

Addressing healthy aging in China: Practices and prospects

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SUMMARY One important challenge for global development is aging. China is one of the world's countries with the highest elderly population and the most rapid aging; in 2022, the percentage of the population over 65 was 14.9%; by 2050, it is expected to rise to 26.1%. China's health security, elderly care, and healthcare services are facing serious challenges as a result of this aging trend. With 80% of provinces including medical and elderly care in national basic public health care programs, China has adopted a proactive national plan to combat population aging. Moreover, geriatric departments have been established at 69.3% of public general hospitals at secondary and higher tiers, 48% of provinces have devised preventive interventions for disability and dementia in the elderly, 48 percent of provinces are serving as test regions for medical care related to rehabilitation, and 49 cities are involved in long-term care insurance (LTCI) trials that encompass 170 million people. There are 4,259 medical and health care facilities that provide hospice care services, 152 hospice care pilot regions, and 87,000 pairs of contracts between medical and health care facilities and elderly care providers. These developments provide a strong basis, but there are still major obstacles to overcome. The Chinese Government is urged to adopt early preventive measures, offer more ongoing, practical, and cost-effective diagnostic and treatment services, allocate resources equitably, and use intelligent technologies to enhance elderly care. The ultimate goals are to lessen the financial burden, enhance the health of the elderly, and offer a vital global resource.

Keywords aging, China, health policy, long-term care insurance, prospects

1. Introduction

The world's population is about to begin aging, and this will significantly affect every nation. China has one of the highest aging rates in the world as well as the largest elderly population worldwide. China's population was moderately aged in 2022, when the number of people 65 and older climbed from 64 million in 1990 to 210 million and the population share rose from 5.57% to 14.9%. These figures are from the National Bureau of Statistics of China (1). The severity of the aging crisis is shown by the projection that 366 million Chinese people will be 65 years of age or older by 2050 (Figure 1), accounting for 26.1% of the country's total population (2).

Life expectancy in China has increased during population aging, rising from 68.55 years in 1990 to 77.7 years in 2019. By 2035, it is predicted to reach 81.3 years in mainland China (3). However, growing older

also presents a number of difficulties. According to one study, for example, the number of people in China who are 65 years of age or older and who have a disability will climb by 205% from 2010 to 2025. In the 65-79 age group, the number of patients with dementia or suffering from a stroke is expected to rise by 297.9% and 167.8% (4), respectively. China's health care system, which includes medical care, long-term care, rehabilitation, and mental health care, will face significant problems as a result of these changes. Moreover, healthcare spending per capita for those 65 and older is 1.61 times higher than for those 25 to 59 and 7.25 times higher than for those 25 to 25, placing a significant burden on China's medical insurance funds (5). In addition, a study has shown that the mortality risk for dementia patients over 60 in rural areas is three times higher than in urban areas, and the risk for depression is 4.15 times higher. These findings suggest that unequal resource allocation may contribute to health inequalities (6).

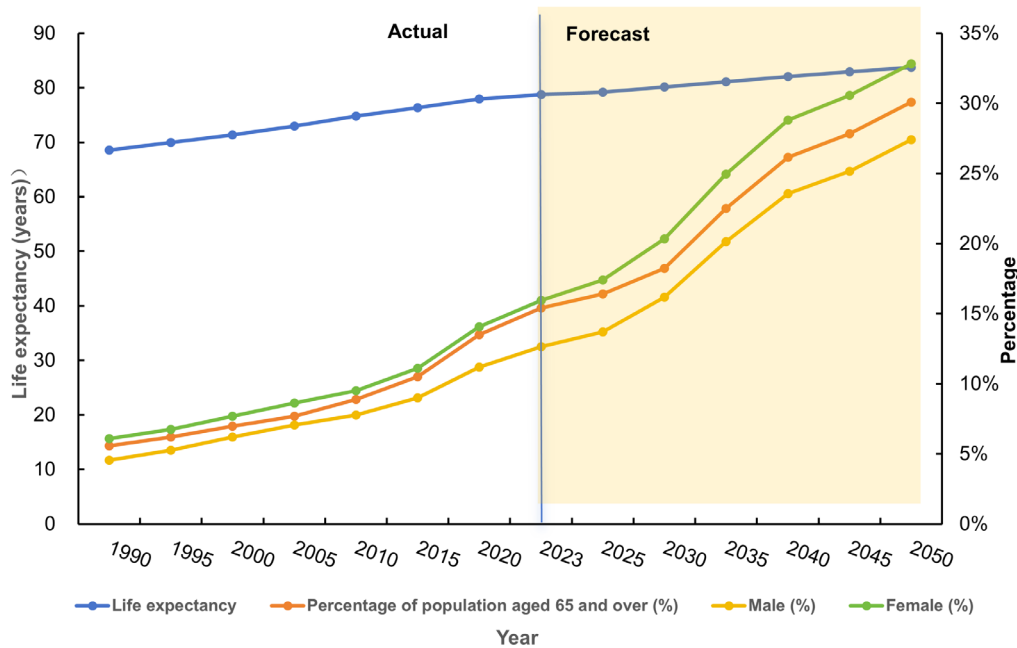


Figure 1. Trends in and Challenges from Aging in China.

