Research on the Resources Allocation in Rural Primary Healthcare Services in China and Other Countries

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ABSTRACT

Based on the equal accessibility of primary healthcare services, this paper uses comparative research methods to analyze the rural primary healthcare system and resource allocation systems in China and Western developed countries, and summarizes the common points and general laws of primary healthcare practice in various countries. At the same time, based on the current situation of Chinese primary medical allocation, the following three suggestions are proposed: increase the proportion of primary medical resource allocation, establish a GPs' gatekeeper system in rural areas, and innovate the medical insurance system to promote the first visit to the rural clinics.

Keywords: *Primary healthcare system, Medical resource allocation, International experiences, Policy recommendations.*

1. INTRODUCTION

At present, China has basically established a medical service provision system that covers all citizens, but there is still a problem of irrational allocation of rural primary medical resources that needs to be solved urgently. Village clinics and township health centers, which are representatives of rural primary medical institutions, are the bottom of the rural tertiary medical and health service network, and play an irreplaceable role in safeguarding the health of 509 million rural residents in China. But now, 80% of the medical resources in the country are concentrated in large hospitals in cities [1], and the medical resources available in rural areas are limited. It has caused part of the rural patients with common and frequently-occurring diseases crowed to secondary and tertiary medical institutions for medical treatment. Therefore, optimizing the allocation structure of rural medical resources and improving primary medical and health service are important for promoting the equalization of primary healthcare services in Chinese urban and rural areas.

2. LITERATURE REVIEW

The latest research shows that the unreasonable inverted pyramid hierarchical medical system layout is the main factor hindering the efficiency of medical resources allocation and the efficiency of medical service provision. Zhan YANG, Xiao HU (2021) used the Lorentz curve, Gini coefficient and Theil index to reveal the unfairness in the allocation of health resources at the grassroots level in China. The main factor that affects the fairness of the allocation of Chinese primary health resources is the unbalanced interregional resource allocation. [2] XIN Xin(2015) pointed out that the allocation of rural medical resources has a strong positive correlation with the level of local economic development. The siphon effect of urban development has led to a high concentration of medical resources in urban areas with better economic development, and the allocation of rural primary medical resources is relatively scarce [3]. How to improve the fair accessibility of primary medical services by optimizing the system for primary medical resources allocation is a core issue

that urgently needs to be addressed in Chinese healthcare system reform.

3. RESEARCH METHODS

This article mainly adopts comparative research method. First, through collecting and sorting out a large number of domestic and Chinese and other countries' rural primary health-care system and resource allocation related documents, and then summarizing the evolution of Chinese rural primary medical system, and analyzing the main obstacles to remove. It also conducts a horizontal analysis of the domestic and foreign primary healthcare systems, creatively proposes relevant theoretical suggestions for optimizing the allocation of resources, and provides a strong basis for the optimization of the provision of primary health services in Chinese rural areas.

4. THE EVOLUTION OF CHINESE PRIMARY MEDICAL SYSTEM

The evolution of the rural primary medical system in China is closely related to the reform of Chinese economic system. Before the Third Plenary Session of the Eleventh Central Committee from 1949 to 1978, despite the relatively backward economic development, China gradually established a tertiary medical network that basically covered the whole country and could meet the basic health needs of all the people. The World Health Organization praised it as a model for developing countries [4]. In 1978, with the major changes in the economic system of reforming and opening, the primary health care system also began to adjust to the direction of marketization. However, due to the unsound provision of market-oriented medical services, the rural tertiary medical network has been diluted, resulting in a narrowing of primary medical security. The "old medical reform" at this stage has limited effectiveness [5]. Since 2006, the new medical reform with "strengthening primary level" as the core has been committed to finding a provision mechanism suitable for the current status of rural medical care in China to ensure the multi-level and diversified health needs of the 509 million rural population. Although there have been twists and turns in the medical reform process from 1978 to the present, the overall trend is to develop for the better.

However, in China there are still some key issues that cannot be ignored urgently to be solved, so that the obstacles can be removed and the rural primary medical provision system can be optimized.

5. FINDINGS

It is not difficult to see from the table below that since the establishment of the medical system in developed countries in the 1950s, the reforms in the past few years have evolved towards a model of combining market and government, gradually abandoning a single market, free competition and completely compulsory government dominance. Therefore, an effective regulatory market is a reasonable choice for optimizing the allocation of medical resources. ("Table 1")

Table 1. Comparison of the rural medical systems in countries

Main measures	U.K	France	China
Medical insurance role	The completion of the socialized division of labor in the first industrial revolution directly promoted the division of functions between British general practitioners and specialists.[6] In 1948, the United Kingdom established the National Health Care System (NHS), institutionalized general practitioners the main providers of primary healthcare services and the "gatekeeper" of residents' health.[7] In 1991, the British government proposed the GP fund holder, which gave general GPs greater power, "they will choose	There is a typical social health insurance system in France. France implements medical administrative management by region, adopts a major departmental system to link the government, society, medical insurance systems, and private clinics and hospitals of general practitioners to assume the function of primary medical triage in rural areas. A sound triage system can to a large extent promote the rational allocation of medical resources, thereby ensuring that the first consultation will sink to the	Chinese rural primary medical insurance implements the new rural cooperative medical insurance, which is a mutual medical aid system for farmers established by individuals, collectives and the government. On January 12, 2016, the State Council issued the "Opinions on Integrating the Basic Medical Insurance System for Urban and Rural Residents", which required the integration of the basic medical insurance for urban residents and the new rural cooperative medical system.

