Reflection on the Training of General Medical Students in China from the Development History of General Medicine in Australia and Other Countries*

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Abstract—After understanding the mismatch path between general medical students in ethnic minority areas in the process of training and basic medical and health services, this paper ravel out the mismatch path of general medicine in Australia, the United Kingdom, the United States and other developed countries, and learns from its valuable development experience for reference to avoid the medical colleges and universities in ethnic minority areas to repeat their mismatch route through literature analysis method and analyzing the relevant literature found in CNKI and Web of Science. A visit is made for individual community hospitals in ethnic minority areas to understand the role and positioning of general practitioners in hierarchical diagnosis and treatment, and to grasp the interest trend of general practitioners in medical treatment alliance. It is found that the development process of general medicine is also the development process of general medicine association. From the state without medical authority to general medicine association, to obtain subsidies from the government, to the establishment of personal professional certification and medical authority; the development process of western general medicine provides people with valuable development experience. Therefore, the training of general practitioners in ethnic minority areas should be different from the training of basic medical students, from the training of specialized clinicians, take its own unique development path, and make great efforts to develop its irreplaceable practice stage — community hospitals and rural health service stations. The general practitioners also should act as the role of health gatekeepers well and the providers in primary health services in the process of hierarchical diagnosis and treatment well; at the same time, the general practitioners should be good coordinators of two-way referral.

Keywords—general medical students; grass-roots medical services; Australia; talent training; mismatch path

I. INTRODUCTION

General medicine remains a comprehensive medical discipline that is oriented to the communities and families, and integrates the relevant contents of clinical medicine, preventive medicine, rehabilitation medicine, public health and humanities and social sciences into one, meanwhile, it shoulders the responsibility of health and medical services at the grass-roots level in China. It is the key for the country to promote the hierarchical diagnosis and treatment, optimize medical and health resources, implement medical and health reform, and realize healthy China. In the process of learning from the development of general medicine abroad by China, it has played a positive role in promoting the training of rural order-oriented general medical students. However, due to the imbalance of regional development, there are some problems in the training of general medicine students, especially in the training of rural order-oriented general medicine students in ethnic areas. This paper discusses the development and evolution process of general medicine in the western developed countries led by Australia, and makes a comparative analysis on them by combining with the similar problems existing in the training process of general medicine talents in ethnic areas in China in order to find a new path of general medicine training that conforms to the development of ethnic areas in China.

II. METHODS

By adopting the method of literature analysis, this paper summarizes the development data about general medicine in western countries in CNKI and Web of Science, analyzes the social background of general medicine in Australia, Britain, the United States and other developed countries, and simultaneously analyzes the problems existing in the training process of general practitioners in ethnic areas in China.
combined with the authors' observation and interview in community hospitals in ethnic areas. Especially against the medical background of promoting hierarchical diagnosis and treatment in China, it should hold the role and positioning of general practitioners in hierarchical diagnosis and treatment, and grasp the interest trend of general practitioners in medical treatment alliance.

III. RESULTS

The development of general medicine in foreign developed countries has gone through more than 230 years of history, and the development retrospect of more than 230 years can provide people a lot of inspiration. Making a general survey of the currently available document literature, Australia, the United States, the United Kingdom and other western developed countries have done more research on general medicine.

A. Conditions Before the Establishment of General Medicine Association

Since the beginning of Australian colonization in 1788, due to the demand of British prisoners and jailers for physicians in the process of long-distance navigation during colonization, at this time, Australia had its own "imported" general practitioners, and the rapid development of Australian general medicine was a matter of recent decades. As early as the 1950s, in the process of training Australian clinical medical students to become specialized medical students, the state required that clinical medical students must go to the community for several years of "general practice". The English of this "general medical practice" is general practice, which literally refers to the practice of general physicians.

