

Age-Friendly AI: Preventing Digital Health Tools from Widening Inequality among Older Adults

Jeremy Bennett*

Oglethorpe University, Atlanta, GA, USA

Submission: May 06, 2026; **Published:** May 12, 2026

***Corresponding author:** Jeremy Bennett, Oglethorpe University, Atlanta, GA, USA

Abstract

Artificial intelligence is rapidly reshaping digital health care through predictive analytics, remote monitoring, clinical decision support, patient-facing chatbots, and personalized health recommendations. For older adults, these tools may improve access, safety, independence, and continuity of care. Yet the benefits of AI-enabled health systems are not evenly distributed. Older adults are more likely to face barriers related to digital literacy, affordability, disability, broadband access, privacy concerns, and limited representation in the data used to train health technologies. As a result, AI may unintentionally reproduce or deepen existing inequalities in geriatric care. This opinion article argues that age-friendly AI should be treated as a core priority in gerontology and geriatric medicine. Preventing digital health tools from widening inequality requires attention not only to access, but also to usability, trust, bias, autonomy, and human support. Age-friendly AI must be designed with older adults, not merely for them.

Keywords: Artificial intelligence; Older adults; Digital health; Ageism; Health equity; Geriatric medicine

Introduction

Population aging is one of the defining demographic changes of the twenty-first century. The World Health Organization [1] estimates that by 2030, one in six people globally will be aged 60 years or older, and the number of people aged 80 years and older is expected to triple between 2020 and 2050. This demographic transition is occurring alongside rapid transformation in health systems, including expanded telehealth, remote monitoring, electronic portals, wearable technologies, predictive analytics, and artificial intelligence. Together, these changes create both an important opportunity and a serious risk. Digital health tools may help older adults remain connected to care, manage chronic conditions, reduce unnecessary travel, and live more independently. Yet if these tools are designed around the needs, assumptions, and data patterns of younger, healthier, and more digitally connected populations, they may make geriatric care less accessible for those already facing disadvantage.

The central issue is not whether artificial intelligence can support older adults. It can. AI may assist with medication management, fall detection, appointment scheduling, early detection of clinical deterioration, remote monitoring, and individualized health education. Wearable technologies, for

example, are increasingly discussed as tools for supporting healthy aging, although their promise depends on data quality, interoperability, ethical governance, and inclusion across diverse aging populations [2]. The more difficult question is whether AI-enabled health systems will be implemented in ways that reduce inequality or reproduce it. In gerontology and geriatric medicine, this distinction matters because older adulthood is not a uniform category. Older adults differ widely by income, education, race, ethnicity, disability status, geography, language, household structure, health status, and prior exposure to technology. Age-friendly AI must therefore begin from a simple premise: technological innovation is not automatically inclusive.

The Promise and Risk of AI in Geriatric Care

AI-enabled health tools are often presented as solutions to major pressures in aging societies, including provider shortages, rising chronic disease burdens, caregiver strain, and the growing need for home- and community-based care. In principle, these technologies can help health systems shift from episodic treatment toward more continuous, preventive, and personalized care. AI-supported platforms may flag changes in mobility, sleep, medication adherence, or vital signs before a

crisis occurs. Chatbots and digital assistants may help patients navigate instructions, schedule appointments, or ask basic health questions. Predictive models may help clinicians identify patients at higher risk of hospitalization, falls, medication complications, or functional decline.

However, these benefits depend on whether older adults can meaningfully access and use the tools. A qualitative study of older adults using a digital health platform in general practice found that digital systems may be valued for convenience, direct communication, and time savings, but older patients also experience barriers such as log-in problems, automated questionnaires, and variation in digital literacy [3]. These findings are important because they show that digital health is not simply a matter of availability. Even when a platform exists, older adults' experiences are shaped by usability, confidence, expectations, and the presence or absence of support.

This concern becomes more serious when AI is layered onto already unequal digital systems. A patient portal that is difficult to navigate may inconvenience some patients, but an AI-enabled system that routes care, prioritizes risk, or filters communication can have deeper consequences. If older adults are less likely to use digital portals, upload data, respond to automated prompts, or participate in app-based monitoring, then AI systems may learn less from them and serve them less effectively. Inequality can therefore enter at multiple points: access to the device, ability to use the interface, representation in training data, interpretation of patient behavior, and clinical decision-making.

