UNIVERSITY INSTITUTE OF LISBON

Strategies of Human Resource Management in China's Community Health Service Institutions: A Case Study in Guangzhou

LV Xiuling

Thesis submitted as partial requirement for the conferral of the degree of

Doctor of Management

Supervisor:

Prof. Luís Manuel Dias Martins, Assistant Professor,

ISCTE University Institute of Lisbon

Co-Supervisor

Prof. JIANG Hong, Professor, Southern Medical University

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Declaration

I declare that this thesis does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any university and that to the best of my knowledge it does not contain any material previously published or written by another person except where due reference is made in the text.

Signed:  Date: 2019.3.3.

Name: XIULING LU

作者申明

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Abstract

Human resource is the first factor for development. For community-based health services, the rational allocation and full utilization of their human resources are important guarantees to meet people's growing demands for the health service. This research takes community health service institutions in Guangzhou as an example. By semi-structured interviews with 15 key insiders from community health service centers and field survey conducted among 328 medical staff, this research aims to find the quality of human resource allocation, recruiting and staffing, training and development, performance management, salary and welfare of community health service institutions. Through a combination of theories of human resource management and advanced experience of human resource management in community health service institutions at home and abroad, this research aims to put forward a strategy, which fits the China's national conditions, for human resource management in community health service institutions. The results can provide a theoretical basis for the human resource development planning of Chinese community health service institutions.

According to the survey results: in regard to staff allocation, the current human resource quantity in Guangzhou community health service centers basically meets the document requirement. However, the structures of gender, education background and professional title are facing imbalance, thus the quality of human resource remains to be improved. In regard to staff recruitment, system of employment under contract is basically fulfilled and generally recognized by staff. But owing to the limitation of the current management system for human resources, it is hard to recruit and retain in-need talents. In regard to staff training, most of the Guangzhou community health service centers have developed cooperation in training with other institutions including Class III Grade I hospitals or medical associations. However, the single training content, slow knowledge update and relatively fragmented training still fail to meet the diversified human resource demands in community health service institutions. In regard to performance management, though a performance appraisal mechanism has been basically established, it has not been well systemized due to a lack of an objective, scientific assessment index system.

Seeing that Guangzhou community health service centers are facing a lot of problems, such as human resources being short of quantity and quality, talents introduction mechanism

and incentive mechanism being yet undeveloped, training and development of human resources being monotonous and fruitless, performance assessment being formalistic, this research proposes the five following targeted suggestions to solve the problems: first, continue to deepen the medical and health system reform; second, draw up rational human resources planning; third, optimize the mode of community health talents introduction; forth, build a systematic training and development system; fifth, develop a scientific performance appraisal and salary system.

Keywords: Human resource management; Chinese community health service; Human resource; Guangzhou, China

JEL: I18; M51; M12

Resumo

Os recursos humanos são o primeiro fator importante do desenvolvimento. A disposição adquada e a plena utilização de recursos humanos nos serviços de saúde da comunidade é uma garantia importante para atender à crescente demanda por serviços de saúde dos habitantes. Este estudo terá como exemplo os serviços de saúde das comunidades de Guangzhou, através de entrevistas no local com 15 informantes-chave dos centros de serviços de saúde das comunidades, e de investigações de 328 profissionais médicos, combinado com as teorias de gestão de recursos humanos nacionais e internacionais e as experiências avançadas de gestão de recursos humanos das instituições de serviços de saúde da comunidade, obtendo informações sobre as vantagens e desvantagens na disposição, recrutamento, formação, gestão de desempenho, remuneração e nos subsídios dos recursos humanos em organizações de serviços de saúde da comunidade, e explorando uma estratégia de gestão de recursos humanos para instituições de saúde da comunidade que atende às condições nacionais da China e fornecer uma base teórica para o programa de desenvolvimento dos serviços de saúde da comunidade da China.

Os resultados da pesquisa mostram que，em termos de disposição do pessoal médico, a quantidade do pessoal que se destina aos serviços de saúde da comunidade de Guangzhou satisfaz os requisitos elementares para os recursos humanos, no entanto, existem diferenças estruturais de sexo, educação e de títulos profissionais, etc., poranto, a qualidade dos recursos humanos ainda está sujeito a mais melhoramento. Por outro lado, em relação à introdução de talentos, o sistema de recrutamento foi realizado e tem sido amplamente reconhecido pelos médicos, no entanto, devido às limitações do sistema de gestão do pessoal médico, mantém difícil introduzir e reter os talentos necessários. No que diz respeito à formação do pessoal médico, a maior parte deles já tinham estabelecido as relações de cooperação com os hospitais do nível 3A e as assiciações da área, mas os conteúdos da formação são uniformes e fragmantários, a atualização do conhecimento também é atrasada, por consequência, ainda não consegue atender aos requisitos dos recursos humanos dos serviços de saúde da comunidade. Toca à gestão de desempenho, o mecanismo de avaliação de desempenho já foi estabelecido, mas não tem um conjunto de indicadores científicos e objetivos para a avaliação do desempenho, portanto, o grau de sistematicidade do mecanismo de avaliação de desempenho ainda está sujeito ao mais aprefeiçoamento.

Tendo em conta os problemas como o desequilíbrio entre a quantidade e a qualidade, os problemas do mecanismo de introdução de talentos, o efeito fraco da formação, o formalismo da avaliação de desempenho, o mecanismo de incentivo ineficaz, etc., neste estudo, foram propostas as seguintes sugestões face aos problemas: 1). continuar a aprofundar a reforma do sistema dos serviços de saúde; 2). formular um adequado planejamento de recursos humanos; 3). optimizar o modo de introdução de talentos de serviços de saúde da comunidade; 4). construir um sistemático mecanismo de formação; 5) melhorar o sistema de compensação do desempenho, etc.

Palavras-chave: Gestão de recursos humanos; Serviços de saúde da comunidade chinesa; Recursos humanos; Guangzhou, China

JEL: I18; M51; M12

摘要

人力资源是发展第一要素，社区卫生服务人力资源的合理配置和充分利用，是社区卫生服务满足人民群众日益增长的卫生服务需求的重要保障。本研究将以广州市社区卫生服务机构为例，通过对 15 位社区卫生服务中心关键知情者进行现场访谈，并对 328 名医护人员进行现场调查，以获取社区卫生服务机构在人力资源配置、录用招聘、培训开发、绩效管理和薪酬福利等优劣所在，结合国内外人力资源管理理论和社区卫生服务机构人力资源管理的先进经验，以提出适合我国国情的社区卫生服务机构人力资源管理策略，为中国社区卫生服务机构人力资源发展规划提供理论依据。

调查结果显示：在人员配置方面，广州市社区卫生服务中心现有人力资源数量基本满足的文件要求，但人力资源性别、学历、职称等结构仍较为失衡，人力资源质量还有待提高；在人员引进方面，聘用制已基本实现且得到员工的普遍认可，但由于现有人事管理制度局限性，仍难以引进并留住所需人才；在人员培训方面，基本已和其他三级甲等医院或医学会等机构建立了培训合作关系，但培训内容单一、知识更新速度慢、偏碎片化的，仍未能社区卫生服务的人力资源需求；在绩效管理方面，绩效考核机制已基本建立，但仍缺乏客观、科学的绩效指标考核体系，系统化的绩效考核制度尚未健全。

针对目前，广州市社区卫生服务中心存在人力资源数量和质量相对不足、人才引进机制尚未完善、培训开发单一弱效、绩效考核流于形式、激励机制尚未健全等问题，本研究提出以下 5 项针对性对策建议：一是继续深化医疗卫生体制改革；二是制定合理的人力资源规划；三是优化社区卫生人才引进模式；四是构建系统的培训开发体系；五是完善科学的绩效薪酬制度等方面进行完善和发展。

关键词：人力资源管理；中国社区卫生服务；人力资源；广州；中国

JEL: I18; M51; M12

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Contents

List of Tables

List of Figures

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Chapter 1: Introduction

Human resource plays a central role in the development of community health service institutions. With the constant development of medical health system reform in China, the medical service environment in community health service institutions is also constantly changing, bringing new challenges and opportunities to human resource management in these institutions. Under the background of hierarchical diagnosis and treatment in the new medical reform, it is an important research topic to strengthen the research and improvement of internal human resource system, develop advantages of human resource in community health service institutions, improve service capability and strengthen constant competitiveness of talents by analyzing both internal and external environment and applying modern human resource management concepts.

1.1 Research background

Human resource is the first factor for providing and developing community health services, which should be provided by qualified medical professionals. The success of these services lies on adequate allocation and utilization of human resources in community health service institutions (Guo, Liang, & Zhao, 2015). Modern human resource management lays stress on the idea of people first, truly protects, utilizes and develops human beings as resources, emphasizes the win-win results and mutual benefits between organizations and their employees, attaches importance on developing employees' higher activeness and sense of responsibility. It is a kind of decisional, systematic, integral and strategic management involving the whole process of recruitment, appointment, training and development of all personnel (Cao, Qiu, & Qin, 2015). Modern human resource management is the development of the traditional one: the former lays emphasis on the development and incentives of human beings while the latter on the control over human beings, employing rigid management and lacking talent training mechanism. Currently, community health service is a livelihood project, where the effectiveness of resident health service depends on whole-process, active and dynamic management of service providers--the first core resource in community health service institutions. However, many health service institutions are confronted by such problems as talent shortage and low service capability, so they are unable to meet the basic demands of community residents. The

main reason for this problem is that the traditional human resource management fails to satisfy the development needs of modern community health service institutions and attract and retain talents. As a result, it is very necessary to introduce modern human resource management (Dai, 2017).

