

Research on Changes and Response Strategies of Health Human Resource Demands in CHSC in the aftermath of the COVID-19 Pandemic

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Abstract. Community health service centers (CHSC) are the first line of defense for national health. In the post-epidemic era, CHSC need to effectively play the role of the grassroots "outpost." In addition to daily medical and public health work, they should also strengthen joint prevention and control to consolidate the achievements of epidemic prevention and control. Under the new situation, the demand for talent in CHSC has also changed, and the construction of its talent team faces many challenges. This article collects relevant materials and data to analyze the changes in the work content of health personnel in CHSC in the post-epidemic era, and analyzes the changes in talent demand and key problems under the new situation, providing strategies to strengthen the construction of talent teams in CHSC in the new era. Key problems in CHSC in the post-epidemic era include unreasonable structure of health personnel, insufficient allocation of health personnel, unclear rights and responsibilities, and rigid talent training models. To improve the professional level and governance ability of health personnel in CHSC, optimize the working environment of health personnel, and address the issue of scarce positions, strategies are proposed such as relaxing recruitment conditions for scarce positions, encouraging the establishment of traditional Chinese medicine clinics, fully leveraging social collaborative forces, promoting diversified training for the capacity building of grassroots health personnel, and establishing new talent development platforms.

Keywords: Post-pandemic era; Community health service centers; Human resources for health; Changes in demand; Coping Strategies.

1. Introduction

The public health emergency not only has a significant impact on the political, economic, and cultural exchanges of a country, but also poses a serious threat to the lives and health of the people. The Post-Pandemic era does not mean that the epidemic has completely disappeared; it is still present and can flare up at any time in small scale. In October 2022, General Secretary Xi Jinping stated in the report of the 20th National Congress of the Communist Party of China that "we will promote the construction of a Healthy China, give priority to ensuring the people's health, improve the public health system, strengthen the major epidemic prevention and control system, emergency response capacity building, and effectively curb the spread of major infectious diseases." At the same time, he also pointed out the importance of "improving the ability of grassroots disease prevention and treatment and health management" and "developing and strengthening the medical and health workforce, with a focus on rural areas and communities."

Community health service centers (CHSC) are an important component of China's primary medical and health system, playing a crucial role in epidemic prevention and control. The community is the first line of defense in epidemic prevention and control, and holding this line is key to winning the entire battle. As the first line of defense for public health, strengthening the construction of health

personnel in CHSC, enhancing their service capabilities, and leveraging their advantages and functions are all essential. In August 2022, the Personnel Department of the National Health Commission pointed out in the "14th Five-Year Plan for the Development of Health Talents" that it is necessary to address deficiencies, strengthen the construction of public health personnel, further expand channels, and strengthen the construction of grassroots health personnel. The National Health Commission has consistently emphasized in numerous policy documents the need to strengthen the talent pool of medical institutions at the grassroots level during the 14th Five-Year Plan period, to promote more medical talent resources to the grassroots level, optimize grassroots facilities, and create a good and comfortable working environment for talent, and continuously enhance the attractiveness of grassroots talent recruitment plans.

With epidemic prevention and control entering the normalization stage, the work content of CHSC has changed, placing higher demands on health personnel and posing new challenges for talent construction. This study explores the changes in the work content of community health service personnel in the Post-Pandemic era, discusses the changes in the demand for health human resources and the challenges faced in talent construction, and proposes relevant strategic suggestions for strengthening the construction of health personnel in CHSC in the Post-Pandemic era.

2. Changes in the work of community health service center staff in the post-epidemic era

2.1 Strict implementation of pre-examination and triage system

In the post-epidemic era, health personnel in CHSC should strictly implement the pre-examination and triage system, and do a good job in patient diversion and risk prevention for those who come for medical treatment. Outpatient clinics should set up standardized pre-examination and triage points, and allocate health personnel with professional basic knowledge and rich experience to conduct preliminary screening of patients. Based on the first visit responsibility system, strict measures such as testing, registration, reporting, and guidance should be implemented to register and standardize the transfer of febrile patients, those who cannot exclude COVID-19, and those who are highly suspected, to the fever clinic for treatment.