2. Progress in China's healthy aging practices (Table 1)

2.1. Prevention and intervention

The "Healthy China 2030" Planning Outline was released by the Chinese Government in 2016 in order to reduce premature mortality from major chronic diseases by 30% by 2030 in comparison to 2015 (7). The Healthy China Initiative, which aims to improve the active health capacities of the elderly, was introduced in 2019 and includes a plan for older health promotion. According to one study, the illness burden climbed from 27th to 15th (8), and China's ranking for Alzheimer's disease mortality jumped from 10th in 1990 to 5th in 2019. An action plan (2023–2025) for the prevention of Alzheimer's disease and promotion of its care was formulated by the National Health Commission in 2023. It included sharing relevant information, guiding cognitive function screening and classified interventions in eligible regions, and investigating the creation of a service network for Alzheimer's disease prevention and treatment. By 2022, four provinces and one city had started initiatives to prevent falls among the elderly, and 25 provinces had incorporated medical and elderly care as well as health in old age into national basic public health care projects. Organized preventative interventions for dementia and older disabilities had been implemented in 15 provinces (9). One hundred and twenty-seven million senior citizens 65 years of age and older had their health managed at primary healthcare facilities in 2022.

2.2. Disease diagnosis and treatment

A notice on comprehensively enhancing elderly health care and guidelines for the design and administration

of geriatric departments were issued in 2021 by the National Health Commission and other agencies. These documents also promoted multidisciplinary models of diagnosis and treatment in healthcare facilities, improved the handling of geriatric syndromes, and changed the focus of elderly medical care from single-disease management to multi-morbidity management. Another requirement was standardizing the design and administration of geriatric departments. In 2023, the State Council published a report outlining its recommendations for expanding the medical and health care system. These included promoting urban medical alliances, county-level medical groups, joint clinics for chronic illness between medical facilities at the primary and higher tiers and improved management and capabilities for elderly medical care. In 2022, China surpassed the 2025 target of 60% (10) by having 5,909 secondary and above comprehensive hospitals with geriatric departments — representing 69.3% of such hospitals nationwide — and one national geriatric medical center in addition to six national clinical research centers for geriatric disorders.

2.3. Rehabilitation and nursing

The Implementation Plan to Enhance the Rehabilitation Capabilities of Traditional Chinese Medicine (2021–2025), published in 2020 by the National Health Commission and other departments, aims to increase the percentage of traditional Chinese medicine hospitals at the secondary and tertiary tiers with rehabilitation departments to 85% and 70%, respectively, by 2025. The National Health Commission designated 15 provinces as pilot regions in a notice on pilot work for rehabilitation care that was published in 2021. The pilot program's objectives included guiding the transformation of some