B. The Establishment Stage of General Medicine Association

In order to keep off the drain of general practitioners (family physicians) in the United States, the American Academy of Family Physicians was established by the United States in 1947 to assist general medical students and general practitioners who intended to obtain comprehensive development practice, so as to promote the connection between general practitioners and community families, which greatly promoted the renaissance of general medicine [3]. To a certain extent, it also stood up for the social status and interests of general practitioners (family physicians). In 1953, the United Kingdom began to follow the example of the United States to set up its own domestic British College of General Practitioners, which proposed that general practitioners (family physicians) should be different from other specialist physicians, and considered that general practitioners (family physicians) were a special grass-roots service community health population, who were the gatekeepers of family health, and its status should be consistent with that of specialist physicians [4]. At the beginning, it was opposed by the traditional specialty (medicine, surgery, obstetrics and gynecology) academies. However, in the industry class where the specialty physicians occupied the authority of medicine, their main view was that general medicine (family physicians) should not be independent, and should be affiliated to the traditional specialty academies. In the context of medical service system and medical education dominated by specialist physicians, at that time, both the United States and the United Kingdom established their own family physician organizations of general medicine, but for the moment, they still failed to change people's prejudice against general medicine (family physicians). At that time, general medicine (family physicians) intended to look for a prestigious organization to support them, but also hoped to establish a strict access system to purify the vocational development of general medicine (family physicians). [5]

After independence from the United Kingdom, Australia began to follow the example of the United States after the Second World War. The representative of Australian general practitioners (Dr. William Conolly) established his own prestige in the process of founding the British College of General Practitioners. He was entrusted to set up a branch in Australia. In 1938, he allied the Branch of General Practitioners of each state to establish the Australian College of General Practitioners, which was renamed the Royal Australian College of General Practitioners (RACGP) in 1969 [6]. In the subsequent period, the College of General Practitioners of the three countries, namely, the United Kingdom, the United States and Australia, have been committed to unremitting efforts for their own interests and resources.

In the subsequent development process, the general medical association realized that it was difficult for a discipline only with study and without education to become a real specialty and discipline. In the process of pursuing its own independence, the general medical association encountered with impingement everywhere, and was restricted and confined by various aspects, especially the specialist physicians' doubts on the qualification and quality of its practice, which made the general medical association reexamine its own practice skills and service quality, and put forward a campaign to comprehensively improve the education and training of general practitioners. Because only standardized education and training can improve the medical skills of general practitioners, so as to obtain the general recognition of the society, and then generate better family medical services. In order to promote the development of general medicine, RACGP established three departments for the whole professional career of general medicine: undergraduate medical education committee, post graduation medical education committee and research committee. The first two committees (later merged into the medical education committee) focused on the development of general medicine training. [7]

C. The Reform Stage Supported by the Government

In order to further standardize the education of general medicine, the general medicine education in Australia dominated by general medical association introduced the continuing education program of general medicine for general medical students after graduation in 1962, and redesigned the course of general medicine at the stage of
undergraduate in 1963. However, they did not get the positive response and support from the experts who took the specialty medicine as authority at that time. They believed that after the graduation of medical students, the general medicine education outside the school had little promotion and constraining force on students. Due to the limited influence of the Australian general medicine association and the unsupported attitude of medical colleges and hospitals at that time, the initial general medicine education can only be voluntary. In this environment, the Australian general medicine association was still committed to the education and training of general medicine. In the same year, the qualification examination program for general practitioners was launched, and the education standard of general medicine was improved in 1964. The standard required that all physicians who intended to engage in general medicine services must go in for continuing education. Only medical personnel who passed the general medicine qualification examination can have the qualification to engage in the practice of general practitioners. After unremitting efforts, the qualification examination of general medicine was officially implemented in 1968. It can be seen from this stage that the establishment of the access system of general medicine was a crucial means and way for general medicine to maintain its own industry standards, establish its own standards and change people's views on general practitioners. This was also the need of division of work of socialization and professionalization. [8]