2.2 Scientific implementation of infection prevention and control within medical institutions

As the primary place for residents to seek medical treatment, CHSC have a large number of patients and medical personnel, and there is a risk of cross-infection. Health personnel should raise self-protection awareness and carry out hand hygiene and other protective measures in accordance with relevant technical specifications for standard prevention. At the same time, strict regulations should be implemented for the hygiene and disinfection of the internal environment of CHSC, and the rules and regulations of medical institutions should be improved. Processes such as environmental and ward management, shift handover, and hand hygiene should be strictly monitored to minimize the incidence of infections within medical institutions [1].

2.3 Regular promotion of epidemic prevention and control propaganda work

As the "guardian" of residents' health, CHSC play a grassroots "sentinel" role and need to constantly strengthen the residents' health defense. In the face of major public health emergencies, in addition to controlling them with practical measures, it is also crucial to improve residents' awareness of prevention and control and mobilize their active participation. The National Health Commission pointed out in the "Notice on Doing a Good Job in the 2020 Basic Public Health Service Project" that it is necessary to strengthen health education on epidemic prevention and control for residents in the jurisdiction, and mobilize the initiative and enthusiasm of the whole population to participate in epidemic prevention and control. Jointly with urban and rural community organizations, grassroots medical and health institutions should fully leverage social coordination forces, continuously

strengthen the promotion of epidemic prevention and control propaganda and health education, and enhance residents' awareness of epidemic prevention and control.

2.4 Follow-up monitoring of the health status of COVID-19 discharged patients

Health personnel in CHSC should actively establish contact with designated hospitals, share medical records of COVID-19 discharged patients, and provide timely health guidance and health status monitoring services to discharged patients, reporting any abnormal conditions to the designated hospitals. Based on the actual situation, community or home-based rehabilitation guidance services should be provided to patients. Attention should also be paid to psychological counseling for COVID-19 patients, suspected cases, and their families to promote synchronized physical and mental health recovery and early return to normal life.

2.5 Accurate provision of basic medical and public health services by zone and category

In addition to actively cooperating with other medical institutions to conduct patient triage, referral, and follow-up monitoring, CHSC must also ensure the normal provision of basic medical services, such as diagnosis and treatment and health management of basic diseases and common chronic diseases. CHSC should accurately provide public health services according to different zones and categories, such as maternal and child health care, health education, and health assessment, to meet the different health needs of residents.

3. Changes in the demand for healthcare talents in CHSC in the post-pandemic era

3.1 Demand for the quantity of healthcare talents in CHSC

Since the outbreak of COVID-19, the "bottom-up" role of CHSC in responding to public health emergencies has been increasingly emphasized. Starting from the source, it is essential to effectively contain the spread of the epidemic. At the same time, community health personnel need to work with social forces to implement grid-based and carpet-like management for residents in the region, carry out registration and investigation of returning personnel, and so on. In daily work, healthcare personnel in CHSC can basically maintain the normal operation of the entire institution. However, during public health emergencies, in addition to providing basic medical and public health services, healthcare personnel in community health centers also need to carry out in-depth community and household investigation, nucleic acid testing, etc. One community health service center can serve tens of thousands of residents in its jurisdiction, and the huge workload of carpet-like investigation is further complicated by the mobility of the population [2]. In addition, although we are in the internet age, it is still necessary for every community health worker to promote health knowledge and screening for key populations such as the elderly and the disabled [3].

3.2 Demand for the quality of healthcare talents in CHSC

First, there is a need to improve the professional competence of healthcare personnel in responding to public health emergencies. Fever clinics have a "preliminary" function throughout the epidemic prevention and control, and CHSC that meet the conditions should set up fever clinics. Through pre-check triage, special and infectious diseases can be screened preliminarily. Therefore, experienced and professionally competent healthcare personnel should be arranged in emergency departments to facilitate the reasonable and rapid diversion of patients and guide them to seek medical treatment at fever clinics in a standardized manner. At the same time, healthcare personnel need to enhance their risk prevention awareness and reduce the risk of cross-infection through targeted risk prevention training. Second, there is a demand for healthcare personnel with a background in public health. Public health personnel are crucial for conducting emergency prevention and control drills and providing emergency contingency plan guidance. Third, there is a demand for traditional Chinese

medicine (TCM) professionals. In the prevention and control of COVID-19, TCM has once again played an important role. Many CHSC have launched free distribution of Chinese herbal soup to residents, and TCM has also been applied in clinical treatment. Practice has shown that under the treatment method of integrating traditional Chinese and Western medicine, the cure course of many mild patients is shorter and the recovery is better. TCM has the advantages of simplicity, convenience, effectiveness, and low cost. In the post-pandemic era, TCM has a trend of gradually becoming popular and recognized by the public, and the demand for TCM talents in CHSC cannot be ignored.

