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Promoting Healthy Village Construction: Challenges and Countermeasures

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Abstract: Healthcare is an important component of poverty alleviation in China, and it requires constant effort, as this sector in China's rural areas will remain underdeveloped and short of high-quality resources for a long time. Moreover, promoting healthy village construction is crucial for consolidating and expanding the key achievements in poverty alleviation and for implementing rural revitalization strategies in China. This study uses policy research, field research, data analysis, and expert discussions. First, we summarize the practical needs for promoting healthy village construction and present the achievements and main problems regarding healthcare improvement for poverty alleviation. Subsequently, we explore the development objectives and key tasks for healthy village construction, and propose several prospective countermeasures. To prevent the population that has been lifted out of poverty from returning to it due to illness and to better meet their diverse needs for health, we suggest that China should: (1) increase government financial investment and scientifically optimize the layout of health resources and human resources; (2) provide health services based on the entire life cycle and the whole process of health; (3) maximize the unique advantages of traditional Chinese medicine to draw a bottom line for epidemic prevention and control in rural areas; (4) ensure drug security based on the healthcare service coordination mechanism within the country region; (5) establish a regional adjustment and balancing mechanism for medical insurance funds to ensure the accuracy and fairness of health policies; and (6) conduct rural doctor training programs.
Keywords: healthy village; poverty alleviation through healthcare improvement; traditional Chinese medicine

1 Introduction

Prosperity for all is impossible without health for all. In 2016, at the first National Health and Fitness Conference, the Party Central Committee and the State Council issued strategic guidelines for building a healthy China, demonstrating the primacy of ensuring people's health. In 2019, General Secretary Xi Jinping visited Chongqing for inspection and presided over a symposium on addressing prominent issues "to ensure rural poor people do not have to worry about food and clothing and have access to compulsory education, basic medical services, and safe housing." He highlighted the bedrock role of minimum living allowances, insurance against catastrophic medical expenses, and medical aid in preventing the reoccurrence of poverty due to illness. Our work focuses on poverty alleviation, which prevents people from falling into or returning to poverty due to illness. It is a long-term task that will not disappear after eradicating absolute poverty by 2020, which requires long-acting comprehensive management and targeted treatments.

Health is a cornerstone of sound economic and social development. Among the three critical indicators developed by the United Nations Human Development Index, the first is average life expectancy, which measures the health level. The national health level of a country is closely related to its capacity for development. Healthy residents are

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a prerequisite for rural revitalization. Currently, all rural health services are available. Thus, stepping up the overall planning for the construction of a rural health service system can meet the diverse health needs of individuals, provide the main force for rural revitalization, and bring fruitful results to people. Boosting health poverty alleviation in rural areas is a new proposition for consolidating and expanding poverty alleviation results and effectively interlinking them with rural revitalization. Therefore, it is of paramount importance to study and promote the construction of healthy villages.

Methods are needed to overcome the shortcomings and clear institutional barriers in constructing the rural health system during poverty alleviation. This study conducted a demand analysis of constructing healthy villages based on field investigations, data analyses, expert interviews, and other methods, sorted out the achievements and chief problems in health poverty alleviation, and proposed development objectives and critical tasks in promoting the construction of healthy villages as well as countermeasures and suggestions from a forward-looking perspective.

2. Demand analysis for promoting the construction of healthy villages

2.1 The demand for addressing the situation of falling into or back into poverty due to illness in poverty-stricken areas

Among the causes of poverty in poverty-stricken areas, the disease factor is the most prominent for the poor in rural areas. In 2021, the State Council Information Office issued a whitepaper entitled *Poverty Alleviation: China's Experience and Contribution* [1]. This document mentioned that since China began fighting against poverty in the 832 poverty-stricken counties across the country, a total of 98.99 million people out of 25.66 million impoverished households have been registered for file management. Among them, 28.56 million people out of 9.81 million poor households returned to or lived in poverty due to illness, accounting for 38.23% and 33.97%, respectively. As of the end of 2019, among the 2.66 million people out of 980 000 households that had not been lifted out of poverty, and 970 000 out of 380 000 households had returned to or lived in poverty due to illness, accounting for 38.40% and 36.35%, respectively. Those who had fallen into or back into poverty due to illness amounted to a large proportion of poor households and population, which makes the economic burden heavier and results in limited income or loss of labor capacity, thus negatively affecting household revenues.