Digital Ageism and the AI Cycle of Inequity

One of the most important concepts for understanding this problem is digital ageism. Digital ageism refers to the ways age-based assumptions, exclusions, or stereotypes become embedded in digital systems. In health care, digital ageism can appear when older adults are underrepresented in datasets, when technology is designed without accounting for sensory or cognitive changes, when systems assume a level of digital fluency that many patients do not have, or when older adults are treated as passive recipients rather than active users of care technologies.

Van Kolschooten [4] describes an "AI cycle of health inequity" in which age-related bias can emerge across the lifecycle of medical AI, including problem definition, data collection, model development, validation, deployment, and oversight. This framework is useful for geriatric medicine because it moves the discussion beyond individual user behavior. The problem is not merely that some older adults are uncomfortable with technology. The deeper issue is that digital health systems may be built in ways that systematically overlook older adults' needs, bodies, social contexts, and care relationships.

For example, a risk prediction model trained primarily on data from patients who regularly use digital portals may underrepresent

older adults with limited internet access. A chatbot designed with small text, complex menus, or rapid response expectations may be difficult for users with visual impairment, arthritis, hearing loss, or cognitive changes. A remote monitoring system may interpret missing data as noncompliance rather than recognizing that the patient lost internet access, could not afford a device upgrade, or needed caregiver assistance. In each case, the technology may appear neutral while quietly reinforcing unequal access to care.

Digital Access Is Necessary but Not Sufficient

Discussions of digital inequality often begin with access to broadband, smartphones, tablets, or computers. Access remains essential, but it is only the first layer of the problem. Yang et al. [5] found that the digital divide among U.S. older adults has declined over time but remains persistent and is associated with self-rated health, especially among socially disadvantaged groups. This finding suggests that digital exclusion should be understood as a health-equity issue, not merely a technology-use issue.

Providing a device or internet connection does not guarantee meaningful participation. Older adults also need digital literacy, health literacy, confidence, accessible design, and trusted support. Fang et al. [6] found that self-efficacy and health-related outcome expectations are important predictors of whether older adults seek health information online. Their findings suggest that digital participation is shaped not only by access, but also by prior experience, emotional state, social support, and perceived usefulness.

This point has direct implications for AI-enabled health systems. If older adults do not trust a tool, understand how it works, or believe it will improve their care, they may not use it. If they use it incorrectly or incompletely, clinicians may receive misleading information. If health systems interpret nonuse as disengagement, older adults may be further marginalized. Therefore, age-friendly AI must treat digital confidence and human support as part of the intervention itself.

Ethical Priorities for Age-Friendly AI

An age-friendly approach to AI in geriatric medicine should be organized around five ethical priorities: equity, usability, transparency, autonomy, and accountability. These priorities align with broader ethical discussions of digital health technology in older adult care, which emphasize privacy, equity, responsible data use, and attention to the lived realities of aging [7].

First, equity requires that older adults be represented in the design, testing, and evaluation of AI-enabled health tools. This representation must include older adults with varied income levels, racial and ethnic backgrounds, languages, disabilities, living arrangements, and geographic locations. Testing a tool only among digitally confident older adults risks producing a system that works best for those who were least likely to be excluded in the first place.

Second, usability must be treated as a clinical safety issue. Small fonts, complicated menus, confusing authentication procedures, inaccessible language, and excessive reliance on automated prompts may discourage use or produce errors. Age-friendly design should include clear interfaces, plain-language instructions, voice and visual options, caregiver-supported access when appropriate, and alternatives for patients who cannot or do not wish to use digital tools.

Third, transparency matters because AI systems can be difficult for both patients and clinicians to understand. Older adults should know when they are interacting with an automated tool, how their information is being used, whether the tool affects clinical decisions, and how to reach a human being. Transparency should not be reduced to lengthy consent forms; it should be communicated in accessible, understandable language.

Fourth, autonomy must remain central. Digital health tools should support older adults' independence, not create new forms of surveillance or dependency. Remote monitoring, predictive analytics, and AI assistants may help older adults remain at home longer, but they can also raise concerns about privacy, control, and unwanted oversight. Finally, accountability requires ongoing evaluation after implementation. AI tools should be monitored for unequal performance across age groups, disability groups, racial and ethnic groups, income levels, and rural versus urban populations. Health systems should ask not only whether a tool improves efficiency, but also who benefits, who is excluded, and whether any group experiences worse access or outcomes after adoption.