4. Challenges in the Construction of the Community Health Service Center's Health Workforce in the Post-Pandemic Era

4.1 Unclear Positioning and Unclear Responsibilities of Community Talents, Urgent Need to Further Optimize Staffing

In recent years, the state has gradually increased its investment in personnel construction of primary medical and health institutions, and the number of healthcare professionals per thousand permanent residents in primary medical and health institutions has slowly increased year by year. However, recent data shows that the critically important nursing human resources are still lacking. In recent years, the doctor-to-nurse ratio in CHSC has increased slowly, with doctor-to-nurse ratios of 1:0.90, 1:0.92, and 1:0.94 from 2018 to 2020, which is still far from the national standard of 1:1.5 for community hospitals. Nurse reserves are a necessary condition to meet medical service demands, but currently, CHSC lack sufficient nursing staff, which forces doctors to take on some basic nursing services. At the same time, the occurrence of sudden public health emergencies has resulted in a dislocation of the prevention, treatment, and rehabilitation functions of community health workers, and they have to take on work they may not fully understand, resulting in unclear division of responsibilities and reduced efficiency of CHSC.

4.2 Insufficient Allocation of Public Health Professionals, and the Need to Further Deepen the Concept of Medical and Health Integration

The outbreak of COVID-19 has exposed China's shortcomings in public health and emergency response capabilities. The emphasis has been on clinical treatment, and there is a lack of personnel with a background in public health knowledge. Although medical personnel have rich clinical experience, they lack understanding of relevant knowledge such as infectious disease prevention and control, which makes it difficult to promptly and quickly detect and report cases of infectious diseases, and they lack awareness of infectious disease prevention. The National Health Commission has clearly stated in its notice on the 2020 Basic Public Health Service Project that community medical and health institutions need to adhere to the functional positioning of prevention and control integration. CHSC have the responsibility of protecting the health of residents in the region. In the post-pandemic era, the concept of medical and health integration should be further deepened, and public health-related knowledge training for medical and nursing staff in CHSC should be strengthened. Training for responding to sudden public health emergencies should also be actively carried out, and the emergency response capabilities of CHSC should be enhanced to play their role in "prevention and healthcare" and to strengthen joint prevention and control to safeguard the health of residents.

4.3 The Talent Training and Incentive Mechanism Is Not Yet Perfect, and Talent Loss is Serious

The salary of community health service center staff is lower than that of hospitals, and personal development is limited. Against the background of the post-pandemic era, the demand for healthcare professionals has increased, the workload of community health service center staff has increased, and their work burden has become heavier. However, the lack of opportunities for professional promotion

and low salaries can lead to job burnout, decreased work enthusiasm, and talent loss. In terms of performance evaluation and salary distribution, incentives for public health-related work should be fully emphasized. Salary distribution has a significant impact on the investment of healthcare personnel in preventive healthcare-related work. The mechanisms for medical and health integration-related work and incentives are not yet perfect in CHSC, and need to be further improved based on the actual situation of the organization and the healthcare service needs in the region.

5. Strategies for building the health workforce in CHSC in the post-pandemic era

5.1 Optimizing personnel structure and improving medical service efficiency

The key issue in coordinating between medical institutions is the allocation of personnel. A shortage of personnel directly leads to low efficiency in medical services [4]. Firstly, a harmonious ratio of medical staff helps to improve service efficiency, provide more medical services, increase sources of income, and CHSC should optimize their personnel structure and emphasize the role of nurses in medical service activities [5]. Secondly, it is necessary to increase the introduction of public health professionals and general practitioners, enrich the diversity of the family doctor team, and facilitate the development of more rational, comprehensive, and meticulous health diagnosis and treatment plans. This further enhances the professionalism of the family doctor team, thereby improving the attractiveness of the community family doctor contracting system, and is also conducive to the development of medical and health integration work in the community.