Health human resource refers to total quantity and quality of various medical workers with professional skills, whose goals are to prolong life-span and improve life quality and health of all people (Zhou, 2014). In order to develop health undertakings, all countries have always given priority to the training and planning of health human resource. As early as the mid-1950s, a development plan for health human resource has taken shape in the Soviet Union. At that time, the Soviet Union realized that human resource included both quantity and quality and believed that the quality improvement of health human resource was a strategy for sustained development. Currently, many countries are carrying out development research on health human resource (Douglass, 1988; Siddiqui & Kleiner, 1998). For community health service institutions, their human resource management treats the community health service institutions as the main target of human resources and will take various measures related to the development, planning and training of their human resources, including intelligence development of employees, prediction and planning of human resources, organization and training, selection, reasonable allocation and utilization of human resource. Based on the modern human resource management theory and management thinking, human resource management in community health service institutions appears throughout the whole process of the human resources flow and is a basic guarantee for the effective development, reasonable allocation and sufficient utilization of human resources. Related researches show that insufficient quantity, unreasonable structure, lack of talents with senior professional titles, heavy workload, and unreasonable performance assessment have become major problems and challenges in human resource management in China's community health service institutions (Chen & Ma, 2017; Liu, 2017; Xu, 2017). The 13th Five-Year is a decisive stage for China to build a moderately prosperous society in an all-round way and there are new historic opportunities and tasks for the development of health and family planning undertakings. With the economic development and changes in people's lifestyle and environment, demands for public hygiene and health services also increase. And demands for related services such as rehabilitation, elderly care, and material and child hygiene become even urgent with the adjustment of ageing and population policies. Demands for medical health services are further released as the social security system is gradually improved. The rapid development of Internet and information technology will surely

exert a far-reaching influence on models and levels of medical health services upon the establishment of system of hierarchical diagnosis and treatment. Demands for professionals in women and children health as well as pediatric department will sharply increase following the implementation of universal two-child policy. These changes raise higher requirements on the development of health and family planning talents and it becomes even urgent to strengthen the team construction of these talents (National Health and Family Planning Commission, 2017). Although community health service institutions located at the pivot position in the primary medical health network, there are still many problems in their human resource allocation and management due to various influence factors. In China's health human resource allocation, the inverted-triangle state in China's health resource allocation has been a severe reality. For example, a limited number of health personnel center on large-size medical institutions in major cities and personnel allocation is inconsistent with health service demands (Jing, 2008).

In January 1997, community health services were included for the first time in the official document. Decision of the Central Committee of the Communist Party of China and the State Council Concerning Public Health Reform and Development was issued at China's national health work conference, pointing out the practice of "reforming urban health service system, proactively developing community health services, and gradually forming a functionally rational health service network that facilitates the public".

In January 2000, the Proposal for Developing General Practice Education was issued by National Health and Family Planning Commission (NHFPC) of the PRC, indicating to "accelerate the pace of developing general practice education, build up a community health service team with general practitioners as backbone and guarantee the in-depth, healthy and sustained development of community health services". This provides policy guarantees for developing community health service in education and team construction.

In 2002, China's Development Outline of Human Resource for Health (2001-2015) (No. 35 [2002] of NHFPC) was issued by NHFPC, putting forward that the total amount of China's health human resources is increasing and their quality has been lifted. The proportion of health technicians in every one thousand people is rising but the health resource allocation is irrational, most of which center on urban regions and East China. Human resource management is relatively falling behind and the management system and mechanism fail to meet the demands in socialist market economy (Bi, 2017).

In January 2003, the Program of Action for Sustainable Development in China in the Early 21st Century was issued by the State Council, taking it as a key area for sustainable

development in China to "optimize health resource allocation and gradually form a functionally rational, convenient and new-type urban health service system that are based on community health services", and indicating to "make use of demonstration means to do a good job in pilot demonstration in key areas and fields".

From 2002 to 2005, China conducted construction exploration and reform of community health services. During the period, great progress had been made in community health services and a health service system had been established. However, there are still some problems, particularly the shortage of health human resources, on a national scale in China.

The Guideline of State Council on Developing Community Health Services issued in 2006 pointed out that, in principle, community health service centers should be equipped with two to three general practitioners and one public health physician for every 10 thousand residents. Each center should be equipped with certain number of medical practitioners of traditional Chinese medicine category under authorized strength of practitioners. Currently, the ratio between general practitioners and nurses is 1:1. The number of other staffs should not account for over 5% of the total number of authorized personnel in community health service centers. In addition, strengthening community health service team construction should be included into the important contents of promoting community health service system construction. The Guideline also states to strengthen the general practice and community care quality education of students from clinical medicine major and nursing major in medical universities and schools, devote greater effort to on-the-job training of community general practitioners and nurses, improve qualification and employment system, employ moderately preferential policies on promotion system and wage and welfare so as to attract medical talents to serve residents. The improvement of medical staff's quality is an important guarantee for the sustained development of community health services and it is an urgent affair to carry out systematic training (Tang et al., 2014).

In March 2009, Opinions of the CPC Central Committee and the State Council on Deepening the Reform of the Medical and Health Care System pointed out to strengthen construction of community health service centers and to improve the accessibility and service level of primary medical treatment and healthcare. By the end of 2014, China had built 8,669 community health centers and 25,569 community health stations, presenting rapid development in community health services (Li, 2016).

In 2011, Guiding Opinions on Establishing the System of General Practitioner (No. 23 [2011] of the State Council) was issued by the State Council, pointing out to encourage the

establishment of general practitioner teams composing of general practitioners, community nurses, public health physicians or village doctors, and provide services to residents based on different districts.

In 2016, General Secretary Xi Jinping attended the National Health and Wellness Conference and presented an important address, putting forward the working policy on health and wellness in a new era featuring "focusing on grass roots, taking reform and innovation as driving force, giving priority to prevention, attaching equal importance on both traditional Chinese and western medicine, incorporating health into all policies, by the people and for the people", requiring to establish extensive health and wellness conception, change the treatment-based model into a model centering on people's health, pay attention to lifecycle and whole process of health, and establish "gatekeeper" system for health. When deploying work of medical reform, Prime Minister Li Keqiang required proactively to promote the construction of Healthy China and quicken the training of general practitioners in grass roots so as to lay a solid foundation for hierarchical diagnosis and treatment.

In January 2017, National Health and Family Planning Talents Development Plan for the 13th Five-Year Plan was issued by NHFPC, pointing out that China will make up for the shortage of health talents in grass roots and urgently-needed health talents, optimize talent structure, improve policy environment for talent development so as to provide important support to the construction of Healthy China. Related data shows that there have been more than 10 million health and family planning personnel in China by 2015, and that the proportion of health technicians with bachelor degree or above has risen from 24.9% in 2010 to 30.6%. The Plan indicates to make up for the shortage in talent team construction in grass roots and strengthen the training of urgently-needed professionals in pediatric department. According to the general plan of the construction of Healthy China, based on the principle of meeting service demands, innovating mechanism, optimizing structure and improving quality, by 2020, there will be 12.55 million health and family planning personnel, over 300,000 general practitioners, average 2.5 medical practitioners (assistants), 3.14 registered nurses and 0.83 professionals in public health institutions in every 10 thousand people in China (data from official website of NHFPC). The Plan pays special attention to follow the industrial characteristics so as to strengthen talent motivation. The Plan implements the spirit of the National Health and Wellness Conference, takes into full consideration the long-cycle medical industrial training, high occupational risks, great technical difficulty and heavy responsibility, and arouses the enthusiasm of medical workers by improving their salary and benefit, development space, practice environment and

social status. A salary system for medical workers that conforms to the industrial characteristics is to be established to reflect the technical labor value of medical workers. Health institutions should be allowed to go beyond the salary control of public institutions so that revenue from medical services, excluding cost and various funds, are used for staff incentives. At the same time, the Plan stresses that preferential treatment should be offered to urgently-needed professionals in pediatric department. Performance and salary systems in primary health institutions should be further improved and incentive mechanism for public health professionals should be established so as more incentives can be offered to researchers.

In 2018, Opinions of General Office of State Council on Reform for Better Development and Work Incentives Mechanism for General Practitioners pointed out that, being inter-disciplinary clinical medical talents with high comprehensive degree, general practitioners are mainly responsible for integrated services, including treatment and referral of common and frequently-occurring diseases, prevention and healthcare, patients' recovery and management of chronic diseases, in grass roots, and provide individuals and family with continuous, comprehensive and personalized health services. Playing an important role in primary health services, they are known as "gatekeepers" for residents' health. "Strong Grass Roots" mean not only to strengthen hardware construction in primary health institutions but also to attract and train more qualified general practitioners in grass roots.