2.2 The demand for strengthening the construction of rural health systems

In the near future, it can be inferred that the incidence of chronic non-communicable diseases, such as cardiovascular and cerebrovascular diseases, chronic respiratory diseases, diabetes, tumors, and chronic kidney disease in rural areas of China will remain high, threatening the quality of life and health of rural residents while also causing considerable medical expenses. The *2020 China Health Statistics Yearbook* data [2] (Table 1) present the current situation, indicating a shortage of village clinics and county-level specialized disease prevention and treatment institutions. Thus, there is an urgent need for more medical staff, instruments, and facilities; unbalanced allocation of medical resources and insufficient homogeneity of medical services are prominent. Another issue includes major hospitals "siphoning" high-quality resources from the grass-roots. Under such circumstances, medical security and comprehensive security policies must be more scientific, precise, just, and sustainable, and public health service capabilities should be enhanced. The rural health service system urgently needs to maximize the effectiveness of medical resources and improve both the quality and efficiency in order to "make it easier for medical treatment and safer for medication."

Table 1. Number of medical institutions in China

Institution	Classification	Number of medical institutions in 2018	Number of medical institutions in 2019
Hospital	County-level hospital	10 516	11 007
	Hospital of city at county-level	4958	5168
Grass-roots health care institution (excluding communities)	Township health centre	35 841	36 478
	Village clinic	622 001	616 094
Specialized public health Institution	County-level (City at county-level) specialized disease prevention & treatment institution (stations, clinics)	700	686
	County-level (City at county-level) MCH Center (stations, clinics)	1907	1903

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2.3 The demand for integrating health policies into the overall plans of rural revitalisation

Health is the pillar of people's happiness and foundation of social development. The purpose of our development is to improve the benefits and well-being of people. With people's health as its focus, integrating health into the overall plans of rural revitalization embodies the public policy orientation that aims to improve the health level of people and achieve equity in health. A necessary measure is to consolidate and expand the results of poverty alleviation and effectively interlink them with rural revitalization. We should strictly follow the work guidelines of public health care in the new era, uphold public welfare orientation, and comply with general hygiene and general health concepts. Meanwhile, efforts should be made to protect people's right to life and health, promote the construction of a healthy China, and help people pursue a better life.

3 Achievements of and problems confronting health poverty alleviation

Through policy research, field investigations, data analyses, expert discussions, and other methods, remarkable results were achieved by implementing health and poverty alleviation policies in the fight against poverty. In addition, the public health reach in rural areas has significantly increased. However, the overall development of healthcare in rural areas is relatively backward. In these regions, shortcomings remain and must be continually overcome.

3.1 Achievements gained in health poverty alleviation

In the battle against poverty, our efforts are focused on talent training, capital investment, and project construction, with an emphasis placed on capacity building of county-level hospitals, the development of county-level and rural integration mechanisms, and the standardization of constructing rural clinics. We endeavored to improve medical and health care in poor areas, including advancing the level of basic medical care, drug supply, and medical security, to effectively solve the problem of falling into and back into poverty due to illness.

First, a system and mechanism characterized by central coordination, scientific planning, unified deployment, and holistic advancement was formed. We have used these as the basis to blaze a trial in health poverty reduction with Chinese characteristics.

Second, we dynamically filled "vacancies in health services" to achieve full coverage of rural medical and health institutions and staffing. This made the basic medical security system fully available, promoting fair access and systematic continuity of basic medical and health services.

Third, high-quality medical resources were transformed into lower-level hospitals and extended further to impoverished counties and villages through counterpart support, alliance collaboration, and technical assistance. This has bolstered the capacity of medical and health services and realized the goal of "curing major illness within the province, and minor illness within the county."

Fourth, precise prevention is achieved. Many patients with major diseases were treated in a centralized manner, patients with chronic diseases were contracted for service management, and patients with serious diseases were provided with backstops. We have effectively prevented poverty due to illness and its reoccurrence with timely detection, precise treatment, comprehensive treatment, adequate protection, and dynamic management.