5.2 Relaxing recruitment conditions for scarce positions and making reasonable use of existing resources

In recent years, the country has continuously increased investment in grassroots medical and health institutions. However, the growth of personnel in grassroots medical and health institutions still lags behind the growth of national health personnel, and faces increasing demand for health personnel. CHSC should also make efforts to relax recruitment conditions and give certain policy preferences to graduates who have a combination of management and medical and health expertise, and nursing graduates. With the full use of discretionary recruitment rights, recruitment conditions can be relaxed for some scarce positions, and efforts can be made to increase the use of talents and tighten the assessment of professional abilities.

5.3 Encouraging the establishment of TCM general practice clinics and enhancing TCM diagnosis and treatment services

CHSC should seize the opportunity to establish TCM general practice clinics, increase the introduction of TCM talents, and build a high-quality TCM general practice talent team. Giving full play to the advantages of TCM in "preventive healthcare," small illnesses and minor ailments can be managed at the grassroots level, reducing the burden on the entire medical system. Against the backdrop of epidemic prevention and control, the public's attitude towards TCM has undergone changes, and further efforts should be made to promote traditional Chinese medicine culture actively. Actively cooperating with TCM colleges and universities, improving the employment restrictions and talent outflow problems in the TCM profession. Encourage experts in TCM hospitals and comprehensive hospitals to provide remote guidance on TCM and integrated knowledge to general practitioners in CHSC, establish a TCM health information platform, promote effective TCM diagnosis and treatment services in CHSC, fully tap the unique advantages and roles of TCM, and enhance the level of primary TCM diagnosis and treatment services.

5.4 Fully leverage the synergy of medical alliances and implement joint prevention and control measures.

Relying on the medical alliance model, promote the sinking of the talent team of medical institutions with high-quality medical resources in tertiary hospitals, dispatch experts for assistance and consultation, and effectively improve the professional competence of the talent team in CHSC. Gradually carry out unified recruitment, training, deployment, and management of personnel within the medical alliance while ensuring medical quality, which is conducive to introducing high-quality talents for grassroots medical and health institutions and promoting the professional development of health personnel in the entire community health service center. Strengthen the linkage and coordination mechanism between CHSC and social organizations to fully leverage the synergy of cooperation. Mobilize the community residents to participate in emergency prevention and control of public health incidents, such as publicity and psychological counseling, and help reduce the work pressure of health personnel in CHSC [6].

5.5 Actively carry out diversified training and improve the service capability of grassroots health personnel.

Increase the training efforts for health personnel, improve emergency mechanisms, clarify responsibilities, and reduce the risk of cross-infection. Enrich the training mode for improving the capabilities of grassroots health personnel. The training methods mainly include online self-study, simulation exercises, and offline lectures [7]. The training adopts a combination of online and offline methods, and the annual assessment is conducted through continuing medical education credits [8]. Online self-study training platforms have the advantages of low cost, high efficiency, and flexibility, and are worth promoting. In addition, medical staff from secondary and tertiary hospitals who voluntarily serve as lecturers for improving the capabilities of grassroots health personnel can be included in the performance appraisal of the current year and rewarded. By combining various training methods, actively promote diversified emergency management models for public health talents. This model has advantages both in daily and public health emergency contexts.

5.6 Optimize talent training models and establish new talent training platforms

The current medical talents are highly specialized in clinical treatment, infectious disease prevention, and public health functions. However, the challenges faced by the public health field in the real world are variable. The problem of low comprehensive literacy of talents has become particularly apparent during the epidemic. It is urgent to build composite talents with both public health and clinical medical skills and establish a talent training platform integrating prevention, management, and treatment. Encourage the government to assist medical colleges in establishing public health schools with a focus on prevention and health management, accelerate the construction of public health-related disciplines, vigorously cultivate composite talents in public health and clinical medicine, and focus on assessing their practical and adaptive abilities. Inject more fresh blood into health personnel of various medical institutions and establish new talent training platforms.

Acknowledgment

Foundation: Research Project of Philosophy and Social Sciences in Hubei Province (21Y117).

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