Although China has paid more attention to staff allocation in community health institutions, equipped them with more authorized strength and issued corresponding policies in recent years, "six-in-one functions" have not been fully played due to inconsistent supporting policies and lack of scientific human resource management, leading to residents' low dependence on community health services. As a result, it is one of the major jobs in new medical reform to take practical and effective measures to strengthen human resource management system in community health service institutions. With community health service institutions in Guangzhou as an example, through on-site interviews with key informants of community health service centers, and field investigation of medical staff, this research intends obtain the advantages and disadvantages of community health service organizations in human resource allocation, recruitment, training and development, performance management and compensation and benefits. Based on human resource management theories at home and abroad and advanced experience of human resource management in community health service institutions, the thesis proposes human resource management strategies for community health service institutions that are suitable for China's national conditions, thereby providing a theoretical basis for human

resource development and planning of Chinese community health service institutions.

1.2 Research purpose

The research is designed to fully understand the current situation of human resource development and management in community health service institutions in Guangzhou, China. Through analysis of relevant policy documents and management data of human resource development in community health service centers, semi-structured interviews and questionnaires are used to obtain the management of human resource allocation, recruitment, training and incentives of community health service institutions. Based on human resource management theories at home and abroad and advanced experience of human resource management in community health service institutions, the thesis proposes human resource management strategies for community health service institutions that are suitable for China's national conditions, thereby providing a theoretical basis for human resource development and planning of Chinese community health service institutions. As a result, a long-term development mechanism of community health service human resource management will be formulated. The specific research purposes are mainly as follows:

(1) collecting and reviewing relevant theories and literature of community health service human resource management at home and abroad;

(2) describing and analyzing the quantity, structure and distribution of human resource allocation in community health service institutions;

(3) analyzing recruitment and employment, education and training, performance evaluation and salary management of staff in community health service institutions;

(4) putting forward some targeted policy advice for human resource management in community health service institutions based on advanced experience at home and abroad.

1.3 Research content

1.3.1 Status quo of human resources in community health service institutions

(1) Domestic and foreign databases including CNKI, PubMed and Duxiubailian are used to search for theories and methods related to human resource management as well as the latest research results of health human resource management in community health service institutions.

Together with policy documents and implementation plans of community health service development in China, this research is designed to understand the characteristics of human resource and the development of talents in China's community health services in recent years.

(2) With Guangzhou, China as an example, five districts including Baiyun District, Yuexiu District, Tianhe District, Liwan District and Haizhu District are selected by stratified multi-level sampling. Three community health service centers are selected in each district for field investigation to collect and accurately understand the basic situation of community health service centers, the basic situation of human resources in community health service centers and human resource planning, recruitment, training and development, performance management and compensation and welfare management.

1.3.2 Making clear human resource needs in community health service institutions against the context of the new medical reform

(1) New medical reform and related policies require that, through literature review, it is necessary to make clear micro policy requirements for human resource allocation in community health service institutions proposed by the new medical reform and supporting implementation planning. We conduct research on related polices on human resources in China's community health service institutions and learn about existing continuing education for human resources in medical health, general practitioner training as well as other policy details.

(2) Human resource insufficiency and main problems of community health service institutions against the context of the new medical reform.

By comparative analysis, we analyze the change of human resources in community health service institutions before and after the implementation of the new medical reform program, and evaluate the influence of the program on community health service institutions. We quantify the differences between the quantity and quality of human resources in various community health service institutions as well as the development goal of the new reform. We delve into the main problems of human resources in community health service institutions in terms of the number, gender, age, educational background, major, professional title and capacity for providing health service, and the main difficulties in developing human resource in community health service institutions under the new circumstances.

1.3.3 Constructing a Long-acting development mechanism of human resources in community health service institutions

Considering that the development of human resource is not systematic and coherent, we evaluate the typical plans of human resource allocation and training, and analyze its advantages, disadvantages and adaptable social and economic environment. Through incentive theory of motivation analysis, SWOT analysis and multi-dimensional evaluation, we identify the factors that have direct, important, urgent and sustainable influence on the development of health human resource policy. In addition, we systematize the existing policy environments by integrating existing health personnel training, continuing education, incentive mechanism and other policies across the country, and create a chain-like long-acting development mechanism characterized by "open-training-encouragement" for the existing human resources in community health service institutions in various regions based on different economic levels.

1.4 Research methods

1.4.1 Field investigation

According to the geographical location and economic development level, five districts including Baiyun District, Yuexiu District, Tianhe District, Liwan District and Haizhu District of Guangzhou are selected as sample areas for field investigation. Data are collected from the self-designed Basic Information Questionnaire of Community Health Service Institutions, Human Resources Management Questionnaire of Community Health Service Institutions and Interview Outline of Key Informants in Human Resource Management of Community Health Service Institutions to obtain the community health service personnel allocation, introduction, training, and incentive in the sample areas.

1.4.1.1. Investigation tools and content

Investigation tools include Basic Information Questionnaire of Community Health Service Institutions, Human Resources Management Questionnaire of Community Health Service Institutions and Interview Outline of Key Informants in Human Resource Management of Community Health Service Institutions.

(1) Basic information questionnaire of community health service institutions

The content of the questionnaire includes the basic setting, population and basic conditions of human resource of the community health service centers.

a) Basic setting of community health service centers: the nature of the organization, whether it is an independent legal entity, whether it is registered with the community health service center as the first name, whether it implements two-line management of income and expenditure, whether it implements entire-staff appointment system, whether it is included in the medical insurance designated institutions, the number of direct subordinated branches, total fixed assets, business space area, sources of the house, whether it sets up traditional Chinese medicine clinic and pharmacies, equipment configuration, number of sickbeds and etc.

b) Population of community health service centers: the type of the area where it is located, the demographic characteristics of the area and etc.

Basic conditions of human resource in community health service centers: temporary employees working in the service center for more than half a year and the staff sent to the subordinated community health service stations, the total number of the on-the-job staff and health technical personnel (the number of doctors, nurses, medical technicians, pharmacists, other technicians, managers and other workers), educational background and service year of the on-the-job staff, on-the-job staff training, the number of health staff per thousand people and etc.

(2) Human resources management questionnaire of community health service institutions

a) Employees' basic conditions: gender, age, educational background, work type and etc.

b) Recruitment situation: the implementation of appointment system, channels of entering the service center, the selection and evaluation method of recruitment, and the most important advantages in employees' eyes to win the job.

c) Situation of employee training and capacity development: the times, forms and contents of training and employee satisfaction.

d) Assessment and incentives: assessment indicators, motivational factors, basis and methods of reward and punishment, and employee satisfaction.

(3) The interview outline mainly involves human resource planning, staff recruitment and employment, employee training, employee assessment and incentive.

1.4.1.2. Questionnaire method

According to the geographical location and economic development level, five districts including Baiyun District, Yuexiu District, Tianhe District, Liwan District and Haizhu District of Guangzhou are selected for questionnaire investigation with stratified multi-level methods,

and then three community health service centers are selected in each district for field investigation. 15 Basic Information Questionnaires of Community Health Service Institutions are distributed and 25 Human Resources Management Questionnaires of Community Health Service Institutions are distributed to each of the 15 samples, with a total amount of 375 questionnaire.

1.4.1.3. Semi-structured interview

According to the level of economic development and regional geographic location, this study uses the Interview Outline to conduct semi-structured interview of key informants from 15 community health service institutions in the five districts of Baiyun District, Yuexiu District, Tianhe District, Liwan District and Haizhu District of Guangzhou. To be specific, the key informants include the heads of the community health service institutions or the heads of the human resource management departments.

1.4.1.4. Information analysis method

(1) Methods of quantitative information analysis

Descriptive analysis is mainly used in analyzing the organization staff's basic conditions, training and turnover. Numerical variables are mainly described by the mean and median and categorical variables by the rate, composition ratio, relative ratio or the difference.

(2) Methods of qualitative information analysis

When interviewers finished converting the recording information to text information, researchers sorted out the information according to the goal and theme of the research, and refine major problems and opinions through descriptive analysis and typical case analysis.

1.4.1.5. Quality control

(1) Investigation method

In the questionnaire survey, heads of each community health service centers are responsible for distributing questionnaires and explaining the contents and filling methods to respondents. After the questionnaires are filled out, they are collected on the spot. The interview is mainly carried out in an in-depth semi-structured way on the key informants of community health service centers in terms of human resource management.

(2) Quality control

a) The investigation plan and questionnaire are based on the thorough review of relevant literature at home and abroad, and the advice of experts in community health service human

resource management. After conducting a pre-investigation in a community health service center in Guangzhou, the Investigation Questionnaires and Interview Outline ware adjusted and improved.

b) In this investigation, the heads of each community health service centers are selected as the investigators who have received training before the investigation. The training involves the investigation content, questionnaire distribution, filling and collecting methods and some dos and don'ts.

c) After the investigation, the investigators assist and guide the respondents to fill out the questionnaire. After the questionnaire is completed, the investigators collect, review and improve it on the spot.

