

## REVIEW ARTICLE

# Geriatric medicine in China: The past, present, and future

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**Abstract**

Geriatric medicine in China started to develop as a medical specialty in the 1950s and has now become an extensive national healthcare network for the elderly. As population aging accelerates and the number of senior citizens keeps rising, major issues of healthcare delivery for this segment need to be addressed. Inequality in access to quality health care continues to exist between the public and private sectors and between urban centers and rural areas. The education and practice of geriatric medicine also face a range of problems, such as inadequate teaching of geriatrics-related subjects in the medical education curriculum, the design of residency and fellowship programs, and the integration of geriatric principles into clinical practice. Government commitment, investment from the private sector, and improvement in geriatric medicine professionals' knowledge and skills are required to bring geriatric care to a higher level.

**KEYWORDS**

Chinese healthcare system, geriatric medicine, medical education, population aging

## 1 | INTRODUCTION

In the past several decades, China has undergone drastic transformations in many aspects of society. Rapid economic growth has lifted many people out of poverty, and the standard of living has improved enormously for a significant portion of the population. Consequently, expectations for healthcare services have grown higher than ever before. Disease patterns have also changed. Communicable diseases and malnutrition have been replaced by cardiovascular disease, cancer, and other chronic debilitating disorders as the leading causes of death.<sup>1</sup> In dealing with increasing healthcare needs, major issues such as health insurance coverage and service delivery models are being raised and debated. Although the healthcare system is still evolving, medical facilities in much of the country have received impressive upgrading.

The development of geriatric medicine in China has closely paralleled that of the country's medical community as a whole,

from its humble beginnings to a comprehensive national network, including many hospitals each with hundreds of geriatric beds. The establishment of the National Center for Geriatrics and Gerontology in 2015 represented another milestone. The center, based at Beijing Hospital, is charged with implementing training programs for geriatric care and research, coordinating national geriatric initiatives, monitoring disease trends in the elderly, and issuing regular senior health status reports, in addition to academic research. In light of the critical role international interaction and cooperation has played in bringing Chinese geriatric care professionals closer to the international community, the founding of *Aging Medicine* marks a major inflection point. With internationally renowned experts joining forces, the journal will offer another exciting venue for colleagues interested in geriatric medicine and aging research to communicate their practice and research. It is a good moment to reflect on how we have come this far and what kinds of tasks we need to accomplish to elevate the country's geriatric medicine to a new height.

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## 2 | POPULATION AGING AND HEALTHCARE CHALLENGES

After several decades of double-digit growth, the Chinese population started to show signs of leveling off a few years ago. According to the latest report by the National Bureau of Statistics in 2017, the population of China reached 1.38 billion at the end of 2016.<sup>2</sup> The sixth national census showed that China's population in 2010 was 1.34 billion.<sup>3</sup> These numbers translate into the slowest growth rates in recent history. It is widely expected that an overall population decline will be seen in the near future. Shifts in the composition of the population reveal unique features signaling that China is rapidly becoming the first aged developing country. Senior residents, currently defined as those aged 60 years or above, at about 231 million at the end of 2016, made up 16.7% of the population. Meanwhile, there were 150 million people aged 65 or above, or 10.8% of the population.<sup>3</sup> The United Nations has predicted that the number of China's senior residents will grow to 360 million by 2030.<sup>4</sup>

As healthy aging becomes a common pursuit, such a large elderly population is imposing increasing pressure on numerous aspects related to senior care. Since the 1990s, China has passed legislation aimed at ensuring elderly rights, including social security and healthcare access.<sup>5</sup> In practice, however, the quality of care individuals receive varies considerably. There also exists a large discrepancy between the public and private sectors in healthcare-related benefits. Efforts to achieve equitable benefit distribution have yet to bear fruit. Meanwhile, the divide between regions at different developmental levels and between cities and rural areas still persists. While major urban centers along the east coast have healthcare facilities approaching the levels of those in developed countries and staffed with well-trained medical professionals, hospitals and clinics in the central and western regions, perhaps with the exception of top hospitals in major cities, struggle to provide basic services for their residents. In institutional care for the elderly, a few major cities and urban centers have built large numbers of nursing homes and are experimenting with various business models. In contrast, seniors with long-term care needs in poor regions and the countryside largely depend on family support.<sup>6</sup> Ultimately, the government may have to commit far more financial resources to close the gap and improve the overall healthcare access and quality for the elderly and other segments of the population.

## 3 | DEVELOPMENT OF GERIATRIC MEDICINE IN CHINA

As in many other countries, geriatric medicine in China started to take shape much later than the other major branches of medicine. Western medicine was introduced to China in the 1800s, largely by European and North American missionary groups. Most missionary-run hospitals were established around the turn of the 20th century.<sup>7</sup>

The first medical schools, Xiangya Medical College in Changsha and Peking Union Medical College in Beijing, were founded in the 1910s, and clinical practice and teaching were organized according to several medical specialties.<sup>8</sup> However, it was not until the 1950s that research on aging and geriatric care-related subjects began to emerge when teams in Beijing, Wuhan, Guangxi, and other areas conducted investigations over aging populations and factors contributing to longevity.<sup>9</sup> A watershed event occurred when the Chinese Medical Association held its first national conference on aging and geriatric medicine in November 1964. During the conference, participants proposed development goals and implementation strategies for geriatric medicine.<sup>9</sup> Unfortunately, the fledgling field stagnated for more than a decade as a result of the subsequent social and political events.