The normalized development stage of general medicine education after more than 20 years of unremitting efforts, the Australian general medicine association has finally received the support of the federal government. At the critical moment, the appropriation from the federal government of Australia to the general medicine association was specifically used for the national general medicine education and training project, namely the family medicine project at that time. Because of people's prejudice against general medicine for a long time at that time, a large number of general practitioners were in short supply. General medical and health personnel were becoming increasingly scarce in Australia as a whole. A large number of specialist physicians did not want to engage in the work related to general medicine. The complaints and voices of the communities attracted the attention of politicians and decision-makers in the government at that time. Another reason was the result of long-term medicine politicization. Australia implemented the national health act throughout the country in 1970, which required all physicians to receive professional training and qualification examination. In this way, the original physicians were divided into two parts: one was the specialist physicians who boasted professional direction and passed the qualification examination, the other was the new graduates who boasted no professional direction, or general practitioners. The intention of the federal government was to cultivate more qualified general practitioners who passed the qualification examination and meet the needs of the communities by supporting the “weak” general practitioners association. Under the circumstances, the education and training of general practitioners in Australia enjoyed comprehensive and rapid development, and gradually formed the education and training mode different from that of specialist physicians. Under the intervention of the government, the prestige of general medicine association in specialist physician had been gradually established. After more than 20 years of unremitting efforts, Australia began to implement compulsory general medicine training in the name of the state in 1992, and required that general practitioners in practice must go through formal general medicine training and pass the RACGP examination to become general practitioners, which changed the passive situation that only graduates who failed to pass the specialist physician examination only be received in the past. In 1994, there were 400 general medicine training posts, and in 2000, there were 450. Since 2001, Australia has carried out the reform of general medicine education. The original centralized training work has been directly distributed to 22 regional training centers, which has laid the foundation of standardize training of general medicine for the establishment of multi center training demonstration bases. [9]

D. The Stage of General Medicine Setting up Authority in Medical Field

With the help of the general medical association and the government, general practitioners have quietly changed in the structure of medical authority. In developed countries such as Australia, the United Kingdom and the United States, especially those with better development in community medicine, general medicine and family physicians, the silhouette of general practitioners begins to appear in the medical authority. The Social status has also been significantly improved. For example, Dr. Mukesh Haikerwal, director of the Australian Medical Association (AMA), has worked as a general practitioner in Melbourne for 15 years, and Dr. Rosna Capolingua, Executive Committee of the Medical Association (composed of 6 members), has also enjoyed 20 years of general medical service experience. The Executive Committee of the British Medical Association (BMA) consists of six people, two of whom (Dr. David Piersgill and Dr. Sam Everington) are general practitioners. Dr. Louise M.C. Cloutier, director of the Canadian Medical Association, is also a general practitioner. The board of directors of the American Medical Association (AMA) is composed of 21 members. Two of them (Dr. Hill and Dr. Langston) are family physicians. Among the few experts, there are many people who have the background of general practitioners. They have played an important role in the influence of medical authority [9]. General practitioners have been recognized by the government and the medical communities. First of all, they have played an important role in the community medical and health services. Due to the nature of their work, general practitioners must take the initiative to provide door-to-door services, close to community personnel, understand the living habits of residents, and participate in the consumption interaction process of community medical and health services. This requires general practitioners to fully and systematically understand the details of medical and health policies and medical insurance services, and the effective guide of the people in the community in the grass-roots medical and
health services have also been recognized and trusted by the communities and families.

In Australia, hospitals mainly consist of two major groups, namely, physicians and nurses, but physicians merely consist of medical experts, not residents. Residents are “trainees” who receive vocational training, so they are not affiliated to hospitals. The relationship between the medical experts and the hospitals is a contractual relationship: therefore, physicians who do not have the qualification of experts cannot work in hospitals, even if they have gone through in-patient medical training. Therefore, these people can only provide community services in their own clinics, and they are free people. Therefore, the workplaces of Australian general practitioners, physicians without expert qualification and many medical experts are in the communities, not in the hospitals. China’s general practitioners are public officials of public institutions, who are affiliated to the Health Bureau, while the physicians in the hospitals are affiliated to the hospital. The physicians in the hospitals have become a member of the hospitals since graduation, and then gradually get promoted until the chief physicians or professors. Therefore, they not have a “natural” connection with the communities, as opposed to the general practitioners that should practice in the communities with the whole process of community management concept, and it is worried about that in the process of practice, students see the grass-roots dissatisfaction and give up their ideal of becoming general practitioners, which is also the mismatch phenomenon occurred in the training of general practitioners in many medical colleges in China. If the policy requires graduates or young physicians to work in the communities for several years before they can enter the hospitals, or get financial rewards or advance promotion, the biggest challenge to the policy is the already deep-rooted medical education mode, and the biggest opponents are graduates and young physicians, because this undoubtedly means that they have witnessed obstacles and spent unnecessary time on their way to “settle down”. Therefore, the current education mode of general medical students in China is basically to bypass the community medical and health services with common services, and adopt the training mode of clinicians, the wrong training mode of carrying out shunt close to graduation or work. Of which, the great root is to equate the general practice of general medicine with the clinical training of clinical medicine. It is correct for clinical medicine students to say clinical practice, but it is wrong for general medicine students, because the place of clinical practice is the hospitals, only the hospitals have beds and conditions to provide clinical practice and clinical probation, but from the development process of general practitioners, in fact, general practice is a learning process aimed at learning observation and treatment methods, corresponding to theoretical and basic medical teaching.

