



European
Commission

SCIENCE FOR POLICY BRIEF

Ageism - Brief n.2

Ageism: a challenge for health and healthcare



HIGHLIGHTS

- Ageing is not merely a biological process, but also depends on societal and individual views of ageing.
- Ageism, i.e. stereotypes, prejudice and discrimination based on age, is associated with greater likelihood of developing diseases and experiencing serious health issues, accidents, hospitalisation, functional limitations, cognitive decline and depressive symptoms.
- Positive views on ageing are associated with more positive health outcomes.
- Ageism in healthcare is highly prevalent, affecting the quality of care and treatment provided to older adults.
- Although they have potential to improve many aspects of healthcare, AI systems built on historical data may inherit past biases, potentially compromising future healthcare quality for older persons.
- Addressing ageism in healthcare will require concerted, long-term efforts at multiple levels of society. Governments and international organisations can contribute to addressing ageism in healthcare by:
 1. Implementing policies that prevent age discrimination in healthcare settings.
 2. Supporting awareness raising campaigns among healthcare professionals, technology designers and the general public.
 3. Involving older adults in policy decisions affecting their health and ensuring that the design of technology, including AI systems, is age-inclusive.
 4. Promoting active and healthy ageing, focusing on prevention and health promotion throughout the entire life span.
 5. Supporting programmes that promote intergenerational contact and foster inclusivity.

Introduction

Ageism is defined by the World Health Organization (WHO) as the “stereotypes, prejudice and discrimination directed towards others or oneself based on age”. Ageism shapes how individuals think and feel about ageing and old age, and consequently how they behave [12].

Ageism affects people throughout their lives and pervades many aspects of society, including health and healthcare. Ageism occurs at the micro level (e.g., one-on-one situations such as medical consultation between patients and physicians), at the meso level (e.g., institutional structures such as hospitals or the workplace) and at the macro level (e.g., societal structures such as health insurances for older adults) [5].

This Science for Policy Brief summarises the current scientific evidence on the prevalence and impact of ageism on people’s health and healthcare systems of today, and explores the potentially damaging role of AI applications in transferring ageist attitudes to future health systems. The Brief draws on a wide array of scientific literature. This Science for Policy Brief is the second one in a series of Briefs on ageism.¹

Ageism: effects on health and longevity

Ageing is not merely a biological process, but also depends on societal and individual views of ageing, as well as people’s experiences of age discrimination. Ageism has a multifaceted impact on the health and well-being of individuals, contributing to a range of negative health outcomes, disparities in healthcare access and treatment, as well as overall decreased quality of life. In recent years, numerous large-scale longitudinal studies were able to show that ageism significantly contributes to how long people live and how healthy they are as they grow older [2]. Ageism is associated with greater likelihood of developing diseases and experiencing serious health issues, accidents, hospitalisation, functional limitations, cognitive decline and depressive symptoms. Research indicates that these impacts were consistently found in over 45 countries [2], both for middle-aged and older adults.

A research study shows that individuals who hold negative age stereotypes are almost twice as likely to experience cardiovascular issues (e.g. myocardial infarction) compared to individuals who hold more positive views on ageing [6]. Conversely, gain-related views on ageing (e.g. associating ageing with having plans and learning new things) are linked with longer life [13]. Thus, ageism contributes to poorer health and higher mortality, while positive views on ageing are associated with more positive health outcomes.

The potential ways in which ageism and health are linked may be related to how we think, how we act and to the way our bodies function [14]:

1. **Psychological pathways** through which our views of ageing are linked with health indicators include, for instance, a sense of control over one’s life and more adaptive coping strategies, which help to maintain a consistent and positive self-concept in a culture that generally devalues old age and older adults.
2. **Behavioural pathways** linking views of ageing with health mainly include preventive health behaviours, such as physical activity, or risk behaviors such as smoking. Whereas ageist views are associated with less healthy behaviours, positive views on ageing are linked with a more beneficial lifestyle.
3. **Physiological pathways** explain how views of ageing affect our health through bodily functions. Ageism is associated with higher levels of stress and higher plasma concentrations of inflammatory biomarkers.

Prevalence of ageism in healthcare

Ageism affects a wide range of health outcomes globally and is present in many different aspects of healthcare [2, 9]. Discrimination of older people based on age can lead to a reduced access to treatment or preventative measures. Research suggests that older patients are more likely to be denied access to health services and treatments, and older adults are routinely excluded from clinical trials, leading to underrepresentation in medical knowledge [2]. Older adults themselves may also internalise societal

1 See also “Ageism: a challenge for a society of longevity JRC138088” and “Shifting perspectives: addressing ageism in media narratives JRC138090”.

stereotypes of older age as a period of disease and decline. This could lead to barriers to engage in health promotion activities or a refusal to access healthcare, for instance, because symptoms are attributed to age instead of a potential disease. The health risks related to ageism are exacerbated by other intersectional factors, such as gender, race, ethnicity, and socio-economic status. For instance, older women, and older persons with a migrant background face additional challenges [2].