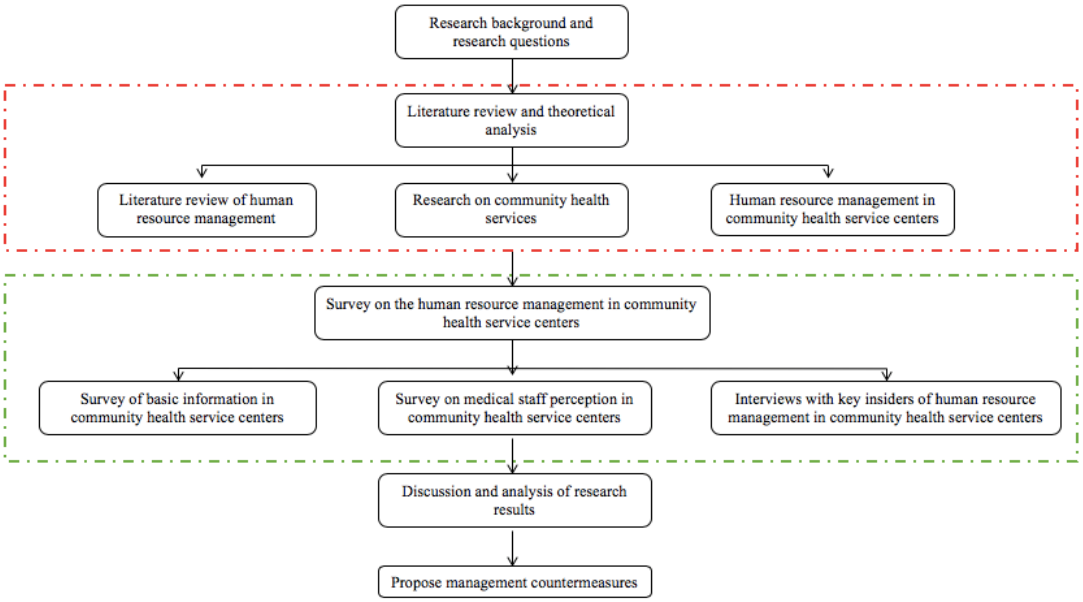
1.4.2 Literature review

We search and review theories, methods and technologies of health human resource management at home and abroad, and comprehensively learn and utilize the latest research results in related fields of human resource management in community health service institutions in foreign countries. We obtain such literature as related experience, policy documents and measures of the human resource development in community health service institutions at home and abroad, and focus on getting the management and development policies, measures and other documents and regulations of the human resource in community health service institutions in China recent years.

1.4.3 Multi-dimensional combined evaluation method

The multi-dimensional combined evaluation method is based on the "structure-process-result" research method and is a comprehensive evaluation method of a health system composed of crisscrossed and interdependent dimensions. It is believed that a complex system can be reflected in an organized way through identified dimensions, levels and indicators. Therefore, this thesis will use the multi-dimensional combined evaluation method to study the current situation of human resources in community health service institutions, existing problems, possible factors leading to problems, and corresponding countermeasures.

1.5 Technical roadmap



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Chapter 2: Literature Review and Theoretical Analysis

2.1 Literature review of human resource management outside China

2.1.1 Connotation of human resource management

The academic community has different understandings on the connotation of human resource management (HRM). Drucker (1954) introduced the concept of "human resource" when expounding functions of "Managing Employees and Their Work". He believed that human resource had the quality that other resources lack, namely, coordination, fusion, judgment, imagination and capability. Human resource management, as a functional management activity, was first proposed and discussed by Bakke (1961) in Human Resource Functions. Since then, the academic community has officially begun the systematic study of human resource management. Raymond et al. (2003) argue that human resources are policies, management practices, and systems that affect employee behavior, attitudes, and performance. Schuler, Budhwar and Florkowski (2002) believed that HRM adopted a series of management activities to ensure the effective management of human resource and its purpose was to deliver benefits of individuals, society and enterprises. Robbinson and StephenP (1982) and Dessler (2014) pointed out that HRM was the personnel management, which, carried out by professionals, involves various concepts and technologies that were required to complete tasks related to human or human resources in management. Bill believes that human resource management includes all the management decision-makings behaviors affecting the relationship between organizations and employees. Storey (1994) thought that HRM was a different way, instead of a tool or means to show managers' legality.

There is a popular belief in the academic community that it is HRM system, rather than the individual HRM, that helps an organization to achieve competitive advantages. However, there is much divergence in the academic community about the constitution of dimensionality of HRM system. For example, Pfeffer (1996) put forward 16 best practices for HRM. But Huselid (1995) believed that the optimal combination for HRM is: staff selection, performance evaluation, incentive system, work design, personnel selection, promotion criteria, training time limit, information sharing, attitude survey, employee involvement, and management and complaints mechanism. Delaney and Huselid (1996) divided human resource management

practices (HRMP) into three categories: the practice strengthening employees' skills, the practice motivating employees and the practice for work structure design. Youndt, Huselid, and Becker (1997) projected two types of HRMP: the first was divided into four aspects: personnel allocation, employee training, performance evaluation and salary administration; while the second was divided into two aspects: administration-oriented human resource system and human resource capital improvement-oriented human resource system.

Human resource management refers to a series of human resource policies and corresponding management of an enterprise, including six modules: human resource planning, recruitment and distribution, training and development, performance management, salary management, and employee relationship management (Zhang et al., 2016). The interconnected six modules interact with and influence each other, forming an effective system of human resource management. Among them, human resource planning is the starting point of human resource management, and mainly refers to predicting the number of future staff demands and the basic quality requirements; recruitment and distribution, based on human resource planning, is to solve the problem of staff distribution and person-organization fit; training and development focuses on talent cultivation; performance management is the core among the six modules and the main input of other modules. Its main purpose is to help people to solve the problem of personnel management for organizations; salary management is to motivate people and solve the problem of retaining people in the enterprise; employee relationship management is to manage people and help enterprises form an effective cycle of rationalizing human resource allocation.

In conclusion, academic community outside China has not yet reached an agreement on the composition of HRM. Different definitions of research variables contribute to even more complicated research in this field. Therefore, researchers need to further explore the nature of HRMP and related variables so as to make much progress in the field (Guest, 1997).

2.1.2 Research orientations of HRM

Currently, HRM research and practice outside China have gone beyond such traditional contents as staff recruitment, employee training, performance evaluation and salary design, shaping new development orientations: one is the strategic HRM, which combines HRM with the realization of organizational development strategic goals; the other is cross-cultural HRM, which lays stress on cross-cultural HRM in the context of economic globalization. The research on these orientations is changing existing concepts and analytical frameworks of HRM and

facilitating establishment and perfection of theoretical system of HRM.

2.1.2.1 Research on strategic human resource management (SHRM)

Since 1990s, a trend featuring integration of human resource strategy with human resource planning has emerged, promoting the research on strategic management of human resource from the perspective of improving enterprises' competitiveness. As a result, the concept of SHRM was developed. Compared with the early research on individual HRMP, the research on SHRM attaches more importance to the variability of behavior outcome in organizational level. Guest (1989) studied HRM from the perspective of strategies. Lundy and Cowling (1996) pointed out that organizational strategies were major determinants of organized human resource strategies; in addition, human resource strategic formation 5P model stressed that there was close connection between organizational strategies and human resource strategies. Similarly, in the description of human resource strategic formation interdependence model, it is also believed that organizational strategies and HRM strategies are closely related to each other (Lundy & Cowling, 1996). Lewin and Mitchell (1995) stated that the coordination between human resource strategies and enterprise strategies could help enterprises make use of market opportunities to improve their internal organizational advantages and reach their strategic goals. Therefore, if enterprises want to achieve and maintain advantages in the fierce market competition, they must ensure coordination and matching between their HRM and business strategies. To achieve such coordination and matching, however, a two-way and in-depth research on HRM and business strategies is required (Lewin & Mitchell, 1995).

Based on interaction and interdependence between enterprise strategies and HRM, Lengnick-hall and Lengnick-hall (1998) came up with a two-way matching model and they believed that enterprises' business strategies were subject to influence of multiple factors, including HRM, macro-environment, industry environment, competitive environment, competitive advantages, product-market scope, and requirements on staff's skills. Similarly, HRM is also subject to influence of multiple factors, including enterprises' business strategies, labor force market, skills and value, macro-environment, culture, and organizations' existing conditions. In other words, there is an interdependent relationship between enterprise strategies and HRM: they supplement and balance each other (Lengnick-hall & Lengnick-hall, 1988).

In the long run, during the establishment and implementation of enterprises' business strategies, enterprises that consider the relations between HRM and enterprise strategies from the perspective of interaction will achieve better performance than those only take HRM as implementation tool for enterprise strategies. Especially, on the one hand, the formation of

enterprises' strategic advantages will influence human resource strategies and on the other hand, it is subject to the influence of human resource strategies. As a result, enterprises must take into account such factors as macro-environment, industry environment, competitive environment, competitive advantages, product-market scope, requirements on staff's skills, labor force market, skills and value, culture, organizations' existing conditions from the perspective of interaction between competitive strategies and HRM.

