is estimated that 982,000 people are currently living with dementia in the United Kingdom, with projections suggesting this will rise significantly in the coming decades (Alzheimer's Research UK, 2024). The growing prevalence of dementia presents significant challenges for health and social care systems, requiring innovative and sustainable approaches to support individuals and their carers. Many people living with dementia would prefer to continue living in their own homes as independently as possible even when their disease progresses (Rapaport et al., 2020). These wishes align with recent UK government plans to increase the amount of care provided in the community rather than in hospitals, including for those living with dementia. In the recently published report, '10 Year Health Plan for England: fit for the future' (2025), the government outlined its plan to deliver care stating that it "should happen as locally as it can or in a patient's home if possible".

Any discussion around care provision and innovation for people living with dementia must also consider another critical stakeholder, the primary caregiver. Dementia is increasingly recognised as a dyadic condition, affecting both the person living with dementia and their carer. Most dementia care in the UK and globally is provided by unpaid informal carers, who are frequently spouses or older family members and often have their own health and care needs (Livingston et al., 2020; Oliveira et al., 2024). These informal caregivers are estimated to contribute the equivalent of almost £22 billion hours of unpaid care per year in the UK (Dementia Carers UK, 2024) managing all aspects of life for the person living with dementia including finances, medications, making and attending appointments, shopping, eating and

drinking. Carers of people living with dementia routinely report that while there can be huge rewards to caregiving, there is a real possibility of poor mental and physical health related to the role (Dementia Carers UK, 2024). The development future responses to the challenges of caring for people living with dementia needs to be participatory, considering the dyadic nature of the caring relationship. A robust and valuable tool to facilitate participatory collaboration is the Living Lab methodology as it actively engages end users and stakeholders throughout the innovation process, enabling the co-creation, testing, and refinement of solutions within real-world environments. This approach helps ensure that interventions are responsive to users' needs, enhances stakeholder engagement, and promotes the development of practical and sustainable outcomes (Verloo et al., 2021)

While there is no cure for dementia, a substantial body of evidence supports the use of non-pharmacological, psychosocial interventions to maintain wellbeing, independence, and quality of life (NICE, 2018). Person-centred approaches, which prioritise individual preferences, lived experience and autonomy, are widely recognised as fundamental to effective dementia care (NICE, 2018). In this context, there is increasing interest in the potential of digital technologies to support everyday functioning and enhance wellbeing.

Digital tools such as reminder systems, communication platforms and assistive technologies are increasingly embedded within daily life, including for people living with dementia. These technologies have been shown to support memory, routine, and social connection, contributing to improved quality of life (Salai et al., 2022; Boyle et al., 2022). Digital tools can also provide valuable support to the carers of people living with dementia both in terms of disease education and more psychosocial interventions to help address caregiver loneliness, isolation and depression (Wojcik et al., 2021). Journaling, both traditional and digital, has

emerged as a promising intervention. Writing-based activities, including journaling and memory books, have been associated with improvements in memory, emotional regulation, and identity maintenance (Hajikarim-Hamedani et al., 2025; Zhang et al., 2022).

Journaling offers individuals a structured means of recording experiences, reflecting on emotions and maintaining a sense of personal narrative. These functions are particularly important for people living with dementia, where loss of memory and identity can significantly impact psychological wellbeing (Hajikarim-Hamedani et al., 2025). Digital journaling applications, particularly those supported by artificial intelligence, have the potential to further enhance engagement by reducing effort, prompting reflection, and enabling multimodal interaction.

Despite these opportunities, a key challenge remains in ensuring that digital technologies are appropriately designed and evaluated in collaboration with people living with dementia. Research has highlighted a gap between co-design processes and real-world effectiveness, with limited understanding of how technologies are experienced in everyday contexts (Smith et al., 2022). This underscores the need for methodologies that facilitate meaningful involvement of end users throughout development and evaluation.

The Living Lab methodology offers a promising solution to this challenge. Living Labs are user-centred, open innovation ecosystems that integrate research and innovation processes within real-life settings. By bringing together users, researchers and stakeholders in collaborative environments, Living Labs enable the co-creation, testing and refinement of solutions grounded in lived experience (Hogger et al., 2023).

