

Challenges to China's Healthcare System Reform in the Context of Aging and Future Reform Direction

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Abstract. China's healthcare system faces challenges due to economic development and aging. This study focuses on adapting to aging and improving healthcare accessibility for the middle-aged and elderly, crucial for hospital competitiveness and meeting societal needs. The paper proposes measures based on a literature review. As healthcare reform progresses, high hospital costs and imbalanced pricing emerge. To address this, the government should optimize policies to allocate medical resources reasonably and reduce burdens on the middle-aged and elderly by targeting common diseases. Moreover, China lacks geriatric medical institutions and suffers from discipline imbalances. Strengthening geriatric disciplines, training professionals, and investing in grassroots facilities like specialized hospitals and community centers are necessary. Considering external shocks like COVID-19 and an aging population is vital for reform. Optimizing resource allocation, increasing transparency, promoting digitization, and enhancing efficiency and equity of healthcare utilization are essential. These steps will boost hospital competitiveness, foster long-term system development, adapt to aging challenges, and meet national healthcare demands.

Keywords: comprehensive health care reform; aging; health care services.

1. Introduction

China's aging population is accelerating, and the increasingly large group of middle-aged and elderly people will bring about a huge demand for medical care. The current situation of "expensive and difficult to seek medical care" brings a heavy burden to the patient's family, which makes the family easy to fall into the vicious circle of "sick - poor - sick again - poorer". Therefore, in April 2009, China's State Council issued the Opinions on Deepening the Reform of the Medical and Health Care System, formally waging war on the livelihood problem of "difficult and expensive access to medical care". In January 2015, the first batch of pilot provinces, Jiangsu, Anhui, Fujian, and Qinghai, started the pilot program, and in 2016, new provinces were added, including Shanghai, Zhejiang, Hunan, Chongqing, Sichuan, Shaanxi, and Ningxia. In 2016, Shanghai, Zhejiang, Hunan, Chongqing, Sichuan, Shaanxi, and Ningxia provinces (autonomous regions and municipalities) as pilot provinces, by the overall deployment of the deepening of health care reform, and to effectively solve the problem of "difficult and expensive medical treatment". It has been more than seven years since the implementation of the first batch of comprehensive medical reform pilots, and the pilots have actively explored different measures to promote medical reform. Has the comprehensive medical reform achieved the expected policy effect? Has it solved the problem of "expensive and difficult medical care"? What are the challenges facing the comprehensive healthcare reform?

This study summarizes the dilemmas facing China's healthcare reform. Firstly, this study analyzes the challenges faced by the current healthcare system from three aspects: the cost of healthcare services for the middle-aged and the elderly, the demand for geriatric talents, and the carrying capacity of China's healthcare system, and then makes targeted recommendations and suggestions for each of the above three parts, which will serve as a reference for China's healthcare reform policies. The cost of medical services will be divided into hospital price management and the cost of medical care for the elderly and middle-aged, while the carrying capacity of the medical system will be analyzed in the context of the new crown epidemic.

2. Literature Review

Current research on the direction of China's healthcare reform is broadly categorized into the following directions.

First, from the perspective of individual residents, studies have pointed out that comprehensive healthcare reform can improve rural residents' health literacy, improve residents' satisfaction with medical care and recognition of medical standards, and at the same time reduce relative healthcare expenditures and relative out-of-pocket healthcare expenditures, but some studies show that comprehensive healthcare reform raises outpatient and inpatient hospitalization costs [1-3]. In addition, existing literature has also analyzed the impact of comprehensive healthcare reform on the construction of the healthcare service system. Wang found that comprehensive healthcare reform promoted the construction of a universal healthcare insurance system and significantly reduced the cost of healthcare operations, but the positive effect of comprehensive healthcare reform on the level of healthcare services and the promotion of public hospital reform was not significant [3]. The policy evaluation of the first batch of pilots found that comprehensive healthcare reform can improve the accessibility of primary healthcare services [3]. There is also literature from the perspective of financial support, pointing out that in the promotion of comprehensive healthcare reform, finance, and other departments have raised funds from multiple sources, promoted the hierarchical diagnosis and treatment system, established a modern hospital management system, encouraged social capital to organize medical institutions, improved the universal healthcare security system, and strengthened the construction of healthcare personnel [4].