IV. DISCUSSION
Making a general survey of the development process of general medicine in Australia, the United Kingdom, the United States and other developed western countries, and combined with the current development status of general medicine in China, it can be seen that there are a large number of similarities between the mismatch path of general medicine in China occurred in the process of talent training and the development process in western developed countries, they are mainly reflected in the following aspects:

A. Training General Practitioners as General Physicians
From the perspective of the origin of the general medicine development, general practitioners give people an illusion that they are common physicians. Up to now, there are still a large number of medical colleges and universities in China to train general medical students as common medical students. According to the development process of general medicine in Australia and other western countries, general medicine practice remains merely a procedure for clinical medical students to become specialist physicians. In some medical colleges and universities in China, it is easy for them to master this starting point of development and improperly equate general medical students with clinical medical students for training. The understanding of general medicine in most medical colleges and universities in China is also based on the above-mentioned mismatch ideas. When the clinical medical students enter the professional shunt, they will receive individualized and differentiated training to become qualified general practitioners. However, the general medical students who have been in large hospitals for practice for a long time have gradually forgotten their mission — to carry out medical and health services at the grass-roots level, but they want to pursue the same treatment and resources as the clinical medical students, which results in the wrong values emerged from general medical students. It is generally believed that hospitals are the most ideal place to train general practitioners. At present, specialist physicians in large hospitals have become the main body of medical resources. They firmly establish an exclusive professional structure to maintain their professional interests and prestige by taking hospitals as the position, medical authority as the center [10]. General medical students who have been practicing in hospitals for a long time also want to join this attractive class and become a specialist physician, which has laid an unstable factor for the transfer of rural order-oriented general medical students. For example, when the completion of the work of general medical students in grass-root medical and health service centers and community health service centers, they make great efforts to transfer to the rank of specialist physicians. Also in Australia, when the clinical medicine students complete the general practice, each graduate wants to become a specialist physician, but the threshold of the specialist physician is deliberately boosted, so that the general medical students have little chance to enter the authority core [11]. Some general medical students will choose to become general physicians only because they are not qualified to become the specialist physicians, or tired of working as the specialist physicians for a long time, or fail to pass the long-term assessment [12]. This has put an invisible label on the medical industry. General practitioners are common physicians, really ordinary physicians. This leads to the misunderstanding of the community personnel to the general practitioners, and leads to the community personnel have the wrong view that they are second-class or
third-class medical workers. This kind of development in Australia is surprisingly similar to that in China at present.

B. The Training of General Practitioners Should Be Treated Equally with That of Basic Medicine and Clinical Medicine

Authoritative medical experts generally believe that general medicine is just the piece of most basic and simple part of all kinds of specialized medical knowledge, without its own independent theoretical system and knowledge structure, which results in the impression of the specialist physicians on the general practitioners (family physicians) that a medical student wants to be a general practitioner in the future, just learning some simple knowledge in the introduction of various specialized courses is enough. Even if the general medicine association makes great efforts, it has not been supported and recognized by the specialist physicians in the medical colleges, who generally believe that it is not necessary for general medicine to normalize the general medicine education, and that it is enough to be the assistant of general practitioners. As long as the medical students in the medical college graduate, they basically have the general knowledge and basic skills of general medicine. If the medical students need to become specialized physicians, only the simple standardized training is needed to carry out. [13]