This paper presents the findings of a Living Lab workshop used to co-evaluate Leafstory, an AI-supported digital journaling application. The study explores participants' experiences of

journaling and technology, evaluating the usability and perceived value of the application within a real-world context, and demonstrate the effectiveness of Living Lab methodologies in generating meaningful, practice-relevant insights.

Methodology

Study design

This study is presented as an instrumental case study because it examines a single Living Lab workshop as an example of how participatory evaluation methods can be applied to the assessment of dementia technologies. A living lab approach is a user-centred, open innovation methodology that brings together citizens, researchers, businesses, and public organisations to co-create, test, and refine solutions in real-life settings, ensuring that innovations are grounded in users' actual needs and experiences (European Network of Living Labs [ENoLL], 2024). The Living Lab methodology was selected due to its emphasis on participatory engagement, real-world context, and collaborative knowledge production (Russo-Spena et al., 2026). Unlike traditional research approaches, which often position participants as passive subjects, Living Labs enable individuals to actively shape the research process, ensuring that findings are grounded in lived experience. The approach extended the co-creation process to include a co-evaluation which was situated within participants' everyday practices, existing technology routines, and practical anxieties about digital tools. The workshop therefore treated people living with dementia and carers as active contributors to design knowledge, rather than as end users asked only to react to a finished product. This is consistent with participatory dementia research that emphasises inclusive methods, flexible communication, and the need to bridge co-creation with real-world evaluation (Smith et al., 2022; Hogger, Fudge and Swinglehurst, 2023).

Participants

A total of 24 participants were recruited from a Young Onset Dementia support group. The sample included ten people living with dementia, nine unpaid carers and five healthcare professionals or technologists. This diverse participant group enabled the inclusion of multiple perspectives, reflecting the interconnected experiences of individuals living with dementia, those who support them and those involved in service delivery.

Ethical considerations

Ethical approval was granted by Liverpool John Moores University Research Ethics Committee before data collection commenced (reference: 260203LJMUREC342). All participants received information about the workshop purpose, what participation involved, confidentiality and their right to withdraw without consequence. Only individuals able to provide informed consent were included, and consent was treated as an ongoing process throughout the workshop rather than a one-off event. Given the involvement of people living with dementia, additional care was taken to support accessible and meaningful participation. The workshop used facilitated discussion, visual prompts and supported group activities to enable participants to contribute at their own pace. Carers and facilitators were available to support communication where needed, while ensuring that the perspectives of people living with dementia remained central. The session was conducted sensitively to minimise distress when discussing memory, independence, technology anxieties and personal experiences.

The study data was collected through facilitator notes, observation and participatory activities rather than intrusive methods. Participants' contributions were anonymised in reporting, and no identifiable personal information is presented. This ethical approach reflected the wider

Living Lab ethos by positioning people living with dementia, carers and professionals as active contributors to the evaluation rather than passive research subjects (Dupuis et al, 2021).

Workshop structure

The Living Lab workshop was structured into three interconnected phases, designed to facilitate exploration, discussion and co-evaluation. The first phase focused on journaling practices. Participants were invited to discuss their experiences of journaling and related activities, including diaries, memory books and reflective writing. This phase aimed to identify existing behaviours, perceived benefits and barriers to engagement. To make the discussion accessible, journaling was introduced using familiar terms such as memory books, daily notes, life story writing, thoughts and feelings logs, activity diaries and gratitude lists. This wider framing helped participants recognise journaling as a set of everyday practices rather than a narrow-written exercise.

The second phase explored participants' use of technology in daily life. Discussion focused on the types of technologies used, their perceived benefits and any associated anxieties or challenges. This phase provided important contextual insights into participants' familiarity with and attitudes towards digital tools. The discussion captured both current use and areas of anxiety, including confidence, online safety, fear of scams, accidental purchases, uncertainty about fixing problems and concerns about over-reliance on technology.

