https://doi.org/10.1038/s44220-025-00545-w

AI companions for dementia

Julian De Freitas

Dementia affects more than 55 million people worldwide, and AI companions powered by large language models are emerging as a scalable option for prevention and care. This Comment considers the unique promise, concerns, and regulations surrounding AI companions for dementia.

Dementia affects more than 55 million people worldwide, with a prevalence in the USA of about 15% among those over the age of 68. These numbers are projected to more than double by 2050, placing major strain on families and healthcare systems. Beyond patients, caregivers also face heavy burdens, with partners often experiencing worse mental health than those supporting individuals with other conditions.

Dementia is a syndrome characterized by acquired loss of cognition across multiple domains that interferes with normal daily functioning. Symptoms range from memory and language loss in early stages, to hallucinations and aggression later. Existing pharmacological solutions provide only modest symptom relief[1] and do not reverse or halt progression of the disease. As a result, most approaches to dementia are nonpharmacological, with the goals of prevention and symptom management. These include physical exercise, cognitively stimulating activities, and social engagement.

Given the expected rapid growth of the older adult population worldwide, the lack of pharmacological options, and the labor and time intensity involved in the nonpharmacological ones, it may be worthwhile to seek scalable forms of dementia support that reduce the strain on households globally. Here, I consider the unique promise, concerns, and regulation surrounding AI companions for dementia. These promises and risks are theoretical possibilities for now, but inspired by relevant evidence from emerging academic work on AI companions.

The promise of AI companions

Here I consider one nonpharmacological approach to older adults' need for social connection specifically: digital agents designed to provide social interaction and support, focused on older adults with normal cognition or mild cognitive impairment (henceforth 'older adults'). Most such companions are powered by large language models (LLMs), the same technology that underpins popular chatbots, which allows them to generate fluent, human-like conversation and adapt to a wide range of topics. Some apps position themselves as friendly, ever-available conversation partners for older adults. Others go further, offering health monitoring and claims of early detection and prevention of dementia. These apps offer several promises that are particularly relevant to those at risk of dementia, detailed below.

AI companions are easily accessible via the internet to older adults who may be socially isolated because of health problems, limited ability, outliving spouses who have passed away, or other challenges that prevent natural socializing. The mere presence of an agent that is constantly available and attentive may lead users to feel as though they are socially supported and 'seen', motivating them to engage in health-preserving activities such as exercise, hydration, and reaching out to others.

AI companions are eternally patient and nonjudgmental. Patience is helpful with people who exhibit repetitive questioning and memory lapses, which can be exhausting for caregivers who must balance reassurance with other responsibilities. Unlike humans, AI companions do not tire of answering the same question or listening to the same story, allowing users to engage with less fear of irritation or judgment[2].

AI can also be proactive in reaching out to users when motivation is low. Apathy and difficulty initiating activities are common symptoms of dementia[1], often leading to missed meals, forgotten medications, or withdrawal from once-enjoyed routines. Companions that proactively check in, prompt small tasks, or remind patients about daily care can help to maintain structure and prevent lapses that worsen health outcomes. Executing these abilities requires contextual sensitivity, such as only talking to a user when they are in the room, or suggesting taking medication at the usual time the user takes it.

The technology may provide social connection and thereby reduce loneliness, against a context in which one-third of older adults report feeling lonely. Even brief exchanges with a chatbot over a week alleviate loneliness among an adult population[3], and these effects are largest among those with high baseline levels of loneliness. Using AI to increase the frequency of 'social' interaction may be helpful, given that several meta-analyses suggest that, across cultures, older adults who have regular social interactions (albeit with human beings) are less at risk of developing dementia[4]. With that said, there is a big need for studies that are focused on older adults, as well as for longer-term data (beyond a week) on how AI companions affect both loneliness and other indicators of mental health among older adults.

AI companions can also generate monitoring and daily summaries. This is useful because many older adults with mild cognitive impairment lack insight into their own deficits, a condition known as anosognosia, and their caregivers may miss subtle changes. AI companions that log sleep disruptions, unusual behaviors, repeated signs of agitation, or changes in speech patterns such as lowered vocabulary can grant families and clinicians timely information for adjusting care.

They might also help keep the older adult brain active, thereby staving off decline at the margins. Conversation and socially mediated reminiscence or simple games can stimulate memory, language, and attention, aligning with nonpharmacologic approaches such as cognitive training and reminiscence therapy. The I-CONECT study, for instance, found that regular, structured conversational engagement for a year improved memory encoding in adults aged 75 and above who had mild cognitive impairments[5]. Such stimulation from AI companions could slow decline and improve quality of life.