Designing With Older Adults

A central principle of age-friendly AI is participatory design. Older adults should not be added at the end of the development process as test users. They should be involved from the beginning in identifying problems, defining desirable outcomes, testing prototypes, evaluating language, assessing trust, and identifying risks. Caregivers, geriatricians, nurses, social workers, community health workers, and patient advocates should also be included because AI-enabled health tools often operate within care networks rather than isolated patient-provider relationships.

Designing with older adults also means rejecting stereotypes. Older adults are not inherently resistant to technology. Many use smartphones, online banking, video calls, patient portals, and wearable devices. Resistance often reflects poor design, lack of trust, prior negative experiences, affordability barriers, or fear that technology will replace human care. The goal should not be to force all older adults into digital systems, but to create flexible systems that respect diverse preferences and capacities.

Practical Recommendations

Health systems adopting AI-enabled digital tools for older adults should begin with equity audits before implementation.

These audits should examine whether intended users have access to devices, internet service, language support, accessibility features, and non-digital alternatives. Developers should conduct usability testing with older adults who vary in digital literacy, disability status, health status, and prior experience with digital care. Clinicians should receive training on the limits of AI outputs, especially when missing or incomplete digital data may reflect structural barriers rather than patient behavior.

Geriatric care teams should also preserve human pathways into care. No older adult should lose access to appointments, medication refills, test results, or clinical advice because they cannot use an app or portal. Digital systems should supplement, not replace, telephone access, in-person support, caregiver communication, and community-based assistance. For many older adults, the most effective model will be hybrid: AI-supported where useful, human-supported where necessary, and flexible enough to adapt to changing health and functional status.

Finally, health systems should measure success in more than technical terms. An AI tool should not be judged only by speed, cost savings, or predictive accuracy. It should also be evaluated by whether it improves access for older adults with the greatest barriers, whether it reduces avoidable delays in care, whether it supports autonomy, and whether patients and caregivers experience it as understandable and trustworthy. In geriatric medicine, a technology that works statistically but fails relationally is not truly age-friendly.

Conclusion

Artificial intelligence has the potential to improve geriatric care, but only if it is developed and implemented with explicit attention to aging, inequality, and human dignity. Without age-friendly design, AI-enabled digital health tools may widen the very disparities they claim to solve. The central challenge is not technological capacity but social responsibility. Geriatric medicine should lead this conversation by insisting that innovation be evaluated not only by efficiency, scalability, or predictive accuracy, but also by equity, usability, trust, autonomy, and accountability. Age-friendly AI is not simply AI that older adults can use. It is AI that respects the diversity of older adulthood and strengthens, rather than weakens, access to compassionate and equitable care.

References

1. World Health Organization (2025) Ageing and health.
2. Canali S, Ferretti A, Schiaffonati V, Blasimme A (2024) Wearable technologies for healthy ageing: Prospects, challenges, and ethical considerations. *The Journal of Frailty & Aging* 13(2): 149-156.
3. Knotnerus HR, Ngo HTN, Maarsingh OR, van Vugt VA (2024) Understanding older adults' experiences with a digital health platform in general practice: Qualitative interview study. *JMIR Aging* 7.
4. Van Kolfschooten H (2023) The AI cycle of health inequity and digital ageism: Mitigating biases through the EU regulatory framework on medical devices. *Journal of Law and the Biosciences* 10(2).

5. Yang R, Gao S, Jiang Y (2024) Digital divide as a determinant of health in U.S. older adults: Prevalence, trends, and risk factors. *BMC Geriatrics* 24(1): 1027.
6. Fang Z, Liu Y, Peng B (2024) Empowering older adults: Bridging the digital divide in online health information seeking. *Humanities and Social Sciences Communications* 11.
7. Finco MG, Mir N, Gresham G, Huisinigh SM (2024) Ethical considerations of digital health technology in older adult care. *The Lancet Healthy Longevity* 5(1): 12-13.



This work is licensed under Creative Commons Attribution 4.0 License
DOI:[10.19080/OAJGGM.2026.09.555766](https://doi.org/10.19080/OAJGGM.2026.09.555766)

**Your next submission with Juniper Publishers
will reach you the below assets**

- Quality Editorial service
- Swift Peer Review
- Reprints availability
- E-prints Service
- Manuscript Podcast for convenient understanding
- Global attainment for your research
- Manuscript accessibility in different formats
(Pdf, E-pub, Full Text, Audio)
- Unceasing customer service

Track the below URL for one-step submission
<https://juniperpublishers.com/online-submission.php>