Fifth, the expenses for medical treatment were decreased. Special treatment for major diseases, reform of medical insurance payment methods, and centralized drug purchases were performed as a combined force. As such, we ensured that the medical treatment was affordable for all individuals. It is scientifically guided, uses a tiered approach for diagnosis and treatment, reduces unreasonable costs in drug circulation, and lowers drug prices to a large extent.

Sixth, in health poverty alleviation, loopholes were plugged into their sources. Patriotic health campaigns, health science publicity, disease screening, infectious disease prevention, and other activities were conducted to improve the health of key groups and the overall health literacy of villagers. In response to major infectious and endemic diseases, policies were developed according to the actual situation at the location. In addition, measures were taken to address the corresponding diseases to realize comprehensive prevention and control.

3.2 Problems with constructing healthy villages

Overall, rural health undertakings lag behind the schedule. For a long time, there will still be a shortage of high-quality resources, unreasonable resource allocation, weak service capabilities, shortcomings in preventive rehabilitation and health emergency management, disconnection between basic medical services and public health, and uncoordinated medical security policies. However, all of these issues cannot be resolved overnight. This is particularly evident when the problems of imbalance and insufficiency remain outstanding. Some regions and fields

continue to face underdeveloped health and medical security, and need to improve their service efficiency, enhance fairness, adapt to mobility, and ensure sustainability. Other problems include inadequate basic infrastructure and public service capacity, weak medical service capacity, and a striking imbalance in medical insurance funds.

3.2.1 A high-quality and efficient health service system has not yet been established, and the overall health service capacity is insufficient.

The rural health service system has a shortage of high-quality medical resources and the methods are dominated by simplified medical treatment. The service capacity of the entire health cycle is insufficient and the key links between prevention and rehabilitation are underplayed. This adds to financial expenses and the burden of medical resources and increases the hidden dangers of falling into or back into poverty due to illness, which restricts the release of potential labor resources. Meanwhile, it hinders the potential release of labor resources, thereby impeding the overall economic and social development of the local area and obstructing the progress of the rural revitalization strategy. The mechanism of "bringing in and retaining" medical talent has not yet been formed, nor have people in rural areas establish a sense of responsibility for health. Moreover, the inherent vitality of healthy villages has not yet been effectively stimulated.

3.2.2 The drug supply guarantee system is inadequate, in which some medicine varieties are unavailable, and the turnover is slow.

At present, the supply of drugs included in the medical insurance catalogue and commonly used drugs in rural areas is acceptable. However, after implementing the zero-drug price difference policy, there are problems such as low subsidies and compensation for the supply of grassroots medicines, slow drug turnover in some areas, and inconvenient medication for grassroots people [3]. Most rural public medical institutions have almost no storage or management capabilities for qualified traditional Chinese tablets. Traditional Chinese pharmacies in county-level public medical institutions face problems, including single varieties (traditional Chinese tablets or granules), weak quality control, and a lack of distribution capabilities.

3.2.3 Medical security is relatively unsustainable, the synergistic effect is not brought into full play, and the proportion of secondary assistance is low

In China's increasingly aging society, there is a growing need for better health and higher expectations of medical security services. In addition, health costs are gradually increasing, and medical expenditures are continuously rising. The consequences include an overburdened main body of government governance, an unreasonable expenditure structure, a lack of supplementary security, a fragmented medical security system, a lack of active early warning mechanisms, and an insufficient capability to resolve catastrophic medical expenditure risks. Moreover, there is a chasm regarding the level of financing and equity among people and regions. According to the *2019 Statistical Bulletin of the National Medical Security Development* [4], medical assistance expenditures accounted for approximately 2% of government medical security expenditures, which is a low proportion. Preferential care for vulnerable groups is insufficient, and problems exist in preventing the risk of falling into or back into poverty due to illness. Poverty-stricken areas face limited fiscal revenues and unstable industries. Additionally, medical insurance funds in cities and counties do not have a solid foundation. In addition, commercial insurance is funded mainly by donations and supportive capital. Thus, the funds are neither sustainable nor stable. The sustainable operation of medical insurance funds is under pressure, and the efficient use of medical insurance funds and investment operations must be improved.