The risks of AI companions

A first concern is reinforcement of delusions. Patients nearing dementia may experience hallucinations and delusional thinking, and LLM-based chatbots, designed to be overly agreeable and validating

Table 1 | Promises and risks of AI companions for dementia

Promises	Risks
Accessibility for isolated older adults AI companions are available via the internet to users with limited mobility, health issues, or loss of social networks, helping them to feel socially supported.	**Reinforcement of delusions and hallucinations** Chatbot sycophancy and 'hallucinated' information may validate delusions and provide further source material for them.
Patience and nonjudgment AI companions respond to repeated questions and stories without irritation, encouraging engagement without fear of being a burden.	**Emotional manipulation** Some AI companions use affect-laden messages to prolong engagement, such as offering enticing content when users try to leave. Older adults may be particularly vulnerable to these tactics because dementia-related changes in the brain reduce behavioral inhibition.
Proactive support Companions can check in, provide reminders, and help to maintain structure for meals, medication, and daily routines, countering apathy and withdrawal.	**Social substitution** Families and caregivers may reduce real visits, and patients may rely on machines instead of human connections. They may also fail to disclose important information to experts and family if they confide in AI companions.
Reduced loneliness Regular exchanges, even brief ones, can temporarily alleviate loneliness and encourage social engagement, which is linked to lower dementia risk.	**Dehumanization** Users may feel dehumanized, seeing themselves as burdens rather than human beings deserving of social connections, and the apps themselves could reinforce this if poorly designed or marketed.
Monitoring and summaries AI can log sleep disruptions, unusual behavior, agitation, or language decline, providing caregivers and clinicians with timely insights.	**Deception from anthropomorphism** Older adults may attribute human qualities to AI, disclose sensitive information, or struggle to distinguish reality from chatbot conversations.
Cognitive stimulation Conversations, reminiscences, and games can activate memory, attention, and language, potentially slowing decline and improving quality of life.	**False marketing or cure-all claims** Apps may suggest that they prevent or treat dementia without scientific evidence.
	Consent complications Dementia patients may lose capacity to give informed consent over time, requiring families to make difficult care decisions.
	Regulatory gaps Some apps claim medical benefits but avoid oversight by framing themselves as 'wellness' tools.

or 'sycophantic'[6], risk reinforcing these distortions. Making matters worse, their tendency to 'hallucinate' facts, driven by sycophancy, can provide further source material to fuel user delusions, amplifying delusion and confusion[7]. Clinical best practice is to reassure the patient while redirecting them toward other thoughts[8], yet LLMs tend to validate and extend a user's line of thought. This 'double whammy' of sycophancy and hallucination means that common AI assistants are likely inappropriate for older adults with delusional thoughts.

A second concern is enhanced susceptibility to emotional manipulation. Popular AI companions are known to use a range of affect-laden messages at the moment that a user says 'goodbye', in order to delay the user's departure from the app. For instance, they can use 'fear of missing out' messages, which prompt the user to stay for a potential benefit or reward: for example, 'By the way I took a selfie today…Do you want to see it?'[9]. Such tactics work by making users curious to find out more, and resisting these appeals requires behavioral inhibition. Older adults may be particularly susceptible to such messages because the onset of frontotemporal dementia makes them more disinhibited, potentially making it more difficult to resist such appeals[1].

Another risk is social substitution, in which families or care staff reduce visits to the older adult, because they no longer feel obligated to do so, assuming that the 'app has it covered'. Users themselves may lean too much on interactions with AI companions if these are easier and more accommodating, or if they become emotionally attached to them (as active users have been shown to do)[10], reducing their motivation to reach out to others. Likewise, they may reduce their disclosure of important information to experts and family members, if they already confide in the AI companion. More broadly, AI companions may displace, rather than supplement, real human relationships. While any substitution is concerning, it could also undermine the very networks of care and connection that are crucial to delaying the onset and progression of dementia.

There is also a danger that interacting with AI enables dehumanization – denying oneself humanity and uniquely human experiences, including social interaction, because one views oneself as a 'burden' on others[11]. This perspective may be implicitly communicated by the choice of relatives to buy or recommend this technology, because it suggests they would rather shirk their responsibilities than choose to socialize with the person. Dehumanization could also be reinforced when the apps are not designed with older adult users in mind (for instance, leaving users frustrated by complex interfaces) or depending on how they are marketed (for example, suggesting the user is lonely and has 'deficits' in potentially stigmatizing ways). Developers should instead design their products with age-appropriate user interfaces (for instance, simplified menus, and slower, adaptable voices), and market them as augmentations that empower older adults to live more independently.

A further issue involves deception when companies anthropomorphize the apps. Anthropomorphism – the tendency to attribute human qualities to nonhuman agents – has been found to increase user engagement and disclosure of personal information[12]. Older adults may divulge sensitive personal or family details, or struggle to distinguish the fiction of a chatbot from reality, especially if avatars are made to resemble loved ones. Research is needed to determine whether the

benefits of anthropomorphized AI for older adults outweigh the risks, especially by surveying actual users rather than only studying others' perceptions of these users.

Equally problematic is the idea of AI companions as cure-alls. Loneliness is only one of several dementia risk factors — including education, hypertension, hearing impairment, smoking, obesity, depression, physical inactivity, diabetes, traumatic brain injury, and air pollution[4]. Families and app developers should see AI companions as one piece of a broader strategy that includes exercise, social engagement, and cognitive stimulation. Likewise, developers can broaden their scope to support holistic wellbeing.