Table 1. Crucial occasions in China's reaction to healthy aging

| Area | Year | Policy | Key Issues |
|-------------------------------------|------|--|---|
| Prevention | 2019 | Healthy China: Health Promotion Activities for the Elderly | Decreasing the prevalence of impairment in the 65–74 age group, moderating the rate at which dementia develops in the 65+ age group, and improving the design of geriatric medicine and rehabilitation units. |
| | 2023 | Action for the Prevention and Promotion of Alzheimer's Disease (2023–2025) | Reducing and avoiding the development of Alzheimer's disease. |
| | 2024 | Initiative for Health Promotion and Elderly Hearing (2024–2027) | Preventing and mitigating the development of hearing loss in the elderly. |
| Diagnosis and Treatment | 2021 | Comprehensive Enhancement of Elderly Health Care | Enhancing the medical and health care system's amenability, creating a comprehensive elderly health care system, and improving the elder's capacity to receive treatment of several diseases. |
| | 2023 | Further Improvement of the Medical and Health Care System | Enhancing the fairness, accessibility, and capacity to deliver quality medical and health care; further developing integrated medical and health care systems. |
| Rehabilitation and Nursing | 2020 | Implementation Plan for the Promotion of Chinese Medicine Rehabilitation Service Capabilities (2021–2025) | Capitalizing on the vital role of traditional Chinese medicine in disease rehabilitation, encouraging the integration of traditional Chinese medicine, traditional Chinese sports, and modern rehabilitation techniques, and producing rehabilitation medicine with Chinese characteristics. |
| | 2021 | Pilot Work on Rehabilitation Care | Investigating, developing, and implementing a variety of rehabilitation medical service models and a comparatively comprehensive rehabilitation medical service system. |
| | 2022 | National Nursing Career Development Plan (2021–2025) | Bolstering the development of nursing personnel, optimizing the distribution of nursing resources, and expand the availability of home-based, community-based, traditional Chinese medicine, and geriatric nursing. |
| Long-Term Care | 2016 | Guidance on a Pilot Project for a Long-Term Care Insurance System | Enhancing the standard of living and humanitarian care provided to people with disabilities by addressing challenges to long-term care. |
| | 2020 | Guidance on Expanding the Pilot Project for the Long-term Care Insurance System | Improving benefit payout, fund-raising, insurance participation and coverage, and institutional framework optimization. |
| Integrated Medical and Elderly Care | 2016 | Integrated Medical and Elderly Care Pilot Program | Investigating various local integrated medical and elderly care models and creating a medical service network that provides sufficient scale coverage for both rural and urban locations. |
| | 2024 | National Integrated Medical and Elderly Care Regions and Institutions | Providing a comprehensive policy framework for integrated medical and elderly care, take the lead, supporting and mentoring different localities to further advance integrated medical and elderly care, and summarizing and promoting successful experiences and practices. |
| Smart Elderly Care | 2017 | Action Plan for the Development of Smart Health and the Elderly Care Industry (2017–2020) | Encouraging the formation of a consortium of businesses, townships, or neighborhoods and trial sites that can offer developed smart health and elderly care services, solutions, platforms, or products; in addition, facilitating the growth and implementation of the smart health and elderly care sector. |
| | 2020 | Implementation Plan to Address Difficulties in the Use of Smart Technology by the Elderly | Promoting solutions to difficulties the elderly have using smart technology. |
| | 2021 | The Second Batch of Pilot Institutions for Remote Collaborative Services in Integrated Medical and Elderly Health Care | Using the Internet to enhance the quality, efficiency, and level of integrated medical and elderly care services. |
| | 2023 | Directorate to Promote Smart Health and Elderly Care Products and Services (2022 Edition) | Promoting the use and spread of typical smart health and elderly care products and services, and encouraging the development of the smart health and elderly care industry. |
| Palliative Care | 2017 | Palliative Care Practice Guidelines (Trial) and the First Batch of Palliative Care Pilot Programs | Advising local areas to further construct and manage palliative care centers, and standardizing palliative care practices. |
| | 2019 | The Second Batch of Palliative Care Pilot Programs | Devising working procedures, developing service systems, defining services, conducting pilot surveys, investigating institutional protections, fostering teamwork, creating standards and norms, and improving publicity and educational campaigns. |
| | 2023 | The Third Batch of Palliative Care Pilot Programs | Creating service teams, enhancing support policies, building service systems, and conducting publicity and educational campaigns. |

primary and secondary hospitals into rehabilitation hospitals and expanding the number of beds and medical facilities offering rehabilitation services. The National Health Commission published the National Nursing Career Development Plan (2021–2025) in 2022. It aims to increase the number of registered nurses in the country to 5.5 million by 2025, or 3.8 nurses per 1,000 people. This will greatly boost the availability of home, community, and traditional Chinese medicine nursing, as well as care for the elderly. In order to hasten the growth of geriatric nursing, the strategy included suggested improvements. The percentage of nursing beds in primary healthcare facilities increased to 30% by 2022.

2.4. Long-term care insurance (LTCI)

Shanghai, Guangzhou, and Suzhou were among the 15 cities chosen by the Ministry of Human Resources and Social Security to participate in the LTCI system trial program, which was announced in 2016. Guidelines for expanding the LTCI pilot program were announced in 2020 by the Ministry of Finance and the National Medical Insurance Administration, bringing the total number of pilot cities and regions to 49 (11). LTCI prioritizes eligible senior citizens while addressing the fundamental care needs of people with severe disabilities. In 49 pilot cities, 169.902 million people took part in LTCI by 2022, with 1.208 million beneficiaries. Fund expenditures in 2022 totaled 10.44 billion Chinese yuan, while fund revenue came to 24.08 billion yuan. There were 331,000 carers and 7,679 certified LTCI facilities. From the perspective of implementation, the use of LTCI dramatically decreased the yearly frequency and cost of hospitalization (12) while also prolonging the survival time of those over 65 by 33.74 days (13) and reducing their mortality rate by 5.10%. Another analysis revealed that the LTCI pilot programs had a positive impact overall, although there were significant geographical differences. The majority of pilot city programs sought to lessen the financial burden on patients' families (14).

