**How Is AI Revolutionizing Elderly Care**

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There is an unprecedented growth in the percentage of aging population throughout the world, particularly in growing economies such as Europe, Japan and China. Form 2000 to 2050, the percentage of the world’s population who is 60 years of age and older will approximately double from about 12% to 22% (from 605 million to 2 billion). During the same period, the number of people aged 80 years and [older will quadruple](http://www.who.int/features/factfiles/ageing/ageing_facts/en/). In the USA, 14.5% of the population is 65 years or older, but by 2030 these number is anticipated to [grow to 20%](https://www.indexmundi.com/united_states/demographics_profile.html).

This rapid aging demographic will directly affect social, economic and health outcomes for these growing economies. Particularly [healthcare delivery pathways](https://www.ncbi.nlm.nih.gov/pubmed/21402176) need to be readjusted, keeping in mind the prevalence of chronic diseases, comorbidities and polypharmacy requirements of the elderly and geriatric patients. Geriatric diseases such as atherosclerosis, osteoporosis, cardiovascular diseases, obesity, diabetes, dementia and osteoarthritis require quick diagnosis and continuous supervision by a professional caregiver. This is coupled with the fact that we are not training enough physicians and caregivers to account for the increased demands of healthcare. The US will face a shortage of between [40,800 and 104,900 physicians](https://news.aamc.org/medical-education/article/new-aamc-research-reaffirms-looming-physician-shor/) by 2030.

Given the situation, healthcare providers are starting to offload certain parts of the care-pathways to artificial intelligence (AI) based automatization. AI can now be found in [every step of the care-pathway](https://www.forbes.com/sites/shourjyasanyal/2018/10/27/4-ways-in-which-ai-is-revolutionizing-cardiac-care/), starting from intelligent tracking of biometric information to early diagnosis of diseases. AI is helping patients and their families understand the treatment pathways. AI is also helping clinicians to treat the conditions more efficiently.

Here are 5 ways in which AI is revolutionizing elder care,

**1. At home health monitoring**

There is always a need for continuous supervision and quick diagnosis in the case of elderly patients. [Biotricity](http://www.biotricity.com/" \t "_blank) a medical diagnostic and consumer healthcare technology company dedicated to delivering biometric remote monitoring solutions is implementing device-level AI to improve its remote patient monitoring platform. [CarePredict](https://www.carepredict.com/" \t "_blank) is using AI to continuously detect changes in activity and behavior patterns for early detection of health issues.

Voice-based virtual assistants such as [Amazon Echo](https://en.wikipedia.org/wiki/Amazon_Echo) and [Orbita Health](https://orbita.ai/" \t "_blank) are using AI to enable medication adherence and care coordination for the elderly. Companies like [Careangel](https://www.careangel.com/" \t "_blank) are further optimizing the voice-based virtual assistants as nurses and caregivers for target patient populations.

**2. Smart device assisted daily living**

Companies like Apple and Fitbit have made smart wearable biometric trackers available to a large demographic, including elderly and geriatric patients. Elderly patients can use this device's built-in AI-powered functionality to [check inconsistencies in their biometric](https://techcrunch.com/2018/09/12/apple-watch-series-4-can-detect-afib-and-perform-an-ecg/)data, as well as [detect a significant or hard fall](https://support.apple.com/en-ie/HT208944) and sound an alarm. [AiCare](https://aicare.co/" \t "_blank) claims to use machine learning analytics and wearable sensor to personalizes the care for each elderly consumer.

**3. Smart device assisted fall detection**

Emergency situations such as a [simple slip and fall](https://ieeexplore.ieee.org/document/6814018) can trigger a series of medical conditions in geriatric patients. [Xsens](https://www.xsens.com/customer-cases/human-behaviour-analysis-fall-detection/" \t "_blank), [Kardian](http://kardian.com/" \t "_blank) and [Qventus](https://www.qventus.com/press/vocera-and-qventus-partner-to-provide-real-time-operations-management-solution/" \t "_blank) have built AI-powered fall detectors. Starkey has integrated AI-powered fall detectors within it's hearing aid [Livio](https://web.starkeypro.com/launch/spiii18/" \l "/st/en-us" \t "_blank) AI.

**4. Virtual companions**

The lack of skilled caregivers who can help elderly patients who live alone and require daily assistance, has given rise to need for robotic helpers. Robots like[Catalia Health](http://www.cataliahealth.com/)'s Mabu, [Intuition Robotics](https://www.intuitionrobotics.com/)' ElliQ, CT Asia Robotics’ [Dinsow](https://www.dinsow.com/" \t "_blank) and Reiken's [Robobear](http://www.riken.jp/en/pr/press/2015/20150223_2/" \t "_blank) are virtual home assistants for elderly who live alone and require daily assistance as well as companionship. Mabu is a conversational robot that can not only provide tailored conversations to each patient but can obtain the hard-to-get data about treatment. Whereas ElliQ is aimed at keeping older adults active and engaged by connecting them to their families and the outside world.

**5. Anti-aging research**

One of the biggest impacts of AI is in helping anti-aging researchers, understand the very process of aging and thereby develop methods to delay the process. [Calico](https://www.calicolabs.com/team/computational-scientists/) uses deep learning to understand the fundamental biology of aging. [Insilico Medicine](http://insilico.com/" \t "_blank) is a drug development company that uses AI to explore ways to end aging and age-related diseases. [Nuritas](https://www.nuritas.com/nestle-and-nuritas-to-work-together-on-discovery-of-food-derived-bioactive-peptides-through-artificial-intelligence/" \t "_blank) is using AI to find bioactive peptides in the food we eat for applications including anti-aging.

*This article is based on a recent report from New America,*[*Paying More and Getting Less: How Nondegree Credentials Reflect Labor Market Inequality Between Men and Women*](https://www.newamerica.org/education-policy/reports/paying-more-and-getting-less/paying-more-and-getting-less)*.*