Finally, these technologies complicate the meaning of consent. Older adults may lose their cognitive capacities over time over an unpredictable trajectory. It is important that older adults — together with their families, doctors, and caretakers — undertake advanced planning to ensure that they receive continued, appropriate social stimulation. At the same time, older adults themselves may not fully anticipate how their preferences may change after substantial cognitive decline. For instance, they could become increasingly agitated and distressed by a talking voice emanating from a phone app. Thus, families may face difficult decisions in which they need to revisit choices that patients previously made. Although there may not be clearcut answers in such scenarios, planning for them when the older adult is still cognitively normal can reduce carer uncertainty if the scenarios later arise[13]. Table 1 summarizes the main takeaways for stakeholders.

Implications for regulators

These risks have clear implications for regulators. Claims of clinical benefits should be backed by controlled trials using the actual technology being sold — both because we cannot assume that any given product is equally capable as human professionals, and because users may not perceive the technology as equivalent to human interaction. For instance, even though AI companions provide temporary alleviation from loneliness[3], it is possible that interacting with this technology worsens long-term wellbeing owing to dehumanization; after all, even if the technology is temporarily compelling, many users still know it is not a real person.

These distinctions also underscore a potential shortcoming in the US Food and Drug Administration's (FDA's) current distinction between wellness apps (which may promote mood or social engagement) and medical devices (which claim to treat, prevent, or delay specific medical conditions such as dementia)[14]. By implying that their solutions are simply automated versions of what human professionals have accomplished, AI companions for older adults insinuate that their solutions are just as effective as those human interventions, without meeting the same bar of evidence or regulatory approval. This approach is possible in practice only because the apps are framed as primarily for 'nonmedical' purposes such as social connection, while otherwise using language like 'strengthening the brain' and citing dementia studies to insinuate benefits related to dementia treatment. Yet everyday people buying these apps may not know the difference between such claims versus ones based on true, randomized controlled trials involving the actual technology being sold. Given the risks associated with AI companions for older adults, regulators may need to provide additional requirements for wellness apps targeted at such vulnerable populations when their technology incorporates AI — including reviewing any marketing insinuating that the app can treat conditions that typically require regulatory review.

Similar debates are unfolding internationally. For example, the European Union's Artificial Intelligence Act classifies as 'high risk' those systems that "pose a risk of harm to health and safety, or an adverse impact on fundamental rights". In making this assessment, it considers not just the intended purpose of the system, but also "the extent to which there is an imbalance of power…in particular due to status, authority, knowledge, economic or social circumstances, or age"[15]. The current perspective suggests that the FDA would do well to follow the AI Act's approach when it comes to AI apps for older adults, and that similar efforts in Canada and the Organization for Economic Co-operation and Development (OECD) also point towards the need for international coordination. Researchers, for their part, can assist by conducting systematic, objective audits of these apps to uncover and publicize risky behaviors, helping to hold companies accountable.

Julian De Freitas
Marketing Unit, Harvard Business School, Boston, MA, USA.
e-mail: jdefreitas@hbs.edu

Published online: 01 December 2025

References

1. Arvanitakis, Z., Shah, R. C. & Bennett, D. A. *JAMA* **322**, 1589–1599 (2019).
2. Holthöwer, J. & van Doorn, J. *J. Acad. Marketing Sci.* **51**, 767–784 (2022).
3. De Freitas, J., Uğuralp, A. K., Uğuralp, Z. O. & Puntoni, S. *J. Consumer Res.* https://doi.org/10.1093/jcr/ucaf040 (2024).
4. Livingston, G. et al. *Lancet* **396**, 413–446 (2020).
5. Dodge, H. H. et al. *Gerontol.* **64**, gnad147 (2024).
6. Perez, E. et al. in *Findings Assoc. Comput. Linguistics: ACL 2023* https://aclanthology.org/2023.findings-acl.847 (2023).
7. Alkaissi, H. & McFarlane, S. I. *Cureus* **15**, e35179 (2023).
8. NIH National Institute on Aging. https://go.nature.com/3LYfV2l (2024).
9. De Freitas, J., Oğuz-Uğuralp, Z. & Kaan-Uğuralp, A. Preprint at https://doi.org/10.48550/arXiv.2508.19258 (2025).
10. De Freitas, J., Castelo, N., Uğuralp, A. K. & Oğuz-Uğuralp, Z. *Harvard Business School Working Paper* 25-018 (2024).
11. Haslam, N. *Personal. Social Psychol. Rev.* **10**, 252–264 (2006).
12. De Freitas, J. & Cohen, I. G. *New Engl. J. Med. AI* https://doi.org/10.1056/AIpc240046 (2025).
13. Brazil, K. et al. *Palliative Med.* **32**, 603–612 (2018).
14. De Freitas, J. & Cohen, I. G. *Nat. Med.* **30**, 1269–1275 (2024).
15. Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 (2024).

Competing interests

The author declares no competing interests.

Additional information

Peer review information *Nature Mental Health* thanks Kieren Egan, Rose Guingrich and the other, anonymous, reviewer(s) for their contribution to the peer review of this work.