Manifestations of ageism in healthcare settings include:

Ageist attitudes of healthcare providers:

Healthcare providers may hold implicit ageist attitudes that unconsciously influence their clinical judgments. This can lead to assumptions about older adults' health prospects, recovery potential and quality of life without proper assessment and evidence. Several studies on age bias in breast cancer treatment show that health professionals are less likely to recommend surgery for older patients, compared with younger patients [5]. A review of nurses' attitudes towards older adults indicates that nurses who have a higher knowledge of ageing and a higher preference to work with older adults have more positive attitudes towards older people [7]. However, care providers are not always educated about the ageing process and may therefore not be able to adequately respond to prevention and healthcare needs of older patients.

Treatment plans that are not adapted to the needs of older persons:

Healthcare is typically focused on disease treatment rather than on prevention or health promotion. The focus of treatment often lies on curing one disease at a time, although older patients are often affected by multiple chronic medical conditions. On top of that, the course of treatment is usually based on evidence from younger generations with fewer concurrent diseases. Older patients are often excluded from clinical trials [9]. Additionally, communication between different health and social care providers is often lacking, which can be problematic for older patients with multiple problems. This may lead to incorrect or even harmful interventions on older adults, which are not tailored to their needs. The medical treatment of older patients with several health issues or diseases is highly complex. Therefore, medical and ethical decisions concerning the treatment of such patients should focus not only on the length of life,

but also on factors such as functional health, quality of life and well-being (quaternary prevention) [1]. As a consequence, it is sometimes difficult to measure whether physicians refrain a specific medical treatment in an older person due to ageism or due to quaternary prevention.

Not involving older persons in the decision making regarding their treatment:

Not involving older persons in the decision making regarding their own treatment undermines the autonomy of older persons, and can result into poor adherence to treatment plans [9].

Healthcare facilities that are not adapted to the needs of older persons:

Healthcare facilities do not always have practical premises tailored to the needs of older patients. The increased use of technology in healthcare can further reduce accessibility, as older people do not always use or understand digital technology.

Using age as sole criterion for clinical decisions:

Research highlights that the use of age as a criterion for clinical decisions may result in the under-treatment of older adults or undermine their autonomy. For instance, during times of resource scarcity, such as the COVID-19 pandemic, there have been instances where age has been used to prioritise access to limited healthcare resources, such as ventilators or intensive care unit (ICU) beds. This raises ethical concerns about the fairness of distributing healthcare resources based on age [4].



Ageism in healthcare is highly prevalent, affecting the quality of care and treatment provided to older adults.

AI and health: risk of today's biases being encoded in future health systems

Artificial Intelligence (AI) is revolutionising the healthcare industry. The use of AI devices in healthcare is rapidly growing and has immense potential. AI algorithms can analyse vast datasets far beyond human capability and extract insights that can improve precision of diagnostics and personalisation of treatment, and predict patient trajectories. AI is especially promising in two areas: remote monitoring to facilitate community care and long-term care, and development of drugs related to ageing [11].

Despite the potential of AI to increase efficiency, accuracy and outcomes in healthcare, it introduces new ethical and legal issues, which need to be addressed to fully reap its benefits. One is ensuring that AI technologies do not introduce society's existing ageist biases into future healthcare applications. The most ageist practices in intelligent systems design are related to the limitations of datasets in terms of the representativeness of the studied population: The data sets used to train AI models often exclude older adults [8, 11]. Debates around AI fairness also tend to overlook the issue of age and older people [8].

Furthermore, systematic discrimination in the provision of healthcare today or in the past can be reproduced in AI models, which are based on historical data. In particular, AI models might not take into account that older adults of today cannot be equated with older adults of 20 or 40 years ago, as different birth cohorts of older adults vary substantially, not only in terms of their health, but also in terms of their education, lifestyle or family relations.

Biases can also arise from the limited digital literacy and technology access of older adults, as well as health professionals' perceptions of an individual's digital literacy [10]. Introducing such ageist stereotypes of prejudices in AI technologies for health could undermine the quality of healthcare for older people in the future [8, 11]. To ensure that AI technologies play a beneficial role in strengthening healthcare for older people, ageist assumptions must be eliminated from their design, development, use and evaluations [11].

Strategies to prevent ageism in healthcare

As the European population grows older, the healthcare systems will have to deal with a growing number of older people, which increases the risk of ageism in healthcare. Addressing ageism and ensuring that older adults receive proper healthcare is vital for containing healthcare costs and maintaining public health. This will require concerted, long-term efforts at multiple levels of society. Governments and international organisations can contribute to addressing ageism in healthcare by:

1. **Implementing policies that prevent age discrimination** in healthcare settings and ensure that clinical decision-making does not rely solely on chronological age.
2. **Supporting awareness raising campaigns** among healthcare professionals, technology designers and the general public.
3. **Involving older adults in policy decisions** affecting their health and well-being. This includes ensuring that the design of technology, including AI systems, is age-inclusive.
4. **Promoting active and healthy ageing**, focusing on prevention and health promotion throughout the entire life span.
5. **Supporting programmes that promote intergenerational contact and foster inclusivity.**