Starting from 1978, geriatric medicine in China entered a phase of accelerated expansion. Professionals in this field formed their local geriatric organizations and research institutions in many provinces. The Chinese Medical Association, which was founded in 1915, announced the establishment of its geriatric medicine branch at the second national conference on geriatric medicine in October 1981.<sup>10</sup> The following year, the *Chinese Journal of Geriatric Medicine* published its first issue.<sup>10</sup> Initially, clinical geriatric services were provided by physicians from different divisions of internal medicine, depending on the systems involved. With the increasing need for specialized care, large hospitals in major cities began to create independent geriatric departments in the late 1980s and early 1990s. Physicians who first joined these departments were mostly cardiologists, followed by pulmonologists, nephrologists, and other types of internal medicine specialists. As geriatric departments grew in size and higher levels of care quality were demanded, subdivisions were introduced, largely based on the subspecialties of internal medicine. During the same period, geriatric research also flourished. Large numbers of articles were published in national and international academic journals and covered a wide range of subjects, including mechanisms of aging; pathophysiological processes of diseases; epidemiological data concerning the health status, risk factors, and community care for seniors; and clinical management issues.<sup>11,12</sup>

## 4 | CURRENT STATE AND FUTURE OUTLOOK

As a result of the impressive achievements made in the last 30 years, geriatric medicine in China now serves as an integral part of the nation's medical profession. Although geriatric medicine departments generally operate under the watch of their hospital authorities, their participation in extramural academic activities is closely coordinated by the provincial and national geriatric branches of the Chinese Medical Association. The national branch, which is composed of representatives from the provinces and municipalities, plays the leadership role in planning and organizing events for professional

training, review of clinical practice issues, and discussion of policy initiatives. Each year, 2 major conferences, the national geriatric conference and the national conference on the prevention and management of common disorders in the elderly, attract thousands of participants, a strong indication of how thriving the field has turned out to be. Collaboration with the international geriatric community, through forums and joint research projects, has become more frequent and substantive and has been instrumental to informing geriatric professionals in this country of the latest advances in research and clinical practice.

On close examination, however, a number of weaknesses still persist. In chronic care management, levels of awareness, treatment, and control for common diseases such as hypertension, diabetes, and hyperlipidemia among the elderly are very low.<sup>13</sup> This is because the healthcare network is insufficient and fails to provide basic services to seniors, especially those in the countryside. Even at major hospitals, the principles of geriatric care have not been incorporated into clinical procedures. The prevailing practice is single-disease-based management, while little thought is given to multimorbidity and comprehensive geriatric assessment is not routinely conducted.<sup>14</sup> Another notable problem is a deficiency in the long-term care structure, specifically the severe shortage of nursing homes and well-trained personnel.<sup>15</sup> Consequently, transitions between healthcare settings are often impractical. Additionally, geriatric medicine as an independent discipline is not reflected in the current medical school curriculum. Despite repeated calls for its inclusion, it has not been taught as a subject, let alone as a separate course.<sup>16</sup> There is also much confusion over its designation as a specialty in residency and fellowship training.<sup>16</sup> Some institutions consider it as a division of internal medicine, but others place it under family medicine.

The existing problems and the ever-rising elderly population require determination and innovative solutions. To promote excellence and improve outcomes for senior care, future efforts should be directed at adopting forceful and comprehensive measures to renew the current geriatric care infrastructure and delivery mechanisms. By virtue of economic necessity and the size of the aging population, a family-based and community-supported senior care system is the path forward. For elderly patients with multiple health problems, continuity in care services is essential and most services ought to be provided in communities. The lack of nursing facilities may last for years, but numerous community hospitals and clinics are currently underutilized and can potentially dedicate their surplus capacity to senior services. To complement this approach, designated major hospitals can form partnerships with community service providers for knowledge transfer and staff training. For geriatric medicine departments, their practice should be based on a clear understanding of patients' general health conditions, well-defined treatment goals, and the best available evidence. The geriatric branch of the Chinese Medical Association should organize expert panels for the subspecialties and common diseases afflicting the elderly to regularly review management protocols and issue guidelines. Specialized education and training is an important guarantee for qualified professionals to enter geriatric care. As the classification of academic disciplines is in the hands of government agencies, it is hoped

that communications with relevant authorities will help clarify the standing of geriatric medicine among the medical branches.

The current environment is highly favorable for sustained development of geriatric medicine. The central government has realized that population aging in China will continue for the remainder of the century and conceived strategies to channel the dynamics of aging toward further social progress. Programs aimed at advocating lifelong learning, encouraging senior social engagement, and boosting elderly health have been initiated. Funding for aging research, including joint projects with international partners, will see steady growth in the coming years. The private sector is stepping up investment in senior housing properties and long-term care facilities. Colleagues in geriatric medicine are keen to take on the health challenges of population aging and contribute to the well-being of the elderly. We have every reason to believe that greater days still lie ahead and increasing numbers of senior citizens in this country will benefit from a more fitting geriatric healthcare system.

## CONFLICT OF INTEREST

The authors confirm that they have no conflict of interest.

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