There are also limitations in the current research: first, in terms of research content, many scholars focus on the policy effects of the "new health care reform", but fewer studies on the policy effects of the comprehensive health care reform, and the literature on the policy effects of the comprehensive health care reform mainly focuses on the expenditure on inpatient medical costs, the level of medical services, and the level of health of the population, and does not assess the expenditure on the outpatient medical care of individuals. There is no assessment of individual outpatient medical expenditures. Secondly, in terms of the research object, the existing literature analyzes the whole sample, and combined with the current reality of population aging, research on comprehensive healthcare reform has not been carried out. The impact of the CHARLS on the healthcare behavior and medical expenditures of middle-aged and elderly people is relatively small, and the examination of end-of-life medical costs for the elderly is not comprehensive enough. Third, in terms of data selection, most of the literature uses macro-level data, and less literature uses micro-databases to conduct research, especially lacking evidence of CHARLS data that can represent the health behavior and medical care-seeking behavior of Chinese residents. Finally, in terms of research methodology, most are theoretical analyses of policies, although some of the literature uses the Difference-in-Difference method (DID) for evaluation, and less literature uses models to estimate the policy effects of comprehensive health care reform.

This study summarizes and complements existing research by combining China's healthcare reform with the context of aging, focusing on an overview of the needs of healthcare reform in the context of the current situation of an aging society, and providing a multifaceted examination of China's healthcare system and institutions.

3. Current Situation of China's Healthcare in the Context of Ageing

3.1. The Costs for the Middle-aged and the Elderly

The problem of medical service costs has been alleviated to some extent after the healthcare reform, but there are still differences and problems in terms of gender, geographic location, and hospitalization costs. A study has made an assessment of the policy effects of China's comprehensive healthcare reform based on four periods of CHARLS data in 2011, 2013, 2015, and 2018 using the progressive DID model, and found that: first, although the comprehensive healthcare reform was able

to significantly reduce the total outpatient costs for males, it did not have a significant effect on the outpatient costs for females. Second, while rural residents' outpatient medical costs decreased significantly after the pilot reform, the implementation of the comprehensive healthcare reform policy in urban areas was not as effective, and residents' outpatient medical costs did not decrease significantly. The reason for this may be that the comprehensive healthcare reform focuses on promoting the construction of integrated county and village healthcare systems, emphasizes the improvement of primary healthcare service capacity, and solves the dilemma of the low level of healthcare in primary hospitals by attracting high-quality talents to practice at the grassroots level and by constructing a medical community, which mainly reflects the tilt towards rural residents, and does not pay much attention to the problem of the crowding out of healthcare resources that is faced by urban residents, especially those living in large cities. Third, the comprehensive health care reform has not been able to reduce hospitalization costs as significantly as it has reduced outpatient costs; on the contrary, total hospitalization costs and out-of-pocket expenses have risen for middle-aged and elderly people. It is possible that this is related to the fact that middle-aged and elderly people with chronic diseases and living in urban areas will choose to be hospitalized to get better medical services [5]. This shows that although the healthcare reform has alleviated the problem of "expensive medical care" for the middle-aged and elderly population to a certain extent, there are still high prices for medical services in terms of gender differences, urban-rural differences, and hospitalization costs.

