

Current Status and Countermeasures of Health Surveillance for the Elderly --Based on the Status of Aging in China

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Abstract. By 2024, more than 20% of China's population will be beyond the age of 60 due to rising life expectancy and the implementation of the one-child policy. Leading China to face substantial challenges in providing health surveillance for its rapidly aging population. The national health literacy level of China is 27.78% in 2022, the elderly population deserve a lower level due to low education level. Resources between rural and urban has a huge gap. The majority of primary care facilities are unable to handle the chronic illnesses that affect senior individuals. Lifestyle has changed along the financial arise, chronic illness categories are changing. Addressing risk factors for contemporary diseases like diabetes requires a shift in the healthcare system. In addition, declining family sizes are restricting the availability of traditional familial care. Community services have grown, but their quality and coverage are still inconsistent, particularly in rural areas. Coordinated efforts are required to increase health literacy. Fairly distribute medical resources and experts, direct illness preventive initiatives, and create comprehensive community-based care models in order to improve health surveillance for China's elderly population. Resource imbalance can be addressed with targeted investments in geriatric training programs, primary care, and digital health technologies.

Keywords: public health, ageing, policy, health literacy.

1. Introduction

Chinese ageing populations growth is one of the fastest in the world[1]. After reform and opening-up, Chinese economy began to revive. Investment in health care has increased, resulting in an increase in life expectancy. Meanwhile, the implementation of one child policy also aggravated the ageing situation of China.

Studies have shown that the ageing population in China will be more than 20% in 2024, and in 2039 reached 30%, increased to 34.9% in 2053 [1]. A rapidly growing portion of the older population will be sickly as our nation ages. The proportion of elderly Chinese people who are disabled or semi-impaired was 18.3%. In 2019, noncommunicable diseases like hypertension and cardiovascular disease account for over 40% of death toll In China [2].

In this context, the Healthy China 2030 Plan's Outline was published, outlining a number of reform initiatives, including the creation of an online medical network. More than 50 documents promoting the growth of the medical Internet of Things have been released by the Chinese government since 2015. underscoring the significance of improving the lives of the elderly both now and in the future. China is looking into new policies to promote healthy aging as strong economic expansion frees up space for it[2].

The Healthy China 2030 Plan was issued in 2016, proposing a series of reform measures, such as influencing China's approach to chronic diseases to shift from "individual treatment" to "public governance" combining management, policy, and service [3].

However, challenges remain, therefore, this paper will focus on four aspects: health literacy, distribution of resources and professional construction, disease transformation, and healthcare provision. Putting forward the existing problems in the current environment in China and gives policy recommendations.

2. Current Situation (Potential Issues)

2.1. Low Health Literacy

Three fundamental components make up the construction of health literacy: health knowledge, healthcare, and the healthcare system; ability to access, utilize many sources of health and medical information, and the capacity to preserve health through self-care and collaboration with medical professionals [4]. Those with high health literacy will have the ability to read the nutrients label on the merchandise they are going to purchase, so to avoid being allergic. Either able to follow the instruction of doctor and so on. But people with low health literacy have difficulties of taking the above actions.

The morbidity of diseases associated with age such as hypertension, Alzheimer's disease (AD) and related dementias, and other illnesses is rising as senior people live longer. Taking dementia as an example, the most common form of dementia is AD, and as aging is the main risk factor for developing the disease, its prevalence is rising sharply as the world's population ages [5]. According to a study from 2000, the prevalence of AD would increase fourfold over the next fifty years, and the largest group suffered from it is the ageing people [5].

However, for crisis so close ahead, most elderly people have not built up enough vigilance. The 2021 CHARLS study found that there is still much to learn about chronic diseases including dementia and cardiovascular disease. Nearly half of the survey subjects did not acknowledge about the health literacy topics crucial for the treatment of dementia [2]. And this statistic is still been overestimated since the survey includes mainly the population at the village and town level whereas the official national health literacy rate is 25.40%, and the health literacy rate among rural residents is 22.05%, which all shows that the health literacy of the elderly or the general public is relatively low for chronic diseases [6]. Meanwhile, situations such as failing to maintain normal blood pressure or cholesterol levels when suffering from chronic diseases like hypertension or diabetes, deliberately avoiding flu vaccination, can all potentially happen, this has led to an increase in readmission rates and an increase in healthcare expenditures [6,7]. A study in 2015 found that patients with a higher level of health literacy had a 21% lower readmission rate compared to those below basic health literacy levels [8].