This kind of thought also exists in China. Therefore, general medicine and clinical medicine are equally educated in many medical colleges and universities. More than 95% of the courses in the aspect of personnel training program are repetitive, and even the courses in some colleges and universities are completely consistent. General medicine will not be shunted until graduation; however, it is too late for the professional shunt at that time. Because of the high salary and working environment of large hospitals, the general medical students who want to go back to the grass-roots level basically give up the idea of going back to the grass-roots level, which has buried the possibility of fault for the follow-up development of general medicine. [14] At present, this is the dislocation of general medicine and clinical medicine in education concept in China. The consequence of such dislocation is that the training orientation of general medical talents is not correct, and general medical students are in a dilemma after graduation. [15] According to our interview with general medical students, it is known that the medical students are very surprised after graduation because the grass-roots medical and health service stations and community hospitals have basically no advanced CT and other large-scale equipment compared with the large hospitals, which brings bewilderment and confusion to their medical treatment and is enough to explain the mismatch caused by training general practitioners equally with basic medicine and clinical medicine.

In 2003, under the influence of the development of foreign general medicine, China established its own general medicine association — General Practitioner Branch of Chinese Medical Doctor Association. Through this organization, the general practitioner association hopes that, like the development process of general medicine in Australia, the United Kingdom, the United States and other countries, it can acquire policy support and energetically develop related policies of general medicine. However, the social organization method of Chinese citizens is different from those in the above countries, and it still has certain limits in influencing the policy of general medicine in China. By 2019, under the joint efforts of the General Practitioner Association and the government departments of China, several relevant policies on the energetic development of general medicine have been issued in the name of the state. Although medical experts are also calling for the development of community health services, however, in the process of implementing specific policies, there is a phenomenon that their professional interests are inconsistent with the concept of general medical policies. This kind of authority structure leads the development trend of China's medical and health services — the expert-based development direction based on hospitals and research institutes. The structure of medical authority reflects the development status of medical model in China.

C. Inadequate Utilization of the Influence of the Government

The development of general medicine needs the support of the government, but also to play its uniqueness to affect the government's decision-making role in health care. The uniqueness of general medicine lies in its primary health care position in community health, which is an irreplaceable social position of clinical medicine. [19] First of all, general medicine needs to acquire the support from the government to acquire more medical authority, and it is limited to depend merely on the role of General Practitioners Association. It is far from enough to acquire the authority, status and development of general practitioners through the General Practitioners Association. From the above development process of general medicine, it can be seen that in the development process of general medicine in Australia, the government has a huge catalytic effect on general medicine policy under the intervention of the government. From the perspective of the relevant policies on general medicine that China has issued, China has formulated and implemented a number of relevant policies on vigorously developing general medicine. According to the requirements of the Ministry of health of China, community physicians in China must hold the professional qualification certificate of general practitioners by 2010, and these standardized training have reached the expected goal. In order to improve the medical level of community physicians, the Education Department and the Health Department of China, authorized by the government, have held the project of "national community physicians training" to the Chinese Medical Doctor Association, and carried out a large number of general practitioner training activities in a short period of time with the job-transfer training and on-the-job training as the main training methods. However, this is only a large-scale national training activity adopted on general medicine for transition period, and such transitional training activities have not changed the unique social status of general medicine, and the general medicine still has the potential risk of being directly replaced by other clinical medicine. Therefore, the education
system of general medicine still needs the close cooperation between the government departments and the health department, so as to give full play to the irreplaceable social status of general medicine in the grass-roots medical and health services, such as the construction of general medicine health bases in communities. The employment of general practitioners in rural medical and health service stations and the guarantee of their vested interests can further give play to the first diagnosis of general medicine and the role of primary health services. Secondly, the government needs general practitioners to achieve the development of grass-roots medical and health services. The first is that medical insurance plays an important role in promoting the grass-roots medical and health services through general practitioners. In the west, the role of medical and health services and general practitioners is formed by establishing a medical contract with the patients in the communities. Because the long-term social and cultural atmosphere in China is different from such contractual culture in the west, China can only rely on the grass-roots medical insurance system that is a government guarantee policy to promote the unique position of general practitioners in the grass-roots medical and health care, so as to safeguard the social authority role of general practitioners in medical treatment alliance. [21] The second is that the government, based on the principle that the development of the grass-roots medical and health services is consistent with the development goal of general medicine, seeks the promotion of general medicine on the national medical and health services, so as to obtain the recognition of the grass-roots citizens, and then obtain their own social status and rights, so as to realize the development of the national medical and health services. The formulation and implementation of the government's medical and health policies has become its firm supporter and executor to provide more social medical services for the benefit of the people, so as to meet the people's pursuit of high-quality life and high-quality medical quality.

