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Current Status and Development Strategies of General Practitioner Training in China

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Abstract: After nearly 30 years of exploration and practice, "5+3" and "3+2" general practitioner (GP) training modes have been preliminarily established in China. However, the country still lacks qualified GPs. We analyzed the current situation of GP training in China and found that (1) being a GP is an unattractive occupation; (2) the GP training system is incomplete and lacks a process assessment mechanism; (3) the certification and recertification mechanisms of training bases are incomplete; and (4) the continuing professional development needs to be standardized. We then summarized the training provided in the United States, the United Kingdom, and Australia, and proposed the following policy recommendations: improvement of the remuneration of GPs, establishment of a comprehensive GP training system focusing on occupational competence, development and implementation of a normalized assessment and certification mechanism for GP training bases, and establishment of continuing professional development bases for GPs.
Keywords: general practitioners; personnel training; occupational competence

1 Introduction

China is at a crucial stage in the reform of its health care system. Strengthening grassroots health service systems and enabling them to exert their role in primary care are two of the main goals of medical reform. The most critical part is the cultivation of talent. As the "gatekeeper" of health and medical expenses, general practitioners (GPs) play an important role in primary health care. Accelerating the training of qualified GPs would aid in strengthening the primary health care system, promoting family doctors' contracting services, establishing a graded diagnosis and treatment system, and maintaining and improving the health of individuals [1]. Therefore, we assessed and summarized the current situation and main issues regarding GP training in China after conducting a literature review, investigations from GP department directors and GP trainees, and expert interviews. We then proposed strategies and policies based on the GP training provided in the United States, the United Kingdom, and Australia.

2 Current status of general practitioner training in China

After nearly 30 years of continuous exploration and practice, some progress has been made in developing a GP team in China. By the end of 2017, there were more than 0.25 million GPs in China, which accounts for 7.4% of the licensed (assistant) physicians, among which nearly 0.16 million have acquired GP training certificates, and

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nearly 0.10 million are registered GPs. There are 1.82 GPs per 10 000 people [2]. After the issuance of guidelines on establishing a GP system by the State Council in 2011, “5+3” and “3+2” GP training modes were preliminarily established.

Even with this progress, China still faces a serious shortage of qualified GPs [3–5]. At present, most of the GPs in China received either on-the-job training for doctors in community health service centers (CHCs) or job-transfer training for doctors in township hospitals during the periods of the 11th and 12th 5-Year Plan, rather than the 2–3 year standardized resident training [6]. In the cities, primary care is mainly provided by medical practitioners in CHCs and hospitals, whereas in the countryside, it is provided by “barefoot doctors” with less training. In 2011, the State Council proposed the goal of achieving 2–3 qualified GPs per 10 000 people by 2020. Until now, this goal has been approached using figures; how to guarantee and improve the quality of on-the-job GPs is still a question to be answered.

Meanwhile, there exist a series of problems regarding the quality of on-the-job training of GPs. In 2014, the “5+3” resident training system was formally established in China, and a series of training bases and trainers were selected accordingly. In September 2017, we conducted a qualitative study on GP training that showed that with the current allocation of medical and teaching resources, GP training should be guided by general practice departments in comprehensive hospitals. The general practice department in the comprehensive hospital, with a strong training team and systematic training system, should assume the responsibility of GP training, serve as a bridge between specialty institutions and CHCs in the graded diagnosis and treatment system, and cultivate GP trainers in CHCs. In September 2018, we conducted an online questionnaire survey of the GP department directors of 41 comprehensive hospitals in China and found that about 95.12% (39/41) of directors were specialists who had transferred to GP positions and had worked as GPs for an average of 4±2.7 years. This finding provided a preliminary glimpse of the current situation of GP trainers.

Furthermore, the focus, goals, and training content are under constant exploration and research. Most GP trainees think the main purpose of GP training is to improve their clinical professional knowledge. Their training is focused on medical record writing, basic skills operation, communication with patients, and patient reception. More opportunities for independent practice need to be developed. Trainers hope to take part in the design of training programs and wish to have a more reasonable rotation schedule. For trainers in CHCs, improvement is needed in the areas of teaching enthusiasm, methods, and feedback to and communication with trainees. With regard to salary during training, 87% of GPs earned less than 50 000 yuan per year, and most were dissatisfied with the salary.