In addition, with the continuous advancement of healthcare reform, hospital price management problems are becoming more and more prominent, with the emergence of an imbalance between supply and demand in the drug market, ineffective inspections, and drug abuse. Qiu analyzes the influencing factors of medical service prices and the importance of the implementation of price management in the context of the current healthcare reform [6]. The study analyzes the four factors influencing the price of medical services (i.e., fiscal policy, service cost, market competition, and supply and demand) and finds that there are three existing problems in price management in hospitals in the context of healthcare reform, as follows:

Firstly, the cost-accounting mechanism for medical services is not sound. At present, some hospitals do not have a sound cost-accounting mechanism, which is manifested in the following aspects: first, the cost-accounting mechanism lacks transparency, and in some cases, the lack of accurate statistics on the costs of products and services may prevent hospitals from accurately evaluating and grasping the actual cost expenditures. In addition, the lack of statistical data does not ensure effective price management by the relevant hospital departments, which may result in losses. Secondly, due to the lack of a costing mechanism, which poses a greater risk to the hospital, price management may lose its effectiveness. For example, when suppliers supply products at quoted prices that exceed market prices, some hospitals may not be able to accurately identify inflated prices due to the lack of a sound cost accounting mechanism, resulting in excessive costs. Third, there is insecurity in the costing mechanism. For example, due to the lack of accurate calculation of prices, there is a possibility of disorganized inventory and fund management.

Secondly, the prices of some services are not standardized. On the one hand, hospitals have set the prices of some services too low, which results in a loss of revenue. For example, in some hospitals, the cost of examination or treatment is lower than the local average price standard level, resulting in lower income from this part of the service and affecting the normal revenue of the hospital. On the other hand, hospitals set the price of some service items at too high a level, which increases the medical burden of patients, affects their medical choices, and also seriously damages the image of hospitals. In addition, when considering in-hospital price management, price changes are not easy to grasp promptly, and price increases can easily lead to a waste of medical resources. With the intensification of competition in the industry, some hospitals have not established a scientific and reasonable price supervision mechanism, which has led to a substantial increase in prices that should be controlled, affecting the quality of medical services.

Finally, the price dynamic adjustment mechanism lacks a scientific nature. The price dynamic adjustment mechanism's lack of scientific and government control is closely related. At present, the

government has clear laws and regulations on price increases, but the decline in prices is not clearly stipulated, resulting in the lack of legal constraints on price management. In addition, the slow progress of modification and adjustment of relevant laws and regulations makes the management of prices by the law subject to certain restrictions, resulting in the lack of a scientific price dynamic adjustment strategy. Therefore, solving the problem of hospital price management is one of the unavoidable directions of medical reform.

3.2. Personnel and Institutional Needs in Geriatrics

At present, China's geriatric medical institutions and geriatric professionals are far from meeting the medical and nursing needs of the elderly. Jin found that in addition to a serious shortage of medical and health institutions, the imbalance in the structure of geriatric personnel should not be ignored [7]. At present, China's geriatrics personnel training is mainly from the perspective of sociology and demography.

The study of population ageing is concentrated at the master's and doctoral levels of higher education. There is no specialized undergraduate training in geriatrics. The majority of geriatricians are graduates of clinical medicine who enter geriatric medicine after training. As a result of the above background, practitioners are not familiar with the characteristics of geriatric diseases, assessment of the functional status of the elderly, and early detection of geriatric diseases. Interventions are weak, and the quality and quantity of geriatric personnel are far from adequate to meet demand.

3.3. Health System Carrying Capacity

Faced with the dual tests of aging and the new crown epidemic backdrop, the short-term resilience and long-term carrying capacity of China's healthcare system are still shown to be relatively weak.