The third phase, an enhancement to the living lab approach, involved the demonstration and co-evaluation of the Leafstory application. Leafstory is a digital journaling and wellbeing application developed by Leaf AI Ltd. The app incorporates an AI-powered digital companion, "Lola", which uses conversational prompts to encourage users to record daily

experiences, memories, thoughts and feelings. Alongside journaling, Leafstory includes features such as photographs, audio content and cognitive activities, creating a multimodal experience designed to support memory, reflection and wellbeing. The application was selected for evaluation because it combines journaling, reminiscence and AI-supported prompting, all of which have potential relevance for people living with dementia and their carers.

Participants were introduced to the app and given the opportunity to interact with it directly. Real-time feedback was encouraged, focusing on usability, functionality and perceived value. Participants were invited to comment on the app while interacting with it, enabling immediate feedback on perceived usefulness, accessibility, conversational prompting, emotional reflection, audio playback, photographs and potential future functions.

Data collection and analysis

The study data was collected through a combination of facilitated group discussion, observational notes and participatory methods such as affinity diagramming. These approaches were selected to support inclusive participation, particularly for individuals who may experience communication challenges, and to ensure that diverse perspectives were captured (Vaughn and Jacquez, 2020; Weddle and Oliveira, 2024; Otieno, 2023). Facilitators documented comments during the session and sense-checked interpretations with participants as the workshop progressed, supporting credibility and reducing the risk that professional or researcher assumptions dominated the analysis.

Data were analysed using thematic clustering, with patterns and recurring themes identified across the dataset. This approach enabled the synthesis of qualitative insights while

maintaining a focus on participants lived experiences. The analysis focused on three linked questions: what journaling already did for participants, what existing technologies revealed about acceptability and trust, and what the Leafstory feedback suggested for future design and implementation.

Findings

Experiences of journaling

Participants' experiences of journaling were varied, with only a small proportion reporting regular engagement. Those who actively engaged in journaling described a range of benefits, including supporting memory recall, tracking daily activities and facilitating emotional reflection. Journaling was also associated with maintaining cognitive engagement and providing a sense of structure to daily life. Specifically, regular users described journaling to review daily obstacles, track diet, record family activities, note useful dates, capture emotional responses and preserve appointments or anniversaries. One participant described journaling as a way to "check what I've actually done that day" and as reassurance that they had not forgotten important activities. One additional function was maintaining mental activity and writing skills, suggesting that journaling was experienced as both a practical memory aid and a form of cognitive engagement.

A particularly significant aspect of journaling highlighted by participants was its role in reminiscence. The ability to revisit previous entries allowed individuals to reflect on past events, often evoking emotional responses and reinforcing a sense of identity. By documenting and revisiting activities, participants described journaling as a source of reassurance that helped them confirm what they had done, reducing uncertainty and

anxiety. One participant stated, "It reassures me that I actually did do something that day". The workshop data also showed an emotional dimension, where reviewing an entry could reduce guilt by confirming that an activity had already taken place. Journaling can therefore be understood as a tool for emotional regulation, prospective planning and retrospective memory support. Participants also identified lack of habit, repetition, boredom and concern that quieter days could leave them feeling they had "not done much". These barriers suggest that digital journaling must be designed with sensitivity to fatigue, motivation and self-evaluation, using prompts and reminders that support engagement without creating pressure, guilt or a sense of failure.

Technology use and perceptions

Participants reported using a variety of technologies to support daily life, with a strong emphasis on prompt-based and communication tools. Voice-activated assistants, such as Amazon Alexa, were commonly used to provide reminders for medication, appointments and daily tasks. One participant explained that Alexa was useful because "it tells me what I need to do without me worrying I've forgotten". Messaging platforms, particularly WhatsApp, were also widely used, enabling social connection and peer support. The importance of prompts emerged as a central theme, with participants expressing a strong preference for technologies that support routine and organisation. The workshop data provided a more detailed picture of this existing digital ecology: participants described using Alexa, WhatsApp, smart watches, digital calendars, trackers, AirTags, What3Words, digital photo frames, Google Photos, Kindles and audiobooks. Across these examples, technologies were valued when they supported prompting, reassurance, reminiscence, accessibility or connection.