D. Failure to Establish the Authority in Medical Field

The skilled and comprehensive medical skills of general practitioners are not recognized by community personnel, and patients are short of contractual constraints on referral between the community hospitals and the large hospitals. General practitioners in China should not only provide specialized medical services, but also provide common community medical services. Because in the process of promoting basic medical and health services in China, the original community medical and health centers and rural health centers do not have the medical conditions and faculties to train general practitioners that conform to China's national conditions. Therefore, in the initial stage of general medicine, most of the general medical students in China are established in large professional hospitals with the training of general practitioners. [22] Therefore, people get used to receiving all kinds of medical and health services in hospitals. No matter serious or minor illness, Chinese medical experts should provide medical and health services as long as people in the state of an illness and no matter what their priorities are. In terms of medical and health equipment, a large number of medical resources will be wasted. [23] The reason for this phenomenon is also because the historical problems left over by the practice of general practice in the process of promotion in China. Especially in urban communities with a large population, the setting of outpatient resources and the general practitioners in the communities don't get the attention they deserve, and the behavior consciousness of residents' self-referral is deep-rooted. [24] For families with conditions, most of them are directly referred to the large hospitals for treatment. There is a lack of relevant trust in community medical care, along with the absence of other relevant medical and health policy information, such as medical insurance system, personnel responsibility system, reimbursement drug scheme, etc. Physicians in large hospitals have a relatively good understanding about above-mentioned information, while general practitioners in community hospitals are also short of relevant understanding about above-mentioned information, which results in some welfare medical systems not benefiting the common people. [25]

Active door-to-door service is a distinctive way for the development of general medicine. The employment of rural order-oriented general medical students is in the grass-roots medical and health service centers or community health service stations, which still cannot change the difference between general medical students and clinical medical students. Because such medical and health services are still in the conditions that the patients come to see the doctor voluntarily, this is inconsistent with the concept of active door-to-door service required by general practitioners. With the support of the government, the Australian general medicine association has begun to pursue its own distinctive path. First, it has changed the teaching paths similar to clinical medicine in the past, and it has designed a training mode that is quite different from that of hospitals and specialist physicians in terms of philosophical thoughts, places and methods, people served, methods and results. It has formed a social medical division of labor where the specialist physicians cannot replace the general practitioners and the general practitioners cannot replace the specialist physicians. When they cannot replace each other, it also emphasizes the coordination and cooperation between the general practitioners and the specialist physicians. This mode completely breaks away from the adverse condition that the general practitioners can only accept the last eliminated specialized medical students in the past, and the enrollment quality is also guaranteed. Therefore, China should learn from the experience of Australia and other developed countries to pursue its own distinctive path of general medicine.

V. Conclusion

The above is a discussion of the problems and valuable developmental experience in the development process of general medicine in Australia, the United Kingdom, the United States and other western countries, which has an important referential significance to the positioning and development of general medicine in China. As a whole, the current national medicine in China has gone through the transitional stage of simply training rural physicians to
general practitioners. In the next, China should start to pursue its own stage of characteristic development path. This paper analyzes the problems of general medicine in the process of medical education and training in China, analyzes the previous mismatch presentation, the causes of mismatch, and the reform path, so as to lay the foundation for building a scientific and reasonable adaptive evaluation mechanism. Meanwhile, it is also the place where should be further studied in this paper.

REFERENCES