2.1.2.2 Research on cross-cultural HRM

The 21st century witnesses the economic globalization, in which the economic aggregate of transnational corporations accounts for over 40% of the global economy. Under the context of multi-cultural human resources and international environment, enterprise managers are required to master cross-cultural competencies. If enterprises can effectively allocate human resources and overcome difficulties resulting from cultural differences, they will stay competitive in the cross-cultural and international environment.

The HRM in the international environment (for example, transnational corporations) has drawn more and more public attention. Based on management orientations, Perlmutter divided cross-cultural HRM in transnational corporations into four categories: ethnocentric model, multi-center model, global-center model and regional-center model (Perlmutter,1969). Verheul, Risseeuw, and Bartelse (2002) believed that Perlmutter fuzzed up internal differences of transnational corporations' management activities and pointed out that the conventional framework for HRM should be developed through the interaction between counter pressures of parent-country and host-country consistency and that different managements were subject to these counter pressures at different levels. Ricks, Toyne, and Martinez (1990) stated that staff who engaged in cross-cultural HRM should include several unique dimensionalities in practices so as to pay attention to the interplay between different cultural concepts and social values. However, most researches show that it is very difficult for a transnational corporation to adapt to different cultures. For example, Lewin and Mitchell (1995) pointed out that the main differences between domestic and cross-cultural HRM were the complicacy of transnational management operation and the necessity to hire staff with different nationalities.

Another field in cross-cultural HRM research is how to apply cross-cultural HRM processes to the comprehensive strategic planning of transnational corporations. Based on the conclusion of Schuler, Budhwar, and Florkowski (2002) on cross-cultural HRM, cross-cultural HRM is a discipline on comprehending, studying, applying and reforming all human resource activities. Therefore, enterprises in the cross-cultural context should influence HRM or

strengthen values of stakeholders, including customers, employees, partners, suppliers, environment and the society (Schuler et al., 2002). Jackson and Schuler (2014) also pointed out that cross-cultural HRM research should focus on stricter research designs, putting forward a theory or way to explain behaviors and predict future behaviors and finally relieve or even put an end to the neglect of career development, termination of service term, absenteeism, degradation, employee attitude, leadership style, control mode, incentive and work design in cross-cultural HRM (Ricks et al., 1990).

2.1.3 Research on necessity of HRM

SHRM usually explains the important role of HRM in enterprises' achieving competitive advantages from the perspective of resource concept, which further reflects the necessity of HRM for enterprises' strategic development (Ferris et al., 2004). Teece, Pisano, and Shuen (1997) had expressed that effective HRM was a strategic resource that could have positive impact on enterprises' performance and help enterprises achieve long-lasting competitive advantages. Apparently, effective HRMP is increasingly becoming an important factor that influences enterprises' success (Marlow & Patton, 1993; Hornsby & Kuratko, 2003), and it is of great importance for enterprises, particularly middle and small-sized enterprises (DeshPande & Golhar, 1994), to apply strategic HRM methods to score success (Huselid, 1995; Pfeffer, 2005). In practice, however, enterprise managers, especially managers of middle and small-sized enterprises, usually pay more attention to enterprises' operation, such as production, sales, marketing and cash, while they often neglect HRM. Hess (1987) found in his research that enterprise managers, especially managers of middle and small-sized enterprises, believed that HRM was second to comprehensive management. Ardichvili et al. (1998) spent ten years studying 576 small-sized enterprises in the United States, finding that human resource issues fell behind issues related to accounting, production and information systems.

Middle and small-sized enterprises, due to their large number and year-on-year increasing proportion of their contribution to economy, are attracting more and more attention of all countries in the world. Many researches show that the most serious challenge that middle and small-sized enterprises face is the lack of excellent talents (McEvoy, 1984). Therefore, it is worth for conducting in-depth research and exploration on how enterprises to better attract and retain excellent talents and how to pull great efforts to HRM to achieve long-lasting and sustained competitive advantages (Homsby & Kuratko, 2003). Hayton (2003) pointed out that middle and small-sized enterprises should attach importance to and carry out formal HRMP,

and encourage employees to participate in decision making, knowledge sharing and organizational learning so as to achieve better performance. The research of Welboume and Andrews (1996) shows that enterprises that attach importance to HRM have a probability of 92% to survive for five years while the ones that neglect HRM only have a probability of 34% to survive for such a long time. Therefore, it is an important influence factor for formalization of HRM to explore HRM concepts of enterprise managers, particularly managers and owners of middle and small-sized enterprises.

2.1.4 Research on relations between HRMP and organizational performance

In recent years, the research on HRM has transferred from micro orientations to macro or strategic orientations, from individual level to organizational level, starting to realize that HRMP is very important to organizational performances. It is the first step in the research to establish the relation between HRMP and firm performance (FP), whose major contents are to evaluate and analyze implementation effects of HRMP and formulate specific human resource investment and planning strategies so as to constantly improve the productivity and work performance of human resources.

Many scholars have raised their theoretical models for the research of intermediate mechanism between HRMP and FP, among which the two models projected by Beeker and Gerhart (1996), Huselid and Becker (1997) are the most representatives. Beeker and Gerhart (1996) raised a linear causality model. This model assumes that under the established enterprise business strategies, employees' creativity and independent behaviors can be improved though the influence of HRMP on employees' skills, incentives and work environment, and the improvement of employees' these behaviors will directly influence the improvement of enterprises' operations, such as customer satisfaction, quality of products or services, and finally achieve improvement in both profits and market values.

Huselid and Beeker (1997) raised a model that offered a more detailed theoretical frame. It took questionnaire as the subjective measurement mode and its basic concept is: such conventional HRM activities as training, salary, performance evaluation, employee involvement, human resource planning and so on can improve employees' creativity, independence and productivity by influencing employees and organizations, which will further boost organizational operating performance (quality and efficiency) and finally enhance organizations' profitability and market value.

Ferris et al. (1998) included more intermediate effect variables and further put forward a

more complicated social background model. They incorporated such factors as organizational culture, organizational climate, organizational reputation, flexibility and so on, which complicated the influence of HRMP on FP and made it more pragmatic.

Standing and Chowdhury (2008) proposed that HRM and post structure redesign strategies are increasingly becoming the key to recruiting and retaining medical staff and improving service quality without increasing costs for healthcare organizations. High-Performance Work Practices (HPWP), also known as high-participation or high-commitment work system, aims to increase employee satisfaction and improve organizational performance by investing in human capital (Pfeffer, 1996). HPWP is often implemented as a collaborative "bundle" of policies and practices, emphasizing employee training, socialization and rewards such as team building, performance-based incentives, job rotation or multiple models, and participation in decision making (Lapidus, 2002; Walker, 2004).

Hyde et al. (2013) conducted an empirical study of human resources and organizational performance by studying how NHS can help improve performance through HRP. First, it identified a mental model that were particularly relevant to HRM. Second, it proposed the practice of the type of employee response to human resource reducing or enhancing its impact on performance. Many scholars study how to improve organizational performance (West et al., 2002; Combs et al., 2006; Boselie, Dietz, & Boon, 2010). Typical HPWP includes employee participation, job security, performance assessment, performance-related compensation, training and recruitment policies. Recent studies have shown that strong support for specific settings or "bundling" of HRP has beneficial effects on employee and organizational outcomes, such as increasing productivity, profits, commitment and quality (Guest et al., 2003).

2.1.5 Research on HRM service outsourcing

In terms of the overall research on service outsourcing, information technology outsourcing and human resource outsourcing have always been two focus fields. Compared with the research on the former, however, the research on the latter came later. There had not been scholars who carried out systematic research on HRM service outsourcing until 1990s. Currently, such research outside China mainly focuses on the following orientations.

Definition of HRM service outsourcing: Lever (1997) defined it as a long-term contractual relation from external service providers to obtain outsourcing business services. Greer, Youngblood, and Gray (1999) also gave a similar definition from the perspective of external services: external service providers engaged in HR tasks that were previously undertaken by

the enterprise on an existing basis.

Development trends of HRM service outsourcing: Maurer and Mobley (1998) pointed out that outsourcing would become an integrated part of future human resource department. Swister (1997) believed that the trend of HRM outsourcing would be converted from the previous view of cost savings to the view of obtaining the competitive advantages. In addition, Woods (1999) expressed that there would be two contradictory trends for HRM in the 21st century: on the one hand, HRM would be increasingly more important to the survival and development of organizations; on the other hand, the traditional HRM would be replaced by outsourcing.

Motivations for HRM outsourcing: when analyzing employee training and development, Lever (1997) summed up five reasons for training outsourcing. From the perspective of enterprises' beginning, development and decline, and growing competition in the globalization context and enterprise reengineering, Greer, Youngblood, and Gray (1999) accepted the act that enterprises partly or wholly outsourced their human resources. However, they believed that the fundamental factors for human resource outsourcing were decreased costs and improved quality of human resource services. Mobley (2000) stated that four drivers for HRM outsourcing were economy, technology, politics and employment pressure. Starting from introducing cases of HRM outsourcing, Nelson and Kristi (2004) concluded that the advantage for HRM outsourcing was decreased costs. Therefore, if an enterprise wants to achieve long-lasting and sustained development, it needs to make full use of limited resources for effective work, or draw support from advantageous external resources to manage internal affairs. HRM outsourcing is just a right activity that takes advantage of external resources to achieve high yields (Lee & Gretchen, 2004).