2.5. Smart homes and elderly care

The Action Plan for the Development of the Smart Healthy Aging Industry (2017–2020) was jointly issued in 2017 by the Ministry of Industry and Information Technology and other departments. Its objectives include encouraging businesses and healthy aging facilities to fully utilize smart healthy aging products and to develop innovative solutions for chronic disease management, home-based healthy aging, personalized health management, online health consultation, life care, and information services for elderly care facilities (15). The General Office of the State Council issued an implementation plan in 2020 with the goal of bridging the "digital gap" in healthcare and other

industries by addressing the challenges older people have when utilizing smart technologies. The National Health Commission, which identified 346 facilities, announced the second round of trial facilities for remote collaboration in integrated medical and geriatric care in 2021. The Catalog to Promote Smart Healthy Aging Products and Services (2022 Edition) was jointly published in 2023 by the Ministry of Industry and Information Technology and other agencies. It includes a list of 25 service providers and 54 product manufacturers. According to one study, China is progressively developing a community-based smart aging system that includes medical and elderly care interaction, home safety, institutional elderly care, community-based elderly care, and at-home elderly care (16).

2.6. Integrated medical and elderly care

Two batches of ninety national pilot projects for integrated medical and elder care were authorized by the Chinese Government in 2016 (17). The National Health Commission designated 100 counties (cities, districts) as national trial areas, 100 facilities as national trial sites, and Shandong Province as the national trial province for integrated medical and elderly care in 2024. In terms of integrated medical and elderly care, China has created four well-developed service models: collaboration between medical and health care facilities and facilities that provide elderly care services; medical and health care facilities offering integrated medical and elderly care; elderly care facilities offering medical care; and expanding medical care to homes and communities. By 2024, China will have 2 million beds, 7,800 integrated medical and elderly care facilities qualifying as medical facilities and registered as elderly care facilities, 87,000 signed contracts between medical and health care facilities and elderly care facilities, and an increase in the number of beds available. Studies have revealed that government agencies, like the Ministry of Industry and Information Technology (MIIT) and the National Health Commission (NHC), have worked closely together to improve interdepartmental cooperation over time. Research has indicated that integrated medical and elderly care significantly improves medication adherence, dietary habits, exercise routines, regular follow-ups, medical compliance behaviors, and reduces negative emotions (16). This is evident from studies on the Hospital-Community Integrated Service Model (HCISM) in the home rehabilitation of elderly stroke patients (18).

2.7. Hospice care

In addition to launching the first round of hospice care pilot projects in five locations, the National Health Commission published practice guidelines (draft) for hospice care in 2017. The Law of the People's Republic

of China on Basic Medical and Health Care and Health Promotion was passed by the Standing Committee of the National People's Congress in 2019. It stated that "all types of medical and health care facilities at all levels should provide citizens with comprehensive and life-cycle medical and health care, including hospice care." The National Health Commission announced the second batch of 71 city (district) pilot programs and in 2019 the third batch of 64 city (district) pilot programs in 2023. By 2023, 4,259 medical and healthcare facilities across the country had departments dedicated to hospice care, and there were 152 hospice care trial sites. China has investigated and developed a number of hospice care models (19), including home-based, hospital-based, community-based, integrated medical and geriatric care, remote hospice care, and hospice care directed by traditional Chinese medicine. By the end of 2020, hospice care at community health care centers was fully covered in Shanghai (20).

3. Prospects as aging proceeds in China

China still faces many obstacles, but it has made headway in handling its aging population. China will prioritize earlier preventive interventions, more continuous, convenient, and cost-effective diagnostic and treatment services, more balanced resource allocation, smarter products, and a friendlier social environment during the period of the "14th Five-Year Plan" and beyond due to its economic growth, the development of highly qualified public hospitals, and extensive research on and use of AI technologies. This will lessen the financial burden, enhance health outcomes, and more effectively address the healthcare needs of the elderly. The following describes the structural, process, and outcome aspects as aging proceeds in China based on its existing reality (Figure 2).