Geographical differences of health literacy were also significant. A survey on regional differences in health literacy revealed that only Beijing and Shanghai with health literacy rates above 30%. The coastal cities in the eastern region have rates ranging from 20% to 30%. The relatively less developed northeastern and southwestern regions have rates between 15% and 20%. Most of the northwestern region has rates of 10% to 15%, and even lower than 10% in some areas [6].

2.2. Unequal Distribution of Resources and Lack of Professional Construction

The distribution of healthcare resources, such as hospitals, beds, staff, and medical equipment, is notably unequal in China [9,10]. This inequality happens between urban and rural areas, as well as between the eastern and western regions, is most prominently reflected. Even can be seen between metropolitan cores and suburb [11]. The unequal allocation of health human resource (HHR) has the worst impact on the lower socioeconomic status people, which mostly are elderly people [12]. Resulting in “Kan-bing-nan” and “Kan-bing-gui” summarized by Chinese media [11]. As primary healthcare facilities frequently lack the requisite capacity to manage their problems, also distrust by the customers, older patients with underlying medical disorders must only seek medical treatment for the most common chronic disease or follow-up care at large hospitals in this circumstance [2]. The entire healthcare system is heavily burdened by this. In addition, the healthcare system's digitization has widened the "digital divide," making it challenging for many elderly people to navigate. In rural or suburban regions, many older people lack easy access to healthcare services and reliable transportation. Their ability to appropriately control their health indicators is further complicated by the lack of medical professional supervision.

The reason for this phenomenon is the unequal distribution of government funding and policies is visible both between and within areas [12]. For instance, in 2014, the eastern zone had 8 times more

hospitals and four times more primary care facilities per 1000 km² than the western zone[10]. Because of this gap, advanced hospitals are subject to harsher regulations and are given more funding and resources. Patients are more likely to trust specialized hospitals than primary care centers. Additionally, due to superior pay and advancement opportunities, doctors and other healthcare professionals are more likely to work in larger cities or hospitals, the combination formed a Matthew Effect, expanding the gap[2,12].

Another issue is that most Chinese geriatric medical practices still do not provide complete care due to a lack of appropriately qualified geriatric physicians. Only 40% of medical schools could provide a master's degree in geriatric medicine as of 2019. Among clinical master's degrees conferred in 2015–2016 geriatric medicine merely accounted for 0.34%. At the age of 42, many physicians who work in the geriatric medicine field have received training in nephrology, cardiology, and other internal medicine specialties. These doctors' professional incentives are focused on their primary fields of practice rather than geriatric medicine [2].

2.3. Disease Transformation

Chronic diseases are characterized by long-term duration, potential for health complications, and challenges in management, particularly affect the elderly population [13]. Chronic diseases have supplanted infectious diseases as the primary cause of death for older people in China as a result of recent development. However, due to changes in people's lives, chronic disease types are also evolving. According to China's National Health and Family Planning Commission's 2017 report, cardiovascular and cerebrovascular disorders are the main killers in that country. Lower respiratory tract infections were the leading cause of mortality in 16 of the 33 provinces and regions in 1990, while cerebrovascular illnesses were the leading cause of death in 15 of the 33 provinces and regions. However, by 2013, cardiovascular illnesses had surpassed cerebrovascular disorders as the major cause of mortality in an additional 5 provinces and regions, accounting for 27 provinces and regions [14].

According to the CLHLS, this dynamic interplay means that "traditional diseases" such as arthritis, COPD, and chronic digestive diseases are being replaced by "modern diseases" such as heart disease and hypertension [14].

The underlying socioeconomic elements that contribute to the development of chronic diseases have changed. Overnutrition and decreased physical activity have replaced earlier causes like starvation, prolonged exposure to dust, and living in cold, wet settings [14].