Implementation of HRM outsourcing: from the perspective of outsourcing process, Greer, Youngblood, and Gray (1999) came up with five stages that were required to promote the implementation of HRM outsourcing: outsourcing decision-making, supplier selection, HRM outsourcing transfer, supplier partnership management, and supervising and evaluating suppliers. Arnold (2000) believed that, in general, human resource outsourcing consisted of outsourcing subject, outsourcing goal, outsourcing provider and outsourcing design. In addition, outsourcing provider selection was very significant to the success of human resource outsourcing (Lowell, 1992; Pinnington & Woolcock, 1997). Some scholars thought that it was appropriate to discuss how to select outsourcing providers through fuzzy analytic hierarchy process (FAHP) (Brown,1998; Schatz & Baldwin 1998; Cao & Wang, 2007). The above researches show that human resource outsourcing provider selection and management play a

key role in the success of outsourcing.

Kotabe and Murray (2010) also discussed the risks of human resource outsourcing. He believed that overdependence on outsourcing might weaken enterprises' innovation capability. In fact, the costs of enterprises' human resource outsourcing are higher than expected while the service quality might be lower than expected (Albertson, 2000). The reason for expiration of over 30% of outsourcing agreements is that enterprises failed to meet their pre-set goal of cutting down expenses (Coffey-Lewis, 2002).

2.2 Literature review of HRM in China

Since 1990s, HRM has been become a new discipline in China. With the increasingly fierce market competition and the coming of knowledge economy, the role of HRM in business administration has drawn the attention of academic community in China.

2.2.1 Literature review of definition of HRM

Based on different research perspectives, the academic community in China puts forward different ideas on the definition of HRM, which are divided into four categories:

The first believes that HRM is only a basic management function for enterprises (Yu, 1997). Like such managements as production, marketing and finance, HRM is a basic management function for enterprises. HRM is a new-type people management model and its basic functions are obtaining, integration, maintaining, incentive, control, adjustment and development (Yu, 1997), so as to maximize organizational performance and individual satisfaction.

The second defines HRM from two levels: quantity and quality (Zhang, 2016). It needs to comprehend HRM from two aspects: the management of the quantity of human resources and the management of the quality of human resources. The former refers to maintain optimal proportion and organic combination of value magnitude of manpower and material resources during production process so as to give full play to them; the latter refers to effectively manage people's thinking, psychology and behaviors and give full play to their subjective activity so as to reach organization objectives (Zhang, 2016).

The third thinks that the action object of HRM is a special resource—human (Zhao, 2011). HRM means to carry out effective development, rational utilization and scientific management on the special resource—human. In terms of development, HRM includes intelligence development of human resources and improvement of human's cultural and ideological

standards and moral consciousness; not only the full exertion of human's existing ability, but also the effective exploitation of human's potential. From the perspective of utilization, it includes discovery, identification, selection, allocation and rational use of human resources. In terms of management, it includes prediction and planning of human resources as well as organization and training of human resources (Zhao, 2011).

The fourth believes that HRM mainly studies appointment in the organizational management functions (Zhang, 2012). HRM mainly studies appointment in the organizational management functions (planning, organizing, appointment, leading and controlling). It is the concept, theory and technology required to correctly handle "human" and "affairs related to human" in the organizations. HRM is never a simple combination of personnel management activities but to manage organizational human resources in a coordinated way and to cooperatively utilize other resources so as to meet the overall goals of organization efficiency and fairness (Zhang, 2012).

In conclusion, HRM is a basic management function for enterprises. As enterprises develop, however, modern HRM, compared with the traditional one, lays more stress on the motivation and development of employees as potential resources, and pays more attention to the support and coordination of HRM for the operation of a whole organization (Zeng, 1999).

2.2.2 Research on strategic human resource management

Compared with other countries, the academic research on strategic human resource management (hereafter abbreviated as HRM) in China has a late start as it has not been studied until the late 1990s. However, in just a few decades, the research in China on strategic HRM has taken on an explosive growth. For example, Xu (1997) discussed HRM from the perspective of strategic corporate management. Xu (1999) analyzed the integration of enterprise development strategy and HRM planning. Some scholars analyzed the strategic HRM from the perspective of the investment and allocation of human capital property rights (Deng & Lin, 2001; Fan, 2004). Gao (2006) pointed out that strategic HRM has become a core element of strategic corporate management. This means that when HRM is in line with enterprises' management strategies, it can give full play to the unique role of HRM in enterprises' management strategies, thus achieving the ultimate goal of elevating organizational performance. At the same time, he also proposed four core functions of strategic HRM (see Figure 2-1). These functions can only achieve maximum efficiency so long as they are

implemented circling enterprises' strategic management.

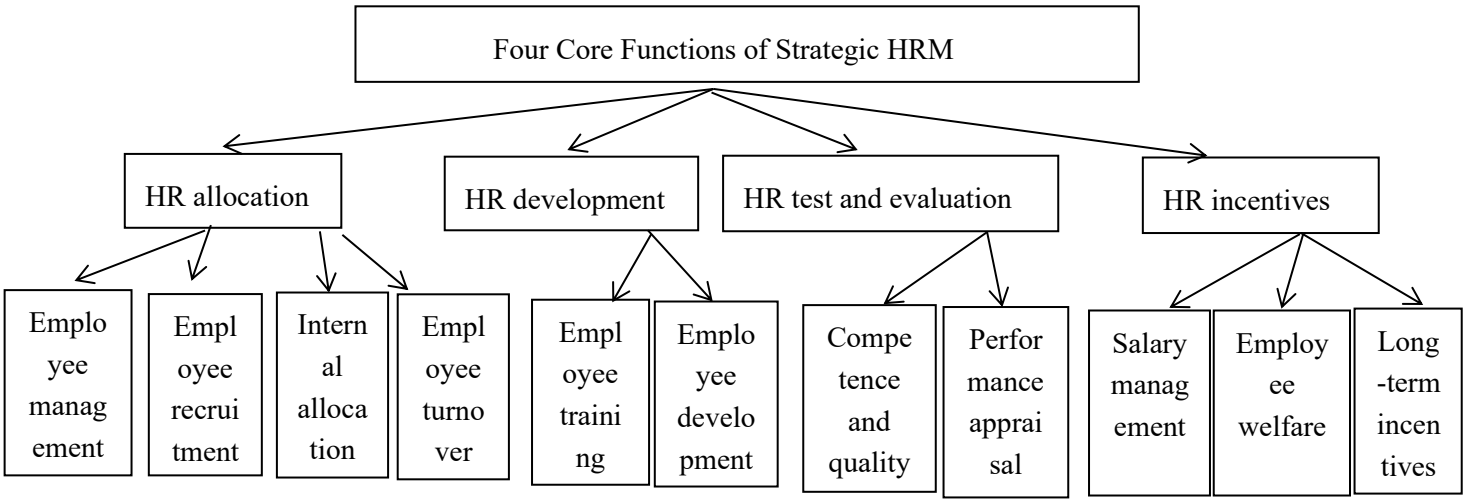

Figure 2-1 Four core functions of strategic HRM

Source: Gao (2006)

As time changes, the value of HR is gradually highlighted. To transform this potential value into enterprises' ultimate strategic goal, the HRM that undertakes the function of human resource value transformation must change from traditional personnel management to strategic HRM (Xiao & Xiao, 2007). According to Li and Yang (2007), strategic HRM places more emphasis on the role and function of HRM in enterprises' strategies than traditional HRM. Only when we focus on the differences between strategic HRM and traditional HRM (See Table 2-1), can we realize the re-positioning of HRM strategy and effectively construct the modern HRM system for enterprises.

In addition to a lot of research on the differences between the functions of strategic and traditional HRM done, scholars in China have also conducted heated discussions on the strategic HRM and the enterprises' performance. Li (1999) argued that as a strategic lever, HRM can effectively affect an enterprise's operating performance, so that it should be directly incorporated into the enterprise's strategic objectives and operations. Sun, Xing and Lv (2003), through empirical research, drew such a conclusion on the basis of integrating Chinese and foreign scholars' evaluation of intellectual capital and research on the impact on enterprises' performance: human capital has a great influence on enterprises performance. However, the importance of structural capital and relational capital is also shown as enterprises develop from the phases of establishment, growth and maturity. Wang (2005) commented on the relationship between SHRM and enterprises' performance, and put forward some suggestions for this field of research in China.

