

# Researchers investigate potential of smart homes to aid in aged care

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The boom in aging around the world, including China where traditional family-based care is common, is underpinning a tech revolution in elder

care, say Flinders University health and aged care experts.

In a [new article](#) published in *Frontiers in Public Health*, the authors outline the potential for user-friendly, customized wearable devices, robotic assistants and sensors to enhance the independence and well-being of many more [elderly people](#) who want to "grow old gracefully" in their own home.

"In extensive collaboration throughout the region, we have looked at older adult care and health service management," says Flinders University Dean of Business, Associate Professor Angie Shafei.

"As the traditional family-based care models become unsustainable, China is pioneering new strategies in health and aged-care management—including to suit the cultural and accessibility needs of dozens of distinct ethnic groups in the country."

Innovative technologies for older adult care can also include virtual support groups and video-conferencing, telehealth and [electronic health records](#) and other technologies for mobility and cognitive support such as rehabilitation or service robots.

Flinders University co-author Dr. Madhan Balasubramanian, Senior Lecturer in Health and Aged Care Management, says the key to more rapid uptake of these user-friendly and potentially life-changing technologies is to focus on creating solutions that resonate with older adult preferences—including comprehensive training to ease the transition.

"The potential for innovation is immense, with the need to address significant demographic changes in China, which has more than 260 million people aged 60 and above," says Dr. Balasubramanian, from the College of Business, Government and Law.

"For smart homes and so-called 'gerontechnologies' to truly revolutionize elder care, we need more than just gadgets. We need strong policies, robust infrastructure and research that bridges the digital divide."

Across the Asia and Pacific regions, about 1 in 7 people are aged 60 years or older, and projections indicate that by 2050, 1 in 4 people will fall within this age group.

A report by the Asian Development Bank has reported that the demographic transition to old age will happen even more rapidly—in countries such as the People's Republic of China, Sri Lanka, Thailand and Vietnam—which will have significant implications for health systems, as well as social and economic consequences.

The World Health Organization defines healthy aging as "developing and maintaining the functional ability that enables well-being in older age."

While improvements in [public health](#) and rapid medical advancements are contributing to increased [life expectancy](#), a rapidly aging population presents profound challenges and complex consequences to health systems. Older adults often present with multiple [chronic conditions](#), accompanied by an increased demand for health care services, which in turn contributes to increased health system costs.

For example, in Australia, the projected health expenditure per person (older adults) is expected to rise from A\$3250 in 2028–19 to \$3970 in 2031–32 and reach \$8700 in 2060–61.

**More information:** Ingy Shafei et al, Smart homes: pioneering age-friendly environments in China for enhanced health and quality of life, *Frontiers in Public Health* (2024). [DOI: 10.3389/fpubh.2024.1346963](https://doi.org/10.3389/fpubh.2024.1346963)

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