# Living independently in old age – the role of (digital) technology

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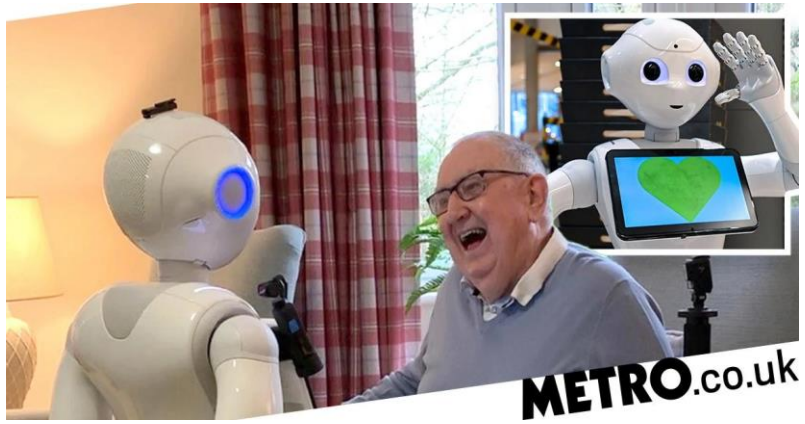
# Ageing at home: just wishful thinking?

- In Germany, 80 percent of people in need of care receive care at home; 56 percent of care at home is mainly provided by relatives
- However, demographics, labor market participation, and changing family structures diminish capacities of care
- Increasing the share of nursing homes is too expensive and it stands against people‘s preferences
- How to maintain independent living at home?

# Active and healthy ageing at home

- Current forecasts for Germany show that in 2050 there will be 26 older persons in need of care vs. 100 persons in work (share nowadays is 7 persons in need of care vs. 100 persons in work)
- However, the share of people in need of care and the intensity of care are not fixed
- It is mainly about supporting health, as well as physical and social activities, in order to reduce and postpone the need of care in an ageing society
- (Digital) technology can help to achieve those goals

# Health care, social care, and safety




# Areas of technological support

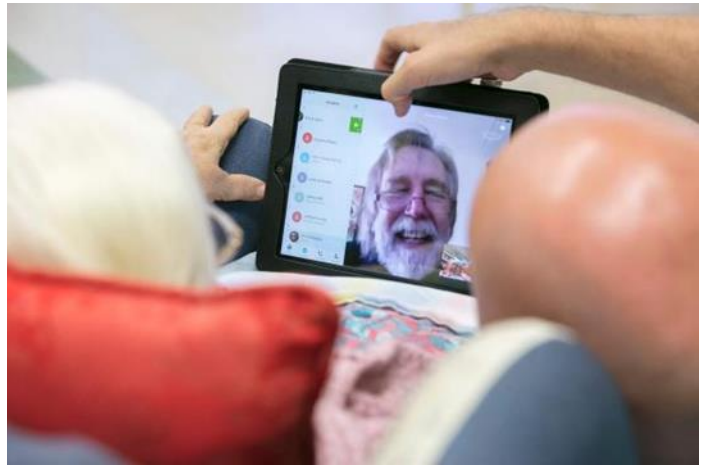
- **Health management:** monitoring vital functions and social activities through wearables and static devices, nudging healthy behavior, updating care providers, applying telemedicine
- **Distant Care:** inventing socially-assistive robots at home, applying tele-care, providing digital support to informal carers
- **Safety:** making people feel safe through automatic lights and lock management, monitoring kitchen devices or using mobile emergency devices

# Focus: Healthcare at home

- Demographic change is a challenge to healthcare as we know it: rising life expectancy comes with multi-morbidity in old age; persons in need of care as well as chronically ill need better support and care at home
- ICT offer support for healthcare at home as well as independent living in old age
- Households turn in into the *third sector of healthcare*

# Communication, social networks, mobility

help your neighbor



# Areas of technological support

- **Communication:** bridging distances through video-conferencing, and social media, providing emotional and cognitive support through online gadgets and memories
- **Social networks:** matching people, volunteers, and providers locally through apps and platforms
- **Mobility:** Sharing services, self-driving buses, matching people‘ needs and mobility services

# Focus: smart home and smart services

- Services and digital technologies can better meet individual needs and create communities
- Health-friendly design of housing and environment boosts the economy, as well. Crafts and skills, social services, building, as well as tech industry benefit from better policies for healthy ageing
- Maintaining long-term care is not possible without combining integrated care, social support, volunteering and technology

# Empirical findings from studies

- There is only scarce evidence about digital technology‘s impact on older persons‘ lives
- Most studies focus on clinical settings or nursing homes; private settings are rare
- Some studies hint that technology is capable of lifting the mood and fostering social relations


1. Abdi J, Al-Hindawi A, Ng T et al. (2018) Scoping review on the use of socially assistive robot technology in elderly care. BMJ open 8:e018815. https://doi.org/10.1136/bmjopen-2017-018815.
2. Peine, A. & Neven, L. (2019). From Intervention to Co-constitution: New Directions in Theorizing about Aging and Technology. The Gerontologist, 59(1), 15–21. https://doi.org/10.1093/geront/gny050
3. Strünck, C., Reuter, V., Gerling, V., Berg, P.-S. & Ehlers, A. (2022). Socially assistive robots on the market: Experiences from inpatient care and potentials for care at home [Socially assistive robots on the market : Experiences from inpatient care and potentials for care at home]. Zeitschrift für Gerontologie und Geriatrie, 55(5), 376–380. https://doi.org/10.1007/s00391-022-02087-7

# Findings from „digital compass plus“

- This project was put into practice from 2018 until 2022 by the German association of organizations for older persons (BAGSO), covering 100 spots across Germany
- Services were supposed to motivate, activate and train older persons in the digital universe

**Evaluation results show:**

- Most persons asked were not aware that social inclusion more and more depends on digital tools
- There is substantial need for digital support which is easily accessible, linked to everyday experience and age-friendly. Additionally, support has to be affordable and close to where people live
- Users were very much inspired to enquire about further topics

# Triggers of (digital) technology in old age

- Commercial benefits of catering to the needs of society‘s largest group
- High levels of technological acceptance among 65- to 75-year old persons in current and future generations
- Tackling cost disease in social care and social services

# Barriers to (digital) technologies in old age

- Anxiety of professionals and providers
- Complicated data protection rules and regulation
- Restricted reimbursement by public agencies
- Lack of user-centered design and development
- No short-term benefits to housing companies or providers

# The ambivalence of technology in old age

- Individualized health management tends to overlook the need for „social medicine“and community care
- Communication technology might glue people to their home, unwittingly reducing social activities
- Cost, distribution, and uneven access to technology could increase social inequality
- Promoting health, as well as physical and social activities is not just a technological question

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