Table 2-1 Differences between strategic HRM and traditional HRM

Types	Traditional HRM	Strategic HRM
Functions of HR	Functional experts	Managerial staff of businesses
Focus	Employee relations	Cooperative relations between internal and external clients
Role of HR	Clerk; follower and respondent of reform	Clerk; leader and reform initiator
Innovation	Being slow, positive and fragmented	Being swift, proactive and integral
Time duration	Short term	Short, medium or long term (it depends)
Control	Role, policies and procedures of bureaucrats	Flexible and holistic (According to the demand for achieving success)
Work design	Tight labor department and being independent and specialized	Extensive, flexible, with cross training and teamwork
Key investment	Capital and products	Human and knowledge
Economic responsibility	Cost center	Investment center

Source: Xiao and Xiao (2007)

According to the general studies of Chinese scholars, HR, as a strategic resource, is crucial to enterprises' sustainable development. Therefore, how to scientifically evaluate the contribution made by strategic HRM to enterprises' development has become an important issue of concern to the academic world and enterprises (Li & Su, 2009). Cao (2003) proposed that the process of transforming strategic HRM needs to be in line with employees' expectations in order to stabilize the workforce, achieve organizational strategies and improve corporate performance. They also provided some approaches to align HRM with employees' expectations. Liu and Sui (2004) carried out an in-depth study on whether the practice of HRM can elevate enterprises' actual performance based on the concrete mode and system of strategic HRM in practical application and then put forward the process model of HRM practice affecting enterprises' performance, namely, the HR Value Chain Model. Gong (2009) discussed the characteristics, theoretical basis, core concepts and functional orientations of strategic HRM from the theoretical level, in which the theoretical cornerstones of strategic HRM were emphatically discussed, such as the basic theory of resources, the human capital theory and the strategic management theory. She put forward that the core idea of being people-oriented is the soul of establishing strategic HRM, and analyzed the functional orientation of strategic HRM shifting from business-oriented management to strategic management.

2.2.3 Research on the relationship between HRM practices and organizational performance

Compared with the overseas studies spanning nearly 30 years, scholars in China have

gradually started to research and explore the relationship between Human Resources Practices (abbreviated as HRP) and Firm Performance (abbreviated as FP) in recent years. Although in China, the time of research is short and the research results are differentiated, the research on the relationship between HRP and FP has become an important research direction in this field. For example, Zhao and Shen (1998) summarized the models and methods of quantitative research on HR performance evaluation in 1998, including: HR index questionnaire, HR case studies, HR competition benchmark, HR key index method, HR effectiveness index, HR reputation research, accounting asset model, HR cost model, HR scorecard. Zhang, Huang and Li (2004) adopted questionnaires to classify the characteristics of Chinese enterprises based on the research results of Becker and Gerhart (1996) and the results show that the effectiveness of HRM system is mainly reflected in four aspects: the basic management of HR, employee engagement, procedural fairness and HRM focuses. However, the study did not conduct any analysis of the correlation between HRP and FP. Many scholars in China carried out in-depth studies on the relationship between HRP and FP from their own perspectives and reached the following two conclusions.

(1) There is a positive correlation between HRP and FP. Fan and Bjorkman (2003) conducted a hierarchical regression study of 62 foreign-invested manufacturing enterprises in China. The results show that the three factors of HRP, namely employee rewards, the proportion of employees regularly receiving performance appraisals, and the proportion of employees regularly receiving attitude surveys significantly and positively correlate with FP. Xu and Yang (2005) taking 122 manufacturing enterprises in Shanghai, Jiangsu and Guangdong as samples, had found out the common connection between HRP and FP in manufacturing enterprises in China. Zhang and Zhao (2006) surveyed the data of HRP and FP of56 manufacturing enterprises in Shanghai and Shenzhen and through correlation analysis, the following conclusions were drawn: the mean value of HRP orientation of the enterprises with better FP is higher than that of the enterprises with worse FP; through correlation analysis and one-way analysis of variance, the results show that HRP factors have a strong link with FP, such as motivating work planning, teamwork style, shrinking wage differentials, individual bonuses, employee suggestion system, employee attitude investigation, revenue sharing plan, systematic training and development assessment, career development planning, information sharing, employee engagement groups, etc. Xiao and Bjorkman (2006) conducted a survey and analysis of 442 employees in the IT industry and 126 human resources managers from foreign-funded enterprises. They found that 9 types of HRP have a positive effect on FP, which are respectively promotion, training, work

diversification, team performance evaluation, and the development-oriented assessment, fairness, engagement, information sharing, and teamwork. Cheng, Zhao, and Tang (2004) thought that enterprises adopting a highly participative HRP make themselves easier to form dedicated human capital so as to improve FP.

(2) Performance appraisal and salary management have a significant impact on the introduction of outstanding talents; employee training and salary management have a significant impact on the improvement of skills needed by corporates; salary management and employee engagement also have a significant impact on the motivations of employees. However, the effects of these seven HRP factors on FP did not reach significant levels.

In summary, currently, there are a few researches on the relationship between HRP and FP in China and the results are also differentiated, but a variety of research findings find that the articles admitting that there is a positive correlation between them have been in the majority. In other words, HRP can promote the growth of FP in most cases.

2.2.4 Research on HRM business outsourcing

In the early 1980s, the human resources outsourcing service and personnel dispatch business appeared in China. Back then, the outsourcing service in China was basically in its exploratory stage and there were very few studies in this area. Even though some research did involve this area of study, they were mainly developed from the legal and institutional perspective. Entering the 1990s, the academic research of HRM mainly focused on how to establish a modern, professional and standardized HRM model. Since the 21st century, with the maturity of the market economy and the reform of enterprises' internal management in China, the outsourcing business of HRM has been developing rapidly, which has led to the upsurge of domestic academic research on the HRM service outsourcing business.

Many scholars have put forward their own views on the ways in which enterprises should outsource their HRM. Li (2000) introduced the HRM outsourcing model from the perspective of e-commerce, including HRM automation, ASP HR software leasing and online HR suppliers. Liu (2003) believed that the scope of HRM outsourcing mainly included employee recruitment, employee training, salary management, employee welfare and allowances. Zhao and Li (2004) pointed out that outsourcing was not only suitable for large enterprises, but also for small and medium-sized enterprises (SMEs). The HRM outsourcing activities of SMEs mainly included employee recruitment, employee training, salary distribution, employee welfare and HRM information system.

Regarding the analysis of the reasons behind the HR outsourcing business, most scholars think that the external benefits are the main reason for the HR outsourcing (Xu & Huang, 2002; Guan, 2007). Zhang (2003) decomposed the profit drive into four specific motivations: controlling the HRM cost, focusing on the major businesses, improving the HRM system and attracting outstanding employees.

In the implementation of HRM outsourcing business, Zhou (2003) explored how to successfully implement HR outsourcing business from the aspects of the preparation, implementation and management of HR outsourcing. Liu (2004) elaborated on the key links to be noticed in the outsourcing implementation from four aspects, namely, the cost-benefit analysis of HR outsourcing, the expectation and prevention of outsourcing risks, the control over the performance of service providers and employees' communication on outsourcing decision-making.

The risk control has always been the key point in HRM outsourcing business. It is generally considered that the risks of HR outsourcing business refers to the fact that in the process of enterprises' outsourcing part or all of their HRM activities, due to the complexity of the business environment, the HR outsourcing business is underestimated, leading to the HRM outsourcing business results deviating from the expected goals, which may even bring about the failure of the entire HRM outsourcing activities (Sun & Huang, 2003). Risks of HRM outsourcing business include: the selection of outsourcing service providers, the handling of the risks associated with the relationship with outsourcing providers, the risks of increased outsourcing management costs, the risks of operational safety and decline in efficiency, the problems in corporate culture integration as well as the risks in exiting the outsourcing business (Chen, 2004). Chen and Zhao (2005) thought that all links of the HRM outsourcing business should be controlled and the main measures to avoid risks include establishing an early warning mechanism of risks, establishing an incentives and restriction mechanism of risks, and implementing the dynamic management of the whole process of outsourcing risks(Guo et al., 2004). Lin (2007) proposed a unique perspective on SMEs' HR outsourcing risks and believed that SMEs should control risks by actively transforming management functions, standardizing project management, strengthening supervision and control, and realizing extensive communication.

2.3 Analysis and comments on the research literature of HRM in China and other countries

Although foreign scholars have formed a certain range of research and theoretical framework for the study of HRM, there are still some problems worthy of further research and in-depth study. For example, the study of the necessity of HRM for enterprise management is not sufficient enough, especially for enhancing competitive advantages. The relationship between Human Resources Management (HRM) and Firm Performance (FP) still needs further research; in the aspect of consistent research on HRM, most research results focus on the correspondence between the HRM model and corporate strategies as well as corporate culture, while the research on the internal conformity of HRM system and the internal correlation of HRM functions are still lacking.

In the field of HRM study in China, the review papers summarizing or introducing the latest research results in foreign countries account for the majority of the studies, and some research try to explore the relationship between Human Resources Management (HRM) and Firm Performance (FP). However, there is very few researches on the internal consistency of HRM. In addition, the research on the relationship between HRM and corporate strategies and the scientific rationality of enterprise management needs to be strengthened and innovated, and further research is still required. To a certain extent, this has resulted in the lack of guidance at the strategic level for Chinese enterprises' personnel system reform, especially for the state-owned ones, which has led to the difficulty of some Chinese state-owned enterprises in meeting the requirements for promoting and renovating their internal management such as market competition and property rights reform.