Despite these benefits, participants also expressed significant anxieties regarding technology use. Concerns about online safety, including the risk of scams and accidental purchases, were prominent. Participants also reported a lack of confidence in using technology, often linked to insufficient training or support. One participant stated, "I think I would have more confidence if people had the patience to teach me more". This lack of confidence was compounded by fear of making mistakes and uncertainty about how to resolve technical issues. Additionally, some participants expressed concerns about over-reliance on technology and the potential for reduced independence. Participants also raised concerns about 'fake news', AI-generated videos, intrusive technology, doom scrolling and negative online interactions. This suggests that implementation needs to address trust, safety, training and clear routes for help, not only interface design.

Evaluation of the Leafstory application

The Leafstory application was positively received by participants, who identified several features as particularly beneficial. The app's conversational, voice-based interface was a key strength, enabling users to engage with journaling in a more natural and accessible way. Participants reported that the app's prompts encouraged more detailed and reflective entries compared to traditional journaling methods, suggesting that digital tools may enhance engagement by reducing cognitive and practical barriers. The app's emphasis on emotional reflection, through prompts that encourage users to consider how they felt during recorded events, was also highly valued. Participants who already journaled felt they would record more through Leafstory because the voice-based interaction and follow-up questions could reduce the effort required to write and encourage fuller reflection. One participant stated, "The questions are good and they make me stop and think about how I felt". The

app's questions about thoughts and feelings were valued because they could help users notice avoidance, anxiety, anger or enjoyment in relation to everyday events.

Multimodal features, including the ability to incorporate photographs and audio playback, were identified as enhancing accessibility and supporting reminiscence. These features were particularly important for individuals experiencing visual or cognitive impairments, highlighting the importance of inclusive design. Participants also perceived the app as providing a sense of companionship, "It's almost like having someone to talk to", particularly for individuals who may spend periods of time alone.

However, participants also identified areas for improvement. These included the integration of personalised reminder systems, the ability to query past entries and the inclusion of social features to facilitate connection with others. These suggestions highlight the importance of designing technologies that support not only cognitive function but also autonomy, planning and social inclusion. Carers particularly valued the potential for the app to "jog memories" through playback and visual material, including after the event. Participants also responded positively to podcast clips and brain-training activities, suggesting that they viewed Leafstory as a broader supportive environment rather than a diary alone. One participant described the app as a form of company that could support reminiscence and mood when alone, "I would find this useful as it would ask me about things I used to enjoy doing like work".

User-led design implications

Participants' recommendations translated lived experience into practical design principles (table 1). These suggestions indicate that an acceptable digital journaling tool for people living with dementia should support memory and planning while also protecting autonomy, emotional wellbeing, accessibility and social connection.

Table 1 - Participants priorities

Participant priority	Design implication
Remember what happened and when	Retrospective search or conversational querying of previous entries.
Be reminded without losing control	Personalised reminders with adjustable intervals and acknowledgement buttons for completed tasks.
Make journaling easier when tired	Voice-first entry, follow-up prompts and low-effort interaction.
Reflect on thoughts and feelings	Gentle emotional prompts that support reflection without increasing guilt or distress.
Use meaningful multimedia	Photos, audio playback and optional music links to support reminiscence and accessibility.
Stay connected	Optional family, carer or peer-community functions, modelled on valued use of WhatsApp.
Feel safe and supported	Clear privacy, simple training, visible help routes and links to national and regional support services.

Discussion

This study demonstrates the value of Living Lab methodologies for evaluating digital technologies with people living with dementia. By facilitating direct engagement and collaboration, the approach generated rich insights grounded in lived experience and highlighted how Living Labs can help bridge the gap between co-design and real-world implementation (Smith et al., 2022). Overall, the findings suggest that digital journaling has the potential to support memory, emotional wellbeing, identity and social connectedness.

A central finding was the value of journaling as a tool for reminiscence and identity maintenance. Participants described how revisiting previous entries helped them reconnect with meaningful experiences, generating positive emotional responses and reinforcing a sense of personal continuity. These findings are consistent with evidence demonstrating the role of reminiscence in supporting wellbeing and preserving identity among people living with dementia (Park et al., 2019).