Despite the Chinese government acknowledging this transformation, there are still unresolved policy issues. There hasn't been a distinct health promotion plan that focuses on modern illnesses like diabetes and cardiovascular disease. China currently only has health promotion laws that deal with physical activity. There are still unimplemented policies aimed at the three main chronic disease risk factors: poor eating, smoking, and binge drinking [3].

2.4. Absence of Healthcare Provision

Aging does not only impose heavy burden on health system, but also gained prominence of the question: who should take care of the elderly? according to a 2015 study across the status of living within urban and rural Chinese seniors. If the ratio stays the same, there will be close to 100 million crippled senior people by the middle of this century, creating a huge gap of caring provision [1]. Many studies have shown that the main supporter of elderly is children or spouse. Nevertheless, the demographic structure transition of China released a new issue. The average number of living children for people in their 80s and 90s is 4, compared to 3.5 for people in their 70s and 74s and 2.8 for people in their 60s and 64s (11% of persons in this age group have just one child). Even fewer children will be born in the future to support elderly population [15]. At the same time, more young and middle-aged immigrants departing from suburban and rural areas made the situation even worse.

Taking care of elderly family member is a test for both physical and mental, evidence shown that among urban women, living in a family with disabled elderly people comparing with those who

doesn't contain, 29% more hours every week is consumed due to caring, and the likelihood that rural men and women (44% and 59%, respectively) are employed declines as a result of caring for an older parent [16]. Meanwhile, higher chance to getting depression when providing care is also showed in some studies [2].

Community services have started to be used to make up for the shortcomings in family care. The private sector has quickly expanded and taken the lead in the growth of the eldercare business with the support of policies. The mixed environment has, however, resulted in different service quality and standard levels regionally, across industries, and across the public and private sectors. A questionnaire filled by 515 residents from 9 facilities that provides continuous care in Shanghai showed that residents' life quality, social support, and sense of empowerments were all positively correlated [2]. On the other hand, a different study based on interviews with residents of institutions in mid and coastal China indicated severe care provision gaps, especially in rural areas with few services. Although community-based services have significantly grown these years, services still heavily been constricted within big cities. Additionally, a lot of service facilities merely provide leisure activities and don't provide the essential medical care that senior citizens need [2].

3. Policies Analysis and Recommendation

3.1. Health Literacy Promotion

Previous studies have shown that through the prompt actions of issuing a policy each two year in average shows that China is determined to raise the national health literacy level. These measures are comprehensively aiming at financial and researches support, future goals, and health literacy promotion moves [6].

The National Basic Public Health Services (NBPHS) in 2009, is used to implement the development of health literacy. It consists of six actions: starting smoking cessation clinics, running campaigns with targeted population and illness, health literacy and tobacco monitoring, health promotion carrying out at the county level, and creating health hotlines. But there are big differences in how these measures are put into practice. For instance, the number of projects collaborating with media decreased from its peak of 6827 in 2014 to 4127 in 2019. Similar to this, other initiatives like public health education activities and brochures—which are the main tools used for promotion for the elderlies—have displayed a flat or even declining growth tendency [6]. The strategy also emphasizes the significance of using digital media to promote health literacy [2]. The internet, however, is a double-edged weapon since it lacks centralized regulation and offers a mixture of trustworthy and incorrect health information [17]. Many older people are unable to distinguish between false and true information, putting their health or finances at risk. As a result, it becomes imperative to create a strictly controlled, government-backed health literacy platform [2].

Meanwhile, studies have shown that there is a correlation between knowledge level and health literacy. As population aging is an ongoing issue, expanding public education scale is also a long-term investment [2].

3.2. Increase Investment and Cultivate Relevant Talent

The Chinese government has boosted total spending and made changes to the healthcare system in response to the discrepancy in healthcare resources between urban and rural areas [12]. Additionally, initiatives have been made to raise the pay for healthcare providers in poor regions. Since 2009, the Shanghai city administration has been implementing the "5 + 3 + 1" strategy, which aims to increase the number of tertiary hospitals in rural areas in order to combat the Matthew Effect. However, these efforts are still regional and not sufficient to reverse the trend. Providing a profession-crossing, several-layers health provision system that fulfils people's medical needs, updating the health-care service mechanics in accordance with the state of the public health are both highly demanded [12].

