Ministry of Foreign Affairs

China - Demographic and healthcare vulnerabilities driving health tech developments

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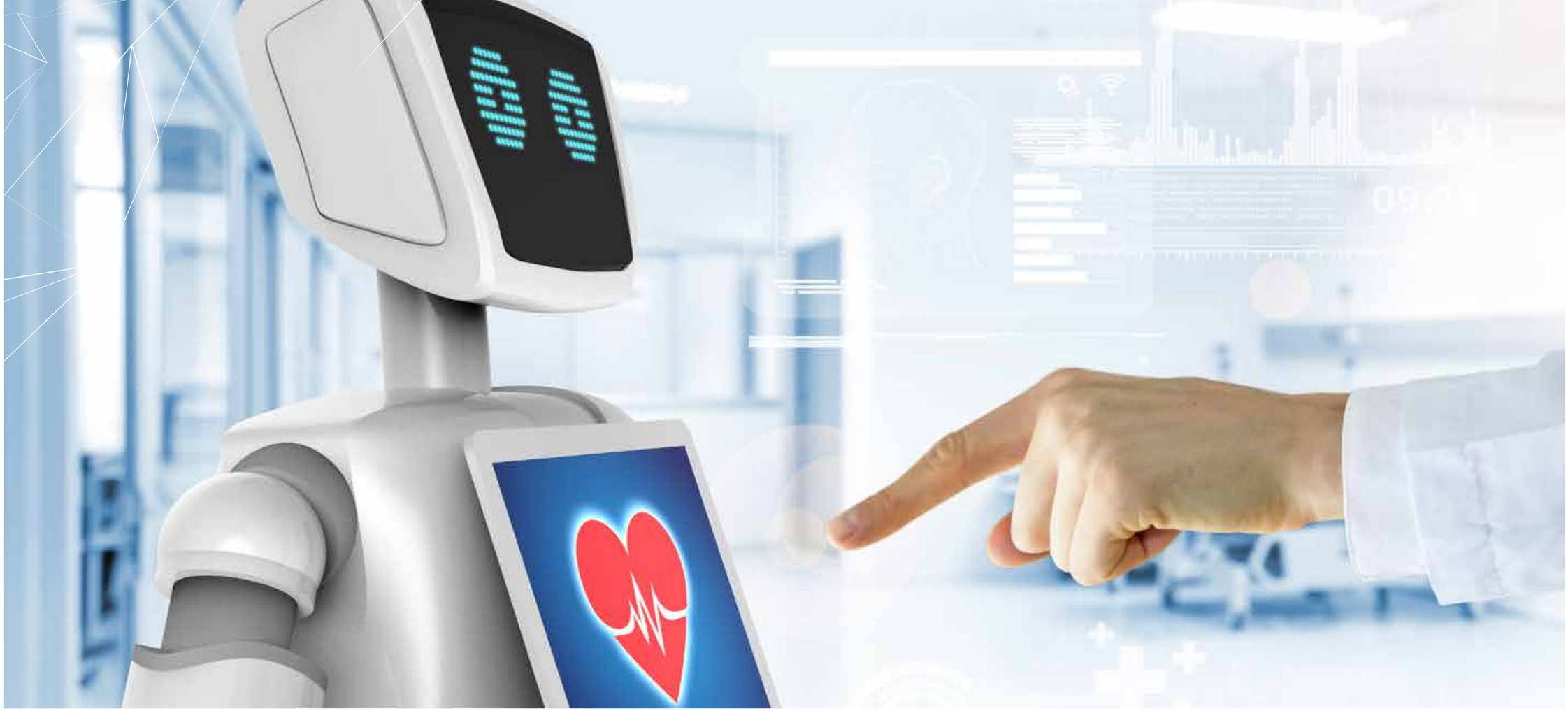
Demographic and healthcare vulnerabilities driving health tech developments

If current trends continue, by 2029 China's population will peak at 1.44 billion, with dramatically imbalanced ratios of young to old (4 grandparents, 2 parents, 1 child) putting unprecedented pressure on younger generations. This dependency ratio (non-working: working people) is set to increase from 42% to 67% by 2050, by when a quarter of the Chinese population (350 million) will be over 65. These demographics obviously have major societal and economic implications, especially around elderly care.

Blue DNA structure. Source: Shutterstock.



Given China's strengths, the focus on AI makes sense

To complicate matters, healthcare isn't exactly China's strong point. There are a number of structural problems with the healthcare system, like a shortage of qualified doctors and an uneven distribution of medical resources throughout the country. In academic health journals worldwide, only 11% of publications have Chinese affiliations (compared with, for example, 29% in engineering) and Chinese articles receive only 52% of the citations per article Dutch articles get. Chinese articles also tend to have a lower impact due to their relatively modest quality and less-wide reach.

Logical focus

Though the Chinese government doesn't currently have a cohesive nationwide approach, healthcare providers are looking to other sectors to help meet the growing market for elderly care. For example, through AI-based automatization at the various stages in the healthcare process, from diagnostics and tracking to personal care and therapy. One example being smart home technology, with a number of big players including Alibaba, Tencent and Xiaomi successfully developing apps and/or caring robots.

Given China's strengths, the focus on AI makes sense. Commercially, the country has a fast-growing tech sector with domestic AI players rivalling Silicon Valley. And when it comes to research, computer sciences is China's strongest performing area in terms of citation impact (and no surprise that AI keywords are severely overrepresented in Chinese health articles).

Robots who care

In 2018, UBTECH Robotics Shenzhen, the Elderly Talent Information Center of China's National Committee on Ageing, and the Technology & Development Center for TCM of China came together to establish an intelligent healthcare service robot research institute. The institute has developed Xiao Bao, an intelligent robot who provides healthcare support to senior citizens. Now, UBTECH is looking to widen Xiao Bao's scope of capabilities. For example, during the COVID-19 pandemic, the UBTECH robots were used in various hospitals in Shenzhen and Wuhan to provide telehealth services by monitoring vital data such as patient body temperature.

There are numerous examples of built-in 'Siri-like' applications, such as the Xiaoyi by Lanchuang Network Technology Corp; VOLTimebank, a blockchain-based management system that processes and records volunteer services; and Alibaba's intelligent assistant, Tmall Genie CC10. All products that can potentially help the elderly with services like housekeeping, meal deliveries, telemedicine and SOS services.

Collaboration opportunities

In the Netherlands, use of voice assistants in elderly care and care facilities is not yet widespread, which offers possibilities for future collaborations. Voice-assistance apps can help reduce loneliness today, and over the longer term provide telehealth, medical and food-related support and services.

Since 2018, the Partners for International Business (PIB) programme, led by the Task Force Health Care, has been focusing on elderly care, with the Netherlands Innovation Network China providing support to the PIB by leveraging its diplomatic network.

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