Beyond reminiscence, journaling also functioned as a practical memory support. Participants reported that having a record of past activities provided reassurance, alleviated uncertainty and reduced anxiety associated with memory difficulties. In some cases, reviewing entries helped relieve feelings of guilt by confirming that activities or tasks had already been completed. This suggests that journaling can act as an external memory aid while simultaneously promoting confidence, self-efficacy and emotional wellbeing, reflecting the recognised value of memory-support technologies in dementia care (Evans et al., 2021).

The importance of prompts emerged as another key theme. Participants valued reminder functions that supported routine, organisation and engagement in everyday activities.

Prompts were viewed as a practical mechanism for compensating for memory difficulties, enabling individuals to manage tasks more independently and maintain a greater sense of control over daily life. This finding aligns with previous research identifying prompting technologies as effective tools for supporting independence and daily functioning among people living with dementia (Salai et al., 2022).

The evaluation of the Leafstory application further demonstrated the potential advantages of digitally supported journaling. Participants reported that the app's structured prompts encouraged more detailed and reflective entries than traditional journaling approaches, reducing some of the cognitive and practical demands associated with maintaining a journal. In particular, prompts encouraging reflection on emotions were highly valued, enabling participants to consider how they felt about recorded experiences rather than simply documenting events. This suggests that digital journaling may facilitate emotional processing and contribute to psychological wellbeing, supporting evidence on the benefits of reflective writing (Dewitte and Dezutter, 2021).

Alongside these benefits, participants identified several challenges associated with technology use. A lack of confidence emerged as a significant barrier, often driven by concerns about making mistakes, online safety and uncertainty regarding how to resolve technical difficulties. Some participants also expressed apprehension about becoming overly reliant on technology, highlighting tensions between technological support and the preservation of independence. These concerns mirror wider evidence indicating that trust, usability and digital literacy remain important determinants of technology adoption among older adults and people living with dementia (Boyle et al., 2022).

An unexpected finding was participants' perception of the app as a source of companionship. For some individuals, particularly those who spent extended periods alone, interaction with the app provided a sense of connection that extended beyond its intended function as a journaling tool. This suggests that digital technologies may have an important role in addressing psychosocial challenges associated with dementia, including loneliness and social isolation. Consistent with emerging research, the findings indicate that interactive digital tools may support social connectedness and enhance wellbeing alongside their cognitive and practical benefits (Yang et al., 2025).

Taken together, these findings highlight the need for a holistic approach to technology design in dementia care. While participants valued features that supported memory, organisation and daily functioning, equal importance was placed on emotional wellbeing, identity, reassurance and social connection. Digital interventions should therefore move beyond purely functional support and seek to address the broader psychosocial needs of people living with dementia. From a practice perspective, technologies must be accessible, intuitive and trustworthy, with adequate training and ongoing support available to users and carers. Furthermore, implementation should avoid placing disproportionate demands on caregivers and instead aim to complement existing support networks. Overall, the study demonstrates that digital journaling technologies, when developed and evaluated through participatory approaches such as Living Labs, have the potential to support not only cognitive functioning but also emotional wellbeing, autonomy and social connectedness. The findings reinforce the importance of involving people living with dementia and carers throughout the design, evaluation and implementation of digital technologies to ensure that innovations remain aligned with real-world needs and priorities.

Practical implications

The findings have implications for dementia services, technology developers, carers and future research. Digital journaling technologies may offer a valuable means of supporting memory, emotional wellbeing, identity and social connectedness within community dementia care. To maximise engagement, developers should prioritise accessible, intuitive and trustworthy designs that incorporate personalised prompts, multimodal content and meaningful opportunities for reflection. For carers, such tools may facilitate reminiscence, encourage conversations about daily experiences and provide reassurance, although

implementation should avoid creating additional caregiving burden. More broadly, the study demonstrates the value of Living Lab methodologies in generating practice-relevant insights that can inform the design, implementation and real-world evaluation of dementia technologies. This study also highlights the value of Living Lab workshops as inclusive, practice-based methods for evaluating digital technologies with people living with dementia, carers and practitioners.

Strengths

A key strength of this study was the inclusion of people living with dementia, carers and professionals, enabling multiple perspectives to inform the evaluation. The use of participatory Living Lab methods ensured that participants were active contributors to the research process, with findings grounded in lived experience rather than researcher assumptions. Evaluating the application within a realistic practice context provided insights into its potential relevance for everyday use, while immediate opportunities for interaction and feedback generated rich, user-driven recommendations for future development.