3.2.4 There are apparent shortcomings and deficiencies in the epidemic prevention and control system and the public health emergency management system that emphasizes urgent treatment in ordinary times

Based on the experience of medical treatment and prevention and control of COVID-19 in early 2020, the rural public health system is fragile. Medical services are misaligned with public health and there is a lack of health emergency personnel, material reserves, and health emergency response capabilities. In addition, the hidden dangers of clusters impose immense pressure on professional prevention and control forces, and effective prevention and control methods and programs are not in place. These issues make it difficult to deal with the complex and changeable public health security situation effectively and meet relevant requirements [5]. Moreover, there are deficient public health services, such as health education, preventive and rehabilitation guidance and disposal, and disinfection of rural public health environments, for which compensation is hardly provided. In addition, the institutional mechanism for integrating health into comprehensive rural management is not sufficiently sound, and additional efforts are needed for its advancement.

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3.2.5 The characteristic advantages of traditional Chinese medicine, including "simplicity, convenience, low cost, and effectiveness," are not fully exploited

(1) The content of basic public health services in traditional Chinese medicine (TCM) needs to be enriched. According to the *2019 Statistics of the Annual Summary Report on the Development of TCM* [6] published by the National Administration of Traditional Chinese Medicine, nearly 50% of TCM hospitals across the country have established geriatric departments and 75.92% of public TCM hospitals at and above county-level have established preventive treatment departments. In addition, only 20.115 million people consulted a preventive treatment department; the TCM health management rate for people over 65 years old across the country is 62.17%; the TCM project for basic public health services only includes "Chinese medicine health management." Further, there is still a large amount of room for the utilization of TCM. (2) Chinese medical services are still at a low level in terms of volume and coverage. Among grassroots health care institutions, approximately 39.60% are mainly based on TCM and a combination of Chinese traditional and Western medicine. In contrast, 97.14% of township hospitals and 71.28% of village clinics can provide TCM services, leaving "vacancies" [6]. According to the field investigation results, staff with TCM talent at grass-roots health care institutions are shorthanded. The simple, convenient, inexpensive, and effective TCM appropriate technology has not been fully adopted. The associated construction of grassroots TCM services and service quality needs to be improved further. (3) TCM services tend to be neglected in some areas. For instance, the service function of TCM hospitals in the Medical Alliance mechanism is inaccurately positioned and TCM services are often fragmented. TCM hospitals and general hospitals are put into the unified management of Diagnosis-Related Groups, which devalues TCM diagnosis, making TCM a mere treatment method. As some regions promote hierarchical diagnosis and treatment through the development of provincial, prefectural, and county-level classified disease diagnosis and treatment categories, provincial and prefecture-level TCM hospitals cannot charge for routine diagnosis and treatment activities of some diseases. Additionally, the necessary combination of several TCM technologies cannot be reimbursed. (4) TCM service items face problems, including limited varieties, low prices, failure to reflect technical labor value, medical insurance in some areas restricting the use of non-drug Chinese medicine therapies, and the slow development of commercial health insurance products related to TCM services. (5) The supply guarantee and quality management standards systems of TCM are incomplete. The circulation and traceability system requires strengthening, and shoddy and counterfeit Chinese medicinal materials remain on the market. In a sense, the zero-premium policy for TCM tablets has made it more difficult to guarantee the supply of TCM.

4 Development goals and specific principles for promoting the construction of healthy villages

4.1 Development goals

We shall strive to provide fair, accessible, systematic, and continuous life-cycle health services centered on the overall strategy of rural revitalization and increase people's sense of gains in health services. By 2025, the rural health service system will be further improved in terms of its quality and efficiency and will effectively shift into the Healthy China strategy. Additional efforts will be made to deepen basic medical care, to continuously elevate people's health literacy, and to effectively protect their right to health.