3.1. Improving resource allocation and interdepartmental policy coordination

China should improve interdepartmental policy coordination under the Healthy China agenda. To improve policy consistency, departments and organizations like the State Administration for Market Regulation, the China Disabled Persons' Federation, the National Health Commission, the Ministry of Science and Technology, and the Ministry of Industry and Information Technology should enhance their collaboration during the policy-making process. Second, the integration of traditional and modern medicine, integrated medical and elderly care facilities, and sports and health promotion should be enhanced. Third, to guarantee equitable and accessible elderly health care, balanced resource distribution among regions should be heavily encouraged, with central government transfers toward the west and rural areas.

3.2. Enhancing the management of integrated health and medical insurance

First, China should consider incorporating nursing homes, rehabilitation centers, and hospice care facilities into an integrated, continuing medical care system that includes prevention, diagnosis, treatment, and care for disease. This builds on the ongoing support of medical alliances and communities. Second, China should continue to encourage the formation of specialized geriatric alliances to improve coordinated geriatric medical care capabilities and efficiency. Third, China should sustainably advance LTCI pilot programs and protective measures to increase the security level for senior citizens.

3.3. Improving the use of digital products and technologies

First, China should concentrate on transitional applications and actively encourage the use of evaluation, diagnosis, and monitoring technologies appropriate for home and community applications to improve

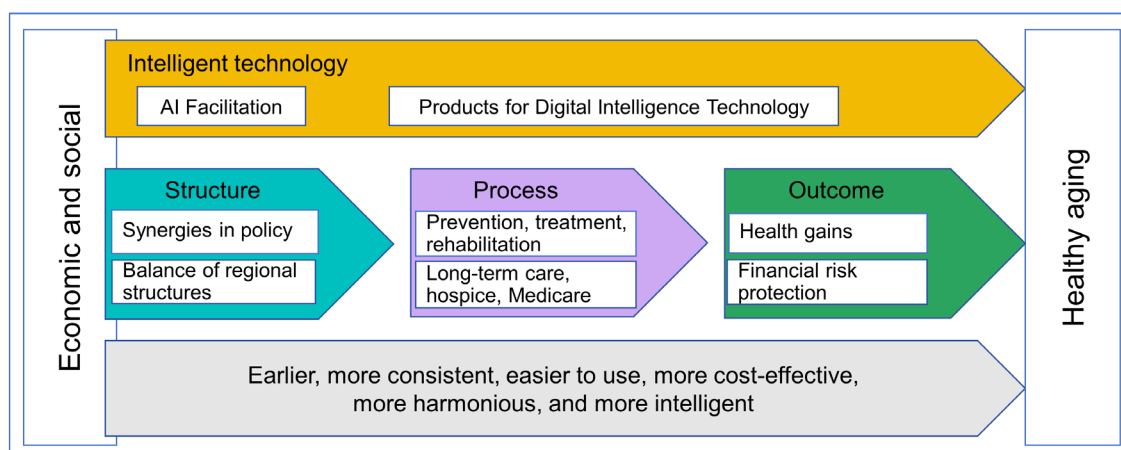


Figure 2. China's Active Aging Development Strategies

amenability to the elderly. This builds on the ongoing promotion of smart elderly care. Second, China should improve the cutting-edge "Internet +" elderly and elderly care models to raise the level and efficiency of intelligent elderly health care.

3.4. Improving the tracking and evaluation of health outcomes and financial risks for the elderly

China should create a results-driven monitoring and assessment system to track and analyze financial and health risks for the elderly on a regular basis, pinpoint successful and unsuccessful models, and compile insights and lessons learned. In order to increase the accessibility and integration of multi-source data on health outcomes and individual burdens, China first needs to further create pertinent database systems. Second, China needs to improve data-driven decision-making, promptly evaluate health technologies, choose safe, efficient, cost-effective, innovative suitable, and easily accessible intervention programs and pathways, and assist with the growth of a healthy aging population.

4. Conclusion

This article has examined the circumstances of aging and issues facing China, as well as the government's policy initiatives, accomplishments, and outlook for the country's future growth. The chance of developing dementia, a chronic illness, or impairment rises significantly with age, which presents great problems to China's medical and health care system as well as its health security system. A multifaceted elderly health care and security system that includes health education, preventive healthcare, disease diagnosis and treatment, nursing and rehabilitation, long-term care, integrated medical and elderly care, smart elderly care, and hospice care was first created by the Chinese Government in response to the country's population aging strategy. Even though these initiatives have been crucial in providing support, there are still many obstacles to overcome. These include uneven policies, unequal resource distribution, ineffective preventive measures, a lack of continuity and convenience in diagnostic and treatment, noticeable differences between urban and rural areas, and insufficient health security measures. China should prioritize early prevention, more ongoing, convenient, and cost-effective services, more equitable resource distribution, smarter technological applications, and a more welcoming social climate in the future.

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