Limitations

The study is limited by its small sample size and single workshop setting, which may affect generalisability. Participants were already engaged with a support group and may therefore have been more motivated, socially connected and willing to engage with technology than some people living with dementia. Additionally, the short-term nature of the evaluation does not capture long-term engagement with the application. Future research should consider longitudinal studies to explore sustained use and impact. The study should therefore be interpreted as an early-stage participatory acceptability and usability evaluation

rather than evidence of effectiveness. It did not assess sustained home use, clinical outcomes, cognitive change, loneliness, carer burden or long-term effects on independence and wellbeing. Although participants were recruited from a Young Onset Dementia support group, many of the issues identified, including memory support, prompting, identity maintenance and technology confidence, are relevant across the wider dementia population.

Conclusion

This case study demonstrates the value of Living Lab workshops as an inclusive and practice-based approach to evaluating digital technologies with people living with dementia. By supporting meaningful participation, the methodology generated knowledge that were grounded in lived experience and directly relevant to real-world use. The findings show that people living with dementia and carers can produce highly practical design knowledge, identifying features that connect memory support with emotional reassurance, accessibility, autonomy and social participation. Involving users while digital dementia technologies remain open to adaptation is therefore essential to developing tools that are not only usable, but meaningful, acceptable and responsive to everyday life.

References

- 10 Year Health Plan for England: fit for the future. (2025). In <https://www.gov.uk/government/publications/10-year-health-plan-for-england-fit-for-the-future>.
- Alzheimer's Research UK (2024) *Dementia Statistics Hub*. Cambridge: Alzheimer's Research UK. Available at: <https://www.dementiastatistics.org/> (Accessed: 17 June 2026).
- Boyle, L.D., Husebo, B.S. and Vislapuu, M. (2022) 'Promotors and barriers to the implementation and adoption of assistive technology and telecare for people with dementia and their caregivers: a systematic review of the literature', *BMC Health Services Research*, 22, Article 1573. <https://doi.org/10.1186/s12913-022-08968-2>
- Dewitte, L. & Dezutter, J. (2021) 'Meaning reflectivity in later life', *Frontiers in Psychology*, 12.
- ENoLL (2024) Living Labs. European Network of Living Labs. Available at: <https://enoll.org/living-labs/> (Accessed: 29 July 2026).
- Dupuis S, McAiney C, Loisel L, Hounam B, Mann J, Wiersma EC. Use of participatory action research approach to develop a self-management resource for persons living with dementia. *Dementia (London)*. 2021 Oct;20(7):2393-2411. doi: 10.1177/1471301221997281.
- Evans, N., Boyd, H., Harris, N., Noonan, K., Ingram, T., Jarvis, A., Ridgers, J. and Cheston, R. (2021) 'The experience of using prompting technology from the perspective of people with dementia and their primary carers', *Aging & Mental Health*, 25(8), pp. 1433-1441. <https://doi.org/10.1080/13607863.2020.1745145>.

Hajikarim-Hamedani, A., Rassa, S., Noroozian, M. and Jafari, D. (2025) 'Writing as cognitive rehabilitation in MCI and dementia: a systematic review of therapeutic benefits and applications', *Frontiers in Neurology*, 16, Article 1568336.

<https://doi.org/10.3389/fneur.2025.1568336>

Hogger, L., Fudge, N. & Swinglehurst, D. (2023) 'Participatory methods in dementia research', *International Journal of Qualitative Methods*, 22.

Livingston, G., Huntley, J., Sommerlad, A., Ames, D., Ballard, C., Banerjee, S., Brayne, C., Burns, A., Cohen-Mansfield, J., Cooper, C., Costafreda, S.G., Dias, A., Fox, N., Gitlin, L.N., Howard, R., Kales, H.C., Larson, E.B., Ritchie, K., Rockwood, K., Sampson, E.L., et al. (2020).

"Dementia prevention, intervention, and care: 2020 report of the Lancet Commission." *The Lancet*, 396(10248), 413-446.