3 Main issues regarding general practitioner training in China

3.1 Insufficient state financial subsidies and lack of attractiveness of the occupation

Research shows that the salary level of GPs in China is comparable to the social average salary level; however, in some geographic areas it is lower than the social average level. For example, the ratio of the average salary of GPs to the social average salary is 1.17, 1.10, 1.00, 0.76, 0.90, 1.17 in Beijing, Shanghai, Nanjing, Qingdao, Wuhan, and Guangzhou, respectively [7,8]. In 2014, the state began to offer 30 000 yuan per year to every trainee in a “5+3” standardized resident training program. However, there have been cases in which payments were withheld or delayed. Such situations result in the failure to guarantee residents a normal life during their training period.

Though the numbers of residents in specialized health fields with worker shortages, such as general practice, have been increasing in recent years, patients’ needs are still not being met. The state planned to recruit 10 000 residents in general practice in 2016, but only 8 047 chose it. There are some possible reasons for the shortage of GPs. On the one hand, with insufficient awareness and attention on GPs, some departments fail to implement the relevant policies and fail to support the development of general practice. On the other hand, being a GP is an unattractive occupation. Compared with specialists, GPs’ salaries are low, and their professional development path is unclear [8].

3.2 An incomplete general practitioner training system

General practitioner training has been explored in China since 1999. Based on the experiences of other countries, “5+3” and “3+2” training modes have now been established. However, due to the late start and weaker foundation, compared with other countries, the system has yet to be fully developed.

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In China, GP trainees are mainly junior college, undergraduate, and postgraduate students. After training, they may work in different settings, including comprehensive hospitals and CHCs. The existing GP training system is relatively uniform and does not take into account the different education backgrounds and different workplaces of the trainees. Talent should be trained in a progressive manner with different goals for each academic year. The current GP training syllabus in China lists the content for all 3 years, and there are no guidelines on how to train and assess GPs at different stages.

3.3 Lack of a process evaluation mechanism for general practitioner training and difficulty in guaranteeing the quality of training

General practitioner training in China lacks the necessary process evaluation mechanism. In many other countries, such as the United States and Australia, it takes a long time to train a qualified GP. He or she must undergo many assessments to move through the stages of training. Training in China includes rotation in hospitals and CHCs. After completing the training required in the syllabus, trainees are required to take the clinical knowledge and skills examination given by the provincial and municipal health departments. Those who pass the examination are able to obtain the GP certificate. The process lacks assessment mechanisms, and the evaluation system for personnel training is not stringent enough.

3.4 Incomplete certification and recertification mechanisms for training bases

The *Criterion of Standardized Residents Training Bases*, which was published by the Department of Science and Technology Education of the National Health and Family Planning Commission in 2014, sets strict requirements with regard to GP training bases. It is required that bases be grade-A tertiary hospitals with complete departments and a general practice department (or the department with the function of general practice, such as the geriatrics department or department of comprehensive health care). Additionally, there are also strict requirements with regard to the number of beds, workload, and hospital leadership. A standardized GP training base should include a clinical training base (which is located in comprehensive hospitals) and a CHC base. Besides the national standardized residents training bases, some provinces have certified some provincial bases and established some training collaboratives that include a national base and some provincial bases.

In 2016, the Committee of Experts on General Practice Education and Training of the Chinese Medical Association and the General Practitioner Branch of the Chinese Medical Association conducted on-site evaluations of GP training bases in 20 provinces and found that out of the 47 evaluated bases, 61.7% lacked independent general practice departments. The management of some GP training bases still relied on the other departments (e.g., the geriatrics department, emergency department, and internal medicine department), and there were incomplete management and recertification mechanisms. These situations lead to the failure to guarantee the teaching resources, such as types and amount of diseases and clinical skills required in the training syllabus, training teams, teaching equipment, and management resources.

3.5 Lack of standardized continuing professional development for general practitioners

General practitioners in the United Kingdom are required to submit an annual work report and to undergo inspection and evaluation. They must participate in continuing medical education activities organized by the Royal College of General Practitioners. In the United States, family doctors are required to earn 150 credits every 3 years and to undergo recertification every 6 years.

Currently, China has many issues with respect to the continuing professional development (CPD) of GPs. For example, there is lack of bases for CPD, insufficient qualified trainers, illogical training content, and incomplete evaluation and supervision systems for training. General practitioners are unaware of the importance of these issues, which leads them to blindly pursue the training certificate and credit and neglect the real clinical skills that are needed.

4 General practitioner training in other countries

4.1 United States

In the United States, family doctor training starts at the graduate level, in medical school; this training includes basic training (3 years) and advanced training (1–2 years) [9]. Basic training includes hospital rotation and training

in community clinics. For the advanced training, trainees can choose any specialty related to family medicine, such as geriatric medicine, rehabilitation medicine, maternal and child health care, and tourism medicine. Before obtaining the qualification of family doctor, a trainee must undergo an examination given by the American Academy of Family Physicians. When basic training is completed and the trainee has passed the examination, he or she is able to obtain membership in the academy. After completing advanced training, he or she becomes a formal member.