4.2 Specific principles

4.2.1 Use of innovation as a new impetus for the construction of healthy villages

Innovation of systems, mechanisms, and measures should be actively promoted to provide high-quality, efficient, convenient, fairer, more accurate, and more sustainable health and medical security services, and to promote medical fairness and precise treatment. Through the improvement of the innovation level of public health undertakings in rural areas, the continuous development of healthy rural construction will be promoted.

4.2.2 Regarding coordination as a new feature of the construction of healthy villages

Given that the construction of healthy villages is closely related to health and medical security, it is necessary to coordinate it with various reforms in other fields such as finance, civil affairs, social security, food safety, market supervision, human resources, culture and education, and employment. In addition, it must be effectively connected with management departments and professional institutions both inside and outside counties.

4.2.3 Treating green development as a new format for the construction of healthy villages

Establishing the concept that individuals should assume the main responsibility for their health will gradually shift the focus from diseases to individual health. Strategies to optimize disease prevention and control should attach importance to health monitoring and services for key groups, such as women, the older people, and children, and promote a healthy lifestyle based on scientific evidence. These educational programs can be implemented through health education lectures, expert consultation services, and popular science and cultural media outlets to reduce the prevalence of diseases based on the scientific and rational use of medical resources.

4.2.4 Setting opening-up as a new engine for constructing healthy villages

The relationship between public welfare orientation and market mechanisms needs to be handled properly. The scientific and orderly investment of social capital in healthcare must be guided and standardized. The government must play a leading role in basic medical and health services and stimulate market vitality in non-basic medical and health services [7]. Regarding medical security, in addition to basic medical insurance, the government should prepare a comprehensive arrangement for major diseases, provide social assistance, advance the development of commercial health insurance, encourage commercial insurance to complement basic medical insurance, develop supplementary medical insurance products, and support trade unions and other social organizations to have mutual insurance.

4.2.5 Positioning sharing as the fundamental purpose of constructing healthy villages

Adherence to the concept of allowing development results to benefit people will improve the system, expand services, improve quality, and enhance efficiency. This adherence transforms the policy-oriented mode into preferential and inclusive modes, making the medical service system more equitable, accessible, and systematically continuous. This will enable prevention, treatment, rehabilitation, health promotion, and other health services to serve people more conveniently.

5 Countermeasures

5.1 Increasing governmental funding and scientifically optimizing the allocation of health resources

It is recommended to increase the proportion of health expenditure in government budget expenditure, especially in information construction, public health, and performance rewards. The methods suggested include developing new medical service models such as telemedicine and "Internet + medical" systems in order to optimize the allocation of health resources and implement standardized construction of health care clinics (centers). Based on the actual situation of local frequently occurring diseases, common diseases, and heavy economic burdens, the setting of healthcare clinics (centers) should be attuned to population density, age structure, disease spectrum, and number of visits. Unremitting efforts should be made to ensure the operating expenses of healthcare clinics (centers) and the basic income of related personnel, for whom KPI should play a directive role. In addition, it is necessary to scientifically assess rural health work, mobilize rural health technicians, and perform job title reviews and employment reforms for grassroots medical staff to stimulate the vitality of talent.

5.2 Performing health services based on the whole lifecycle and the whole process of health

It is recommended to step up health education, health promotion, health management, prevention and rehabilitation, raise the health literacy of rural residents, and guide rural doctors to shift their focus from disease treatment to disease prevention and health promotion. Also, it is necessary to instill a mindset of "prevention before disease onset and safeguard against its re-emergence," set the rural "preventive disease treatment" and preventive health care service project in motion, and extend "preventive disease treatment" services to rural residents. Public health institutions, such as county-level centers for disease control and prevention, specialized disease prevention and control centers (institutes and stations), township health centers, village clinics, and other health institutions, combined with public health service policies and projects, should explore ways to conduct "preventive disease treatment" services effectively. They should establish a multifaceted and diversified health knowledge popularization system and provide classified guidance according to the characteristics of rural, less-educated, and older people. In addition, experts should organize relevant science popularization work, offer scientific and comprehensible health science popularization work, and improve the health literacy of residents.