NICE (2018) Dementia: assessment, management and support (NG97).

Oliveira, D., da Mata, F.A.F. & Aubeeluck, A. (2024). "Quality of life of family carers of people living with dementia: review of systematic reviews of observational and intervention studies." *British Medical Bulletin*, 149(1), 1-12. Family members are identified as the primary source of support for people living with dementia worldwide.

Otieno, M.A. (2023) 'Affinity Research Approach', in Okoko, J.M., Tunison, S. and Walker, K.D. (eds.) *Varieties of Qualitative Research Methods*. Cham: Springer. Available at:

https://doi.org/10.1007/978-3-031-04394-9_4.

Park, K., Lee, S., Yang, J., Song, T. and Hong, G.R.S. (2019) 'A systematic review and meta-analysis on the effect of reminiscence therapy for people with dementia', *International Psychogeriatrics*, 31(11), pp. 1581-1597. <https://doi.org/10.1017/S1041610218002168>

Russo-Spena T, Salvatore C, Fairfield B, Giordano A, De Simone S, Illario M. Living Labs in digital health: a collaborative ecosystem approach for continuum of care. *Front Public Health*. (2026) Jan 6;13:1728904. doi: 10.3389/fpubh.2025.1728904

Salai, A.-M., Kirton, A., Cook, G. and Holmquist, L.E. (2022) 'Views and experiences on the use of voice assistants by family and professionals supporting people with cognitive impairments', *Frontiers in Dementia*, 1, Article 1049464.

<https://doi.org/10.3389/frdem.2022.1049464>

Smith, G., Dixon, C., Neiva Ganga, R. and Greenop, D. (2022) 'How do we know co-created solutions work effectively within the real world of people living with dementia? Learning methodological lessons from a co-creation-to-evaluation case study', *International Journal of Environmental Research and Public Health*, 19(21), Article 14317.

<https://doi.org/10.3390/ijerph192114317>

Tsuda, S., Jinno, M. and Hotta, S. (2022) 'Exploring the meaning of journal writing in people living with dementia: a qualitative study', *Psychogeriatrics*, 22(5), pp. 699-706.

<https://doi.org/10.1111/psyg.12872>

Vaughn, L.M. and Jacquez, F. (2020) 'Participatory research methods – Choice points in the research process', *Journal of Participatory Research Methods*, 1(1).

<https://doi.org/10.35844/001c.13244>.

Venn Creative. (2024). Dementia care statistics. In Dementia Carers Count.

<https://dementiacarers.org.uk/what-we-do/campaigning/dementia-care-statistics/>

Verloo, H., Lorette, A., Rosselet Amoussou, J., Gillès de Pélichy, E., Matos Queirós, A., von Gunten, A., & Perruchoud, E. (2021). Using living labs to explore needs and

solutions for older adults with dementia: Scoping review. *JMIR Aging*, 4(3), e29031.

<https://doi.org/10.2196/29031>

Weddle, H. and Oliveira, G. (2024) 'Imagining new possibilities through participatory qualitative methods', *International Journal of Qualitative Methods*, 23, pp. 1–11.

<https://doi.org/10.1177/16094069241301983>

Wójcik, D., Szczechowiak, K., Konopka, P., Owczarek, M., Kuzia, A., Rydlewska-Liszkowska, I., & Pikala, M. (2021). Informal Dementia Caregivers: Current Technology Use and Acceptance of Technology in Care. *International Journal of Environmental Research and Public Health*, 18(6), 3167. <https://doi.org/10.3390/ijerph18063167>

Yang, Y., Wang, C., Xiang, X. and An, R. (2025) 'AI applications to reduce loneliness among older adults: a systematic review of effectiveness and technologies', *Healthcare*, 13(5), Article 446. <https://doi.org/10.3390/healthcare13050446>

Zhang, S., Fang, S., Wang, W., Li, Y., Zhang, X., Meng, X., Su, J., Chang, A. and Sun, J. (2022) 'A systematic review of the application of a diary for people with dementia: how to maximise the effect of diary use?', *Psychogeriatrics*, 22(2), pp. 269-280.

<https://doi.org/10.1111/psyg.12760>