4.2 United Kingdom

In the United Kingdom, becoming a GP requires at least 9 years of medical education and on-the-job training, including 5 years of medical school, 1–2 years of clinical practice (registered as a doctor) and 3 years of clinical training. The 3-year clinical training includes 18 months in a hospital (3 specialties) and 18 months in a GP clinic [9]. Finally, after passing the Royal College of General Practitioners exam, the doctor becomes qualified to work as a GP. The GP is required to submit annual work reports and to undergo recertification.

4.3 Australia

There are two Australian associations responsible for GP education and training: the Royal Australian College of General Practitioners and the Australian College of Rural and Remote Medicine [10]. In Australia, GP training is divided into four stages. The first stage consists of 6 years of undergraduate education, including 3 years of basic sciences and 3 years of clinical skills. If the undergraduate major is not medicine, the trainee must first complete 4 years of medical education. In the second stage, the trainee performs a 1-year internship. At this point, the trainee is able to prescribe medication under supervision. After completing the second stage, the trainee can obtain a license to practice medicine. In the third stage, the trainee completes a residency of at least 1 year. If the trainee is interested in any specialty (e.g., anesthesia and obstetrics), he or she can apply to have this period extended. This stage is equivalent to the resident training in China, and all the training is normally completed in the hospital. The fourth stage is the general practice training stage, which starts in the third or fourth year in hospital. This stage lasts for a total of 3–4 years in the clinic. At this point, the trainee can be referred to as a registered doctor and is already at a level equivalent to the level of attending in China. The trainee undergoes examinations before and after specialist training. After completing all these processes, he or she becomes a member of the Royal Australian College of General Practitioners or the Australian College of Rural and Remote Medicine.

In sum, GP (or family doctor) training is different in high-income countries and regions. However, it can be characterized as follows [3,11]: (1) The GP shares a common medical education foundation with other physicians, and we should focus on their postgraduate education. (2) The GP training cycle is long. It starts with a university education and takes about 10 years. (3) A GP is a type of physician and has received a systematic and standardized postgraduate education. (4) In high-income countries and regions, the average salary of a doctor is significantly higher than that of a general worker [12]. The income gap between GPs and specialists is small. In 2015, the average annual salary of GPs in the United State was $192 120, which was 3.44 times the gross domestic product per capita and 3.98 times the average annual salary [12].

5 Suggestions with regard to general practitioner training in China

5.1 Increase the salary of general practitioners and establish effective mechanisms to attract talent to shortage occupations at primary health care institutions

Central and local governments should increase the support provided to GP trainees to ensure that these individuals receive their benefits during training, and gradually raise their subsidies. Those who are willing to be GPs with medical bachelor’s degrees should be encouraged. The employment procedures for these individuals should be simplified, and authorized positions should be prioritized for them. General practitioners working on the front lines should be given priority in the promotion process. Mechanisms that award special contributions should be established. For example, GPs who are willing to work in remote areas should be given special benefits (e.g., more income and preferential policies for their children’s education).

5.2 Train qualified general practitioners and establish a multi-dimensional, hierarchical, and progressive general practitioner training mode

The “3+2” assistant GP training mode should be canceled, and all GP training should be conducted according to

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the “5+3” mode. This change would facilitate homogeneous GP training. Following the principle of hierarchical and progressive talent training, a multi-dimensional, hierarchical, and progressive training program should be established. Specific training goals should be established for each stage. A continuous and progressive GP training mode should be developed to avoid training fragmentation.

5.3 Establish a complete general practitioner training process evaluation mechanism based on competence

A complete GP training process evaluation mechanism should be established based on competence. Furthermore, the mechanism of withdrawal and elimination for GP training should also be introduced to improve the quality of GPs.

5.4 Standardize the admissions requirements of general practitioner training bases and establish an appraisal authentication mechanism

The admissions requirements for GP training bases should be unified. Hospitals that provide GP training should establish independent general practice departments. General practice training should be led by the general practice department in the comprehensive hospital and coordinated by the relevant clinical rotation departments and CHCs. The Chinese Medical Doctor Association should play a role in evaluation and certification. A regular base evaluation and certification mechanism should be formed.

5.5 Establish general practitioner bases for continuing professional development and develop special interest training modes

General practitioner bases for CPD should be established. These bases should have the role of making the guides for CPD path and stage requirements, and conducting regular assessments and evaluations. Additionally, based on the needs of patients, bases should organize experts on general practice to promote special interest training for GPs [13].

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