At EU level, the foundations for managing demographic change and its impacts on the European society, including the area of healthcare, are laid by the Commission Communication "Demographic change in Europe: a toolbox for action"² and the European Care Strategy, which aims to ensure high quality, affordable and accessible care services for all ages.³ The EU is also committed to implementing the United Nations' 17 Sustainable Development Goals in all policies, one of which is to "ensure healthy lives and promote well-being for all at all ages".⁴ The EU Charter on Fundamental Rights prohibits any discrimination based on any ground, including age. The EU also explicitly recognises the risk of age-related discrimination in its AI strategy⁵ and AI Act.⁶

2 Commission Communication "Demographic change in Europe: a toolbox-for action", October 2023

3 European Care Strategy for caregivers and care receivers, September 2022

4 United Nations Sustainable Development Goals

5 Commission Communication on Artificial Intelligence for Europe

6 Proposals for EU Artificial Intelligence Act

REFERENCES

- [1] Ben-Harush, A., Shiovitz-Ezra, S., Doron, I., Alon, S., Leibovitz, A., Golander, H., Ayalon, L. (2016). Age-ism among physicians, nurses, and social workers: findings from a qualitative study. *Eur J Age-ing*. doi: 10.1007/s10433-016-0389-9
- [2] Chang, E. S., Kanno, S., Levy, S., Wang, S. Y., Lee, J. E., & Levy, B. R. (2020). Global reach of ageism on older persons' health: A systematic review. *PLoS One*. doi: 10.1371/journal.pone.0220857
- [3] Daisy Neal et al. (2022). Is There Evidence of Age Bias in Breast Cancer Health Care Professionals' Treatment of Older Patients? *Eur. J. Surg. Oncol.* doi:10.1016/j.ejso.2022.07.003
- [4] Ivan, L., Loos, E., & Tudorie, G. (2020). Mitigating Visual Ageism in Digital Media: Designing for Dynamic Diversity to Enhance Communication Rights for Senior Citizens. *Societies*. doi: 10.3390/soc10040076
- [5] Iversen, T. N., Larsen, L., & Solem, P. E. (2009). A conceptual analysis of ageism. *Nordic Psychology*. doi: 10.1027/1901-2276.61.3.4
- [6] Levy, B. R., Zonderman, A. B., Slade, M. D., & Ferrucci, L. (2009). Age stereotypes held earlier in life predict cardiovascular events in later life. *Psychological Science*. doi: 10.1111/j.1467-9280.2009.02298.x
- [7] Liu, Y. E., Norman, I. J., & While, A. E. (2013). Nurses' attitudes towards older people: A systematic re-view. *International journal of nursing studies*. doi: 10.1016/j.ijnurstu.2012.11.021
- [8] Stypinska, J. (2021). Ageism in AI: new forms of age discrimination in the era of algorithms and artificial intelligence. *Proceedings of the 1st International Conference on AI for People: Towards Sustainable AI*. Doi: 10.4108/eai.20-11-2021.2314200
- [9] Ungar, A., Cherubini, A., Fratiglioni, L., de la Fuente-Núñez, V., Fried, L. P., Krasovitsky, M. S., Ferrucci, L. (2024). Carta of Florence Against Ageism: No Place for Ageism in Healthcare. *The journals of geron*. doi: 10.1093/geron/glad264
- [10] van Kolschooten, 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*. doi: 10.1093/jlb/lbad031
- [11] World Health Organization (WHO) (2022). *Ageism in artificial intelligence for health*.
- [12] World Health Organization (WHO) (2021). *Global report on ageism*.
- [13] Wurm, S., & Schäfer, S. K. (2022). Gain- But Not Loss-Related Self-Perceptions of Aging Predict Mortality Over a Period of 23 Years: A Multidimensional Approach. *Journal of Personality and Social Psychology*. doi: 10.1037/pspp0000412
- [14] Wurm, S., Blawert, A., & Schäfer, S. K. (2022). The Importance of Views on Aging in the Context of Medical Conditions. In Y. Palgi, A. Shrira, & M. Diehl (Eds.), *Subjective Views of Aging: Theory, Research, and Practice*. doi: 10.1007/978-3-031-11073-3_16

AUTHORS AND ACKNOWLEDGEMENTS

Susanne Wurm¹, Ann-Kristin Reinhard¹, Elaine van Rijn², Jan Wollgast², Nina Kajander²

¹ University of Greifswald

² Joint Research Centre (JRC)

DISCLAIMER

The views expressed are purely those of the authors and may not in any circumstances be regarded as stating an official position of the European Commission.

COPYRIGHT

© European Union, 2024, except:

Cover photo: ©Monet via Adobe Stock.com

Photo on page 3: ©fizkes via Adobe Stock.com

CONTACT INFORMATION

Jan.Wollgast@ec.europa.eu



EU Science Hub
joint-research-centre.ec.europa.eu