First, in terms of short-term resilience, one study reviewed the results of the response and performance of the healthcare system in Wuhan at the beginning of the Xinguan outbreak and found that Wuhan, with its better healthcare resources, still lacked the capacity to respond well to stresses and shocks from a resilience perspective. The study shows that the lack of resilience of the healthcare system is highlighted in four aspects: first, insufficient capacity of hospitals to receive patients, second, insufficient stockpiling of medical supplies, third, insufficient beds and isolation places, and fourth, tight staffing of healthcare personnel. In addition, at the beginning of the outbreak of infectious diseases, if the source of disease and transmission mechanism is not yet clear or risk communication is not appropriate, the phenomenon of panic to seek medical treatment is particularly obvious, which will further expand the demand for medical care; the transportation and distribution of relief supplies is not enough to open and transparent information also caused social panic and distrust, but also because of the control and prevention and relief process of the various parts of the responsibility of the main body is not clear caused by the central directives are often difficult to implement, triggering the "medical crowded", and the "medical care". It is also because of the lack of clarity of responsibilities in the prevention, control, and relief process that centralized instructions are often difficult to implement, leading to the phenomenon of "medical run" [8]. This lack of response capacity has led to the vulnerable middle-aged and elderly groups being the first to be affected by such infectious disease outbreaks, making it difficult to protect their healthcare services.

Second, in terms of long-term carrying capacity, the elderly population, especially in large cities, may face problems of healthcare resource crowding and waste. Lu examines the impact of deductibles and reimbursement ratios on reducing healthcare costs using panel data from 2011 to 2019 [9]. The study finds that health insurance often leads to the overuse of medical services, the problem of excessive medical cost increases, and the waste of health resources among residents. Specifically, by dividing China's 31 provinces into economically developed and underdeveloped regions, the study finds that deductibles and reimbursement rates have an impact on both healthcare costs and the burden of healthcare; in the relatively underdeveloped regions, as per capita GDP increases, the flow of patients to large hospitals will inevitably increase, and the depletion of the carrying capacity of the healthcare system will intensify, thus leading to an increase in the overall cost of healthcare.

4. Feasible Solution

4.1. Recommendations on the Cost and Related Institutional Reform

Concerning the problem of "expensive visits to the doctor", first, promote differentiated and stepped health insurance payments for different levels of medical institutions, increase the reimbursement rate for primary medical institutions, guide patients to primary medical care, reduce the financial burden on patients, and maximize the driving incentive effect of the health insurance system. Second, promoting the reform of the outpatient capitation payment system for chronic diseases, combining the characteristics of chronic diseases with packaged payment for common chronic diseases, guiding medical institutions to change from "treating" to "preventing" chronic diseases, improving the comprehensive service capacity of hospitals, and meeting the health needs of patients. Third, the government should promote the establishment of a long-term care insurance system and the construction of integrated medical and nursing services, to spread the burden of medical costs for the disabled and semi-disabled middle-aged and elderly, while at the same time not limiting middle-aged and elderly people with long-term care needs to hospitals, but rather allowing specialized integrated medical and nursing services or the community to provide them with services, so as to avoid escalating the costs of hospitalization for the middle-aged and elderly and the ineffective operation of medical resources in hospitals.

For the hospital price management problems, first of all, it should convert from the traditional cost accounting mechanism to a comprehensive cost measurement system, through the comprehensive analysis of the cost, and scientific measurement, to provide a basis for service pricing, so that the price is reasonable, clear hospital profits, to ensure that the normal operation of the hospital. In cost measurement, it is necessary to establish a precise management mechanism to ensure the timeliness of cost measurement, guarantee the dynamic adjustment of service prices, and ensure a fair and reasonable price mechanism. Secondly, re-examine and organize the structure of hospital service price items, clarify the prices of various medical services, adjust the price and cost structure, and ensure that medical service prices are scientific and reasonable. The price levels and standards for medical services are being harmonized, and the principles of "equal price" and "equal volume" are being applied to different regions and hospitals, with the cost standards for the same services and similar costs being clearly defined. Once again, while formulating and revising the price structure of medical items, government support policies should be taken into account, so that the magnitude of price changes can be effectively controlled by reducing the necessary markups on services, thus ensuring the stability and fairness of prices. Finally, a set of scientific and reasonable price dynamic adjustment mechanisms should be established to respond timelier and accurately to market changes and policy regulations, and personalized price adjustment methods should be adopted based on the development of hospitals and the special requirements of customers, so as to ensure the effectiveness and reasonableness of prices.