	the referral hospitals on behalf of patients."[8] In 2002, the UK established Primary Care Trusts (PCTs). PCTs cooperated with general practitioners to act as residents' agents to purchase health care services from secondary and tertiary medical institutions. In 2012, a new round of medical system reform in the United Kingdom established 211 General Practitioners' Unions (Clinical Commissioning Groups, CCGs) run by general practitioners. CCGs replaced PCTs to act as agents for residents to purchase medical services from medical service providers.[9] The agent identity of the general practitioner has been further strengthened.	primary level, and the referral system will be unblocked.	
Vocational Training	The British general education mechanisms adopt strict vocational training, which is summarized as the "5+2+3" model. First complete a 5-year medical undergraduate course, then register as a doctor after a 1-year medical internship, and then a 1-year basic course study. Finally, students received 3 years of professional training for postgraduates in general medicine, 2 years in the hospital, 1 year in the general practice clinic, and passed examinations and assessments after the end.	French general medicine education adopts the "higher education model", which is summarized as the "2+4+3" stage [10]. That is 2+4 years of medical education and 3 years of general education. The systematic education model provides a steady stream of high-quality medical talents for the primary care, prompting French rural residents and other residents to be willing to go to the primary medical care.	China has taken various measures to build rural primary medical vocational training system. There are mainly targeted training, residents training and professional continuing education models, multi-point practice of registered physicians, and implementation of general practitioner training programs. These measures have in some degree alleviated the current shortage of rural primary medical personnel and insufficient provision, and laid an important foundation for improving the rural health personnel mechanism.
Incentive System	General practitioners in the United Kingdom carry out a family doctor contract based on the head payment method, and each family doctor can get the corresponding head payment through the contracted residents. The greater the number of contractors, the more prepaid expenses will be available, thereby expanding the coverage of primary-level horizontal medical services and realizing the accessibility of the number of primary-level medical services.	The French salary incentive system is "project payment aa the main body, and other payment methods as supplemented" [11].	The setting of the proportion and total amount of performance pay, and the establishment of an assessment mechanism for the heads of primary medical institutions, to coordinate the performance pay of the heads with the unit reform goals. The top-down promotion of primary-level medical reform measures took effect, which effectively revitalized the vitality of primary-level medical staff.

In summary, although France and the United Kingdom have different primary healthcare systems, their health security systems, vocational training systems, and incentive policies have effectively integrated the advantages of market mechanism and government control. Therefore, satisfactory medical output has been obtained in terms of expected life length and chronic disease control. At the same time, it is not difficult to find that the urgent issues Chinese primary healthcare reform needs to solve are the scarcity of primary medical personal, and the high level of regional imbalance of medical resource distribution.

6. DISCUSSIONS

Human resources are the essential factor that drives other medical resources to sink to the primary level. However, due to the late start of the construction of Chinese general practitioner training system, the number of general practitioners in China is small in quantity. At the end of 2018, the number of trained and qualified general practitioners nationwide was 309,000, and there were 2.2 general practitioners per 10,000 population. [12] Chinese general practitioners account for only 10.52% of the doctors in primary medical services [12], and the overall number is insufficient, compared with in France general practitioners accounting for 53% of general practitioners [13], and in the United Kingdom, GPs accounting for more than 56% [14].

In addition to the insufficient supply of general practitioners, rural primary medical system still have problems such as insufficient number of medical institutions, lagging supply of medicines, diagnostic instruments and methods. As a result, rural residents have to seek high-quality health services in secondary medical institutions. Over time, the willingness of rural residents to go to the primary clinics has gradually declined, and the number of secondary clinics has continued to increase. The high rate of medical visits is an important indicator of the allocation of medical resources. In turn, rural primary medical units with low medical visits can only obtain relatively limited medical expenses, and very few high-quality medical resources, forming an inverted pyramid structure of medical resource allocation. According to the 2020 health statistics of the National Bureau of Statistics of China, as of the end of 2020, there were 1.023 million medical and health institutions nationwide. There are 971,000 primary medical and health institutions, including 36,000 township health centers, 35,000 community health service centers (stations), 290,000 outpatient clinics (stations), and 611,000 village clinics. At the end of the year, there were 10.66 million health technicians, including 4.08 million licensed physicians and assistant practicing physicians, and 4.71 million registered nurses. [15] There are 9.11 million beds in medical and health institutions, including 7.13 million in hospitals and 1.39 million in township health centers, accounting for 15.25% of the total. Sub-medical institutions account for 5.09% of medical resources, which account for 84.75% of medical resources. The allocation of medical resources is misplaced and the layout structure is unreasonable.

7. CONCLUSION

First, from the view of the primary pyramid distribution of the medical system with the primary medical system as the main body, in China the primary medical system should be in the dominant position in the hierarchical medical system, and be given the right to allocate most of the medical resources including medical expenses, medical personnel, etc.

Second, the state should accelerate the establishment of a gatekeeper system for general practitioners, improve the training system for general medicine students, innovate the general practitioner salary system, and attract outstanding medical personnel to sink to rural medical institutions and improve the efficiency and accessibility of primary medical services.

Third, Chinese health insurance system should be innovate to promote the behaviors of first-visit in rural medical clinics among rural residents. The annual advance payment according to the number of the contracted residents could be an important part of the general practitioner's salary, so as to improve the efficient supply of rural medical services, and improve the quality of primary medical services and control health expenses.

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