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5.3 Maximizing the unique advantages of TCM to build a solid foundation for the prevention and control of the epidemic in rural areas

It is recommended to boost the construction of TCM medical and health service institutions, TCM broad service areas, TCM services in village clinics, and TCM non-drug therapies. This exposure will provide unique advantages in preventing and treating common diseases, frequently occurring diseases, and chronic diseases, as well as the development of rehabilitation with TCM characteristic services. Under the normalization of epidemic prevention and control requirements, it is essential to establish entrepreneurship posts for public health incidents and implement the responsibilities of the four parties (including the local government, departments, units, and individuals) to realize early detection, reporting, and response. It is also necessary to ensure proper communication of information, material reserves, fund guarantees, and staff. Using local finances as a bottom line to underpin emergency medical insurance funds can be a mechanism to pre-allocate part of the medical insurance fund when an emergency occurs, increase the payment ratio, and ensure that cost issues do not delay medical treatment, and epidemic prevention and control of patients in medical institutions.

5.4 Guaranteeing the supply of drugs based on the county-level Medical Treatment Partnership System/Medical Alliance mechanism

It is recommended to implement regulations on centralized bidding and procurement of medicines, and strengthen the management of medicine distribution. The procurement, distribution, and adjustment of drugs should be put under unified management, and the drug procurement and equipment should be solved in coordination with the administrative jurisdiction, establishing and completing the consultation linkage mechanism for the limited supply of drugs, improving the monitoring and early warning mechanism of drug shortages, establishing a list of drug shortages, and ensuring their supply according to their classifications and tiers. It is also necessary to formulate a dynamic adjustment mechanism for drug procurement catalogues and dynamically adjust the product regulations and prices in the procurement catalogue. In addition, medical insurance-designated pharmacies should be encouraged and guided to conduct chain operations, facilitate drug purchases, improve the drug supply security mechanism and dynamic guarantee, and emphasize distribution management services for remote villages with inconvenient transportation and small purchase volumes.

5.5 Establishing a regional adjustment and balance mechanism for medical insurance funds to improve the accuracy and fairness of insurance policies

It is recommended to explore and advance provincial-level overall planning of medical insurance funds. The municipal and county-level medical insurance management departments shall scientifically plan, formulate better policies, supervise and evaluate the basic medical insurance fund pool, and establish affordable and sustainable financing and funding-related mechanisms. It is also necessary to broaden financing channels, balance the sharing of financing responsibilities among all parties, improve their ability to resist risks, and tentatively extract a small part of the medical insurance fund as commercial insurance premiums for supplementary reinsurance. It must also prevent problems and resolve issues by leveraging the fairness and accuracy of security policies, ensuring the organic integration of government supervision and market mechanisms, and connecting and collaborating with commercial insurance and medical social insurance to prevent and resolve risks. Thus, it is essential to guide and encourage commercial insurance to innovate varieties and introduce a fair mechanism while prioritizing efficiency. Developing inclusive commercial supplementary medical insurance and increasing the insurance product supply for major and serious diseases featured independent operation and self-assumed responsibility for its profits and losses, thus demonstrating that government-related medical insurance is connected and separated. They strengthen the “second aid” for basic medical insurance and self-paid medical expenses after serious illness insurance compensation, improve the risk warning and guarantee the disease expense trigger mechanism, and reduce the proportion of out-of-pocket payments for the poor, genuinely giving full play to the safeguarding effect of “underpinning” and optimizing the poverty reduction effect.

5.6 Implementing the Famous Rural Doctor Project

It is recommended to consolidate the foundation of rural medical resource service guarantees by focusing on medical talent. Senior doctors should be encouraged and guided to settle in rural locations to perform various grassroots assistance tasks, such as diagnosis, treatment, and science popularization. For doctors from hospitals in

surrounding cities to practice at multiple locations and set up or operate chain clinics. In addition, policy support should be provided regarding land use, taxation, drug management, and other considerations to assist doctors specializing in TCM and Western medicine in serving villages. It is recommended to perform the "Internet +" action to empower the countryside with high-quality medical resources in cities through modern information technology, enhance telemedicine service capabilities in rural areas, promote the extension of the major disease collaboration network to rural areas, enrich the connotation of telemedicine, and apply digital medical care more extensively and in-depth.

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