4.2. Recommendations for Geriatrics Personnel and Institutional Needs

To solve the problems of a lack of geriatric talents and insufficient geriatric institutions, the Government should strengthen the construction of primary healthcare institutions, especially in urban areas, and make the incentive mechanism for talents the focus of its reforms, to attract and retain outstanding medical workers to work in primary health-care institutions.

At the same time, the Government should introduce advanced medical technology and equipment comprehensively and extensively, to break through the "barriers" in terms of medical technology and facilities, and to provide quality medical services for the middle-aged and the elderly. Lastly, medical schools are encouraged to take into account the strength of their disciplines, conditions of operation, and development plans, and actively apply for the establishment of this specialty, to satisfy the urgent demand for talent in this field in society. Students will focus on the core clinical curriculum, and in addition to systematic training in clinical thinking and practical skills, the content of the curriculum will focus on the characteristics of the elderly and geriatrics.

4.3. Recommendations for the Carrying Capacity

Strengthening short-term resilience can be achieved by deepening healthcare reforms in the following ways: first, by obtaining external support through connectivity across regions and cities. Building connectivity across regions and cities to withstand shocks through mutual support of resources can enhance the resilience of the healthcare system [10]. Second, the rapid transformation of existing facilities through multifunctional strategies to address the shortage of healthcare spaces, i.e., interweaving, combining, and overlaying functions to enhance the adaptive capacity of the system as a whole to cope with disaster shocks. For example, the construction of Wuhan's Square Cabin Hospital proved that multifunctional strategies can enhance the resilience of the healthcare system. Third, the participation of diverse forces can enhance the resilience of the healthcare system. The participation of the public and volunteers in the prevention and control of epidemics is conducive to enhancing the resilience of the healthcare system, which can help healthcare workers overcome unfavorable environments so that they can persist in their work.

Strengthening the long-term carrying capacity of the urban healthcare system can be achieved by utilizing artificial intelligence systems to replace humans in management and decision-making. First of all, the use of AI systems can significantly improve the efficiency of implementation and reduce unnecessary procedural aspects. In addition, an open and transparent service system will be realized, and the quality of its services will be publicly monitored by the public. The future health and medical service system based on artificial intelligence will provide intelligent diagnosis, health management, personalized medication, precision medicine, and other services, avoiding the waste of medical resources and improving the efficiency of their use, as well as easing the contradiction between doctors and patients, and solving the problems of scarcity of medical personnel.

5. Conclusion

Through a literature review, this study finds that as healthcare reform progresses, the issue of hospital service costs becomes increasingly prominent, with some individuals experiencing high medical expenses and imbalanced hospital price management. To alleviate these challenges, the government should optimize policies to ensure the rational allocation of medical resources, especially by formulating specific policies for common diseases and reducing the burden on the middle-aged and elderly population seeking medical treatment. Additionally, there is a shortage of geriatric medical institutions in China, along with an imbalance in the structure of geriatric medical disciplines. It is essential to strengthen the construction of geriatric medical disciplines, train more professionals, and increase investments in geriatric healthcare institutions at the grassroots level, such as specialized hospitals and community medical centers. Moreover, considering external shocks like the COVID-19 pandemic and the aging population becomes a critical factor in reform direction. The government should optimize resource allocation, enhance information transparency, promote healthcare digitization, and improve the efficiency and equity of healthcare resource utilization to ensure a resilient health system.

Finally, although this study has explored the challenges and future reform directions of China's healthcare reform in the context of aging, there are still some shortcomings. This study used a literature review method, lacking empirical data and quantitative analysis. Future research should combine quantitative and qualitative methods to collect actual data for a better understanding of aging's impact on healthcare reform. Furthermore, the recommendations lacked specific policy implementation details and regulatory mechanisms. Further research can focus on these aspects and propose concrete implementation guidance and regulatory frameworks. By refining the understanding through empirical data, future research can suggest specific and feasible reform strategies to tackle the challenges of aging in China's healthcare system.

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