The cultivation of geriatric doctors should also reflect targeted investment. Although there are numerous local and foreign programs for geriatric doctor training, but they are insufficient to meet the immense demand [2]. To alleviate the deficit in primary care systems, more training programs should be implemented, as should job subsidies. The expansion of geriatric physicians will change the obsolete emphasis on secondary and tertiary prevention in favor of primary prevention. This change will have an effect on hospitals as well as patients, who will develop a preventative mindset. The aged population's faith in primary care services will be restored with the provision of more specialist health advice [2].

Long distances, limited mobility and complex procedures can make it difficult for older persons to seek medical care. Therefore, it is necessary to establish age-friendly health care pathways. Relative actions as the "1560" medical treatment radius is formulated, so that urban patients can walk to the nearest medical institution within 15 minutes, and suburban patients can take public transport to tertiary hospitals within 60 minutes [12]. The hospitals can also take actions, making signage and guidance more age-friendly. For elderly people with transportation difficulties, the government can provide subsidies for hospitals to set up specialized transportation systems. Another approach is to lower the threshold and scale up the existing Internet hospital system to make it more accessible to elderly patients [2].

3.3. Shift the Health System to Counter the Disease Transformation

To cope with the disease transformation, the public health system urgently needs to stride. From the public health perspective, layering out the ageing population by social-economic status is an effective approach [14]. For susceptible people of higher social status, a healthy and regular lifestyle should be advocated, such as limiting tobacco use or increasing time spent outdoors; For the vulnerable population of lower social status, intervention from various aspects such as medical and health policies, public health services, and improvement of living environment is needed. Meanwhile, studies have shown that the impact of disease transition is greater in the lower socioeconomic status group, the elderly population living in rural and western areas, and attention should be paid to the investment in the construction of public health system in less developed areas [14].

3.4. Care Provision

Chinese government issued the "90-7-3" policy: 90% of elderly people receive care from family members, 7% get it from the community, and 3% live in nursing homes [18]. However, elderly people who have severe health situations need not only daily care but also need hospitalization, specialty services and rehabilitation, which amateurish children or spouse cannot provide. Thus, integrating the resources and create a community-based, full-service model that covers health advice, medical attention and home care will release the weight of family with disability or semi-disability elderly people [2]. Meanwhile, most elderly people prefer to live at home and only get help from community when they need it, Chinese government was aware of that, introduced more Internet technology into home care, such as health supervision platform, smart home, home care has become a policy focus in recent years [18].

The "13th Five-Year Plan" called for the complete liberalization of the market for senior care services as well as the market entities that support the growth of senior care services. The belief that placing old parents in nursing homes is seen as unfilial is one of the barriers preventing the development of the aged care business in China [18]. It is crucial to alter old mindsets and enhance investment, especially in rural and western areas, to scale up the development of the senior care industry. Stereotypes and unfavorable perceptions of nursing homes will progressively fade as the market for elderly care services expands and healthy market competition is encouraged [2].

4. Conclusion

This paper has summarized the current status and challenges of health surveillance for the elderly in China, and analyzed potential countermeasures. The aging population in China faces significant health literacy deficiencies, uneven distribution of healthcare resources, lack of specialized medical professionals, and a shift in prevalent diseases from traditional chronic illnesses to modern ones. Due to the lack of above factors, children and spouses are under great pressure, which are the primary caregivers of the elderly. At the same time, the elderly care services provided by the government and private institutions are still incomplete. Additionally, the infrastructure and national policies are still insufficient to address these issues, and the market for senior health care remains underdeveloped. The politics issued by Chinese government are also been analyzed in the article. The existing measures are not sufficient to manage the situation such as the unbalance resource distribution, hysteretic sentiments and lack of infostructure, a comprehensive, convenient system is urgently required.

In conclusion, addressing the health surveillance issues for China's aging population demands a diverse strategy that encompasses the public sector, business community, and larger society. It is possible to guarantee that the elderly in China receive the care and support they require to live healthy and dignified lives with strategic planning and persistent efforts.

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