2.4 Related theoretical basis

2.4.1 Incentive theory

Incentive refers to spur the motivation of employees to work, so that individuals can effectively accomplish organizational goals. Incentive Theory is a summary of the principles and methods of how to meet people's needs and mobilize people's enthusiasm. The purpose of incentive is to motivate correct behavioral motives of individuals, mobilize their enthusiasm and creativity, give full play to their intellectual effects and make the greatest achievements. Since the 1920s and 1930s, many incentive theories based on modern management practices

have been proposed by management scholars, psychologists, and social scholars. According to the different aspects of theoretical research, they can be divided into content, process, behavioral transformation and comprehensive-type of incentive. This study will introduce McGregor's Theory X and Theory Y, Herzberg's Two-Factor Theory, Skinner's Reinforcement Theory, Vroom's Expectancy Theory, and Adams' Equity Theory.

2.4.1.1 Theory X and theory Y

Theory X and Theory Y were firstly proposed by McGregor (1960) in his book Human Side of Enterprise. After an in-depth observation of managers' behaviors, McGregor concludes that a manager' s view of human nature is based on a series of specific assumptions and managers tend to shape their behaviors toward their subordinates based on these assumptions. He proposes two theories of completely different human natures, namely, Theory X and Theory Y (Ding, 2016).

The basics of Theory X are: (1) Most people are born lazy and they will try every bit to evade work, so it is necessary to enforce, supervise and admonish them in work to achieve production goals; (2) Most people are not ambitious, reluctant to take any responsibility, and willing to be guided by others; (3) Without a bossy leader, most people are reluctant to work. Theory X is consistent with scientific management hypothesis of the classical organizational structure bureaucracy.

According to Theory Y, most people want to acquire satisfaction and sense of fulfillment from work, while restriction and punishment are not the only means to realize organizational goals; people are born diligent, creative and willing to seek challenges and take responsibility in their work; only when leaders allow employees to formulate individual and organizational goals and encourage them to work to achieve these goals, will the employees present their best side. Theory Y is consistent with the views of human relation theory and democratic-participative organizational structure.

In contrast to Theory X, Theory Y is more inclined to create a work environment for employees to fully utilize their talents and potentials, so that they can achieve their own goals while achieving the organizational goals. The incentive of Theory Y for employees is more from the internal motivation of the work itself. It motivates them to make achievements in their work, meet self-fulfilling needs, give them more autonomy in management systems, involve them in management and decision making, and share the power (Xing, 2014). It can be seen that Theory X is more applicable to the situation where people's low-level needs cannot be satisfied, while

Theory Y is more suitable for the occasion where people's low-level needs have already been met.

2.4.1.2 Two factor theory

In the 1950s, American behavioral scientist Frederick Herzberg conducted a large-scale survey of employee job satisfaction, and found that the factors that make employees feel dissatisfied are different from those that make employees satisfied. Dissatisfaction is often caused by the external working environment, while satisfaction is usually generated by the work itself. After a comprehensive analysis of the factors of satisfaction and dissatisfaction, Herzberg proposed the Two Factor Theory in 1959, which is also known as the Motivation-Hygiene Theory (Herzberg, Mausner, & Snyderman, 1959). The two-factor theory believes that there are two main types of factors that lead to job motivation: hygiene factors and motivators. Hygiene factors are those causing employee dissatisfaction and are usually related to the work environment or work relationship, such as the workplace, safety facilities, corporate rules and regulations, and the relationship between superiors and subordinates. If hygiene factors are not met, employees will be dissatisfied; when hygiene factors are improved, dissatisfaction will be eliminated. However, hygiene factors do not motivate employees' work enthusiasm. The motivators are the factors that make employees feel satisfied and are usually related to the nature and content of the work, such as whether the work is liked by the employees, the sense of accomplishment of work, and the attention of the superiors.

Table 2-2 Relevant items of two factors

Motivation Factors	Hygiene Factors
● The work itself	● Salary
● Recognition	● Security
● Responsibility	● Working conditions
● Promotion	
● Achievements	● Work health-care
● Personal growth and development	● Supervision
	● Organizational policies
	● Interpersonal relationship
	● Affiliated benefits

Source: Wang (2016)

As shown in tables 2-2， The improvement of motivators can bring satisfaction to employees, stimulate their work enthusiasm and improve work efficiency. However, if motivators are not available, it will not cause great dissatisfaction of employees (Wang, 2016). In terms of incentives, if hygiene factors cannot be improved, employees will inevitably be dissatisfied. Even though these factors are improved, it can only eliminate employees'

dissatisfaction, yet cannot make them satisfied. But if motivators cannot be improved, dissatisfaction will not be generated among employees, but employees turn out to be satisfied after the improvement. Therefore, it is only the motivators that can actually motivate employees.

2.4.1.3 Reinforcement theory

Reinforcement Theory is a theory put forward by an American psychologist and behavioral scientist Skinner (1969) in research on the relationship between individual behaviors and outcomes, and it is also called Operant Conditioning Theory and Behavior Modification Theory. The theory holds that behavior is a function of outcome, and when the outcome of the behavior favors the individual, the behavior repeats. Otherwise, the behavior weakens or disappears. This situation is called "reinforcement" in psychology, meaning the affirmative or negative result of a behavior, which, to some extent, determines whether such behaviors will recur in the future.

In order to achieve effective management, managers should be good at using various reinforcement methods to guide and correct the behavior of employees so that they meet the needs to realize the organizational goals (Xing, 2014). Common types of reinforcement include positive reinforcement, negative reinforcement, extinction, and punishment: Positive reinforcement refers to rewarding recognition of behaviors that are consistent with organizational goals or that are beneficial to achieving organizational goals, so that such behaviors can be further reinforced and repeatable; negative reinforcement, also referred to as avoidance, refers to attempts to overcome certain behaviors in order to avoid unsatisfactory or undesired results; extinction refers to no action on certain behaviors. There is neither reward nor punishment, so that it is reduced until it no longer appears; punishment refers to the punitive measures of undesired behavior, so that it no longer appears. In practical application, managers should focus on the coordinated operation of the reinforcement mechanism to form a mutually connected and complementary reinforcing system so as to enhance the overall effect of incentives.

2.4.1.4 McClellan's achievement need theory

The theory holds that under the premise that people's survival needs are basically satisfied, achievement, power and affiliation are the three most important needs of people. There are several propositions in this theory:

(1) People with a high need for achievement are ambitious and like environments in which they can give full play to their independent problem-solving ability. Therefore, it is necessary to provide them with the proper environment in management to give full play to their ability.

(2) People with a high need for power have a sense of responsibility, are willing to undertake necessary competition, and can obtain jobs with higher social status, and they like to follow suit and influence others;

(3) People with a high need for affiliation usually get joy and satisfaction from social interactions between friendship and interpersonal communication, and are eager to get approval from others. They highly obey the rules of the group and are faithful and reliable. McClelland believes that understanding and mastering these three needs is important for the development, use and promotion of managers. Smart managers need to be good at cultivating talents with high sense of accomplishment to achieve organizational goals and promote organizational development.

2.4.1.5 Expectancy theory

The expectancy theory is proposed by the famous psychologist and behavioral scientist Victor Vroom in the book Work and Motivation published in 1964. It is a motivation theory explaining the motivation process by examining the causal relationship between individual efforts and the rewards they receive. Vroom (1994) holds human motivation is a process of conscious selection where people put their efforts into the activities that can produce the greatest effect and the factors determining motivation are expectancy and valence. To be specific, motivational force = expectancy*valence. 1. The level of behavioral motivation: namely the degree of motivation, it refers to the level and persistence of a person's work enthusiasm, which determines how many efforts people will make in their work. 2. Expectancy, also known as expected probability, refers to a person's estimation of the likelihood of achieving a certain outcome (goal) based on past experience; 3. Valence refers to a person's evaluation of the value of his work or his goal. If a person considers the value of the goal as much as possible and estimates the probability that the goal can be achieved as much as possible, the stronger the motivation and the higher the enthusiasm he will have. If there is a zero in the expectancy or valence, the motivation will also disappear. Therefore, managers must consider both valence of goal and the expectancy, and both of them must be high in order to effectively stimulate the enthusiasm of employees. However, expectancy theory assumes that the individuals are thoughtful and rational people who have established beliefs and basic predictions about the development of their lives and career. Therefore, in analyzing the factors for motivating employees, we must examine what people want from their organizations and how they can fulfill their aspirations.

2.4.1.6 Equity theory

The Equity Theory, also known as the theory of social comparison, was proposed by American behaviorist Adams in 1965. It focuses on the rationality and equity of salary distribution and its positive effect on employees (Adams, 1965). Adams found in a large number of studies that employees are sensitive to whether they are treated fairly and reasonably. Their work motivation is not only affected by the absolute value of their income, but also by their relative value, which means that each person not only cares about the absolute value of their income, but also the relative value. The relative value here refers to the ratio of the individual's contribution to a job and income to others' contribution and income as well as the ratio of one's contribution and income at present to the contribution and income in the past. Through comparison, there will be a sense of equity or inequality. The theory emphasizes the significant impact of equity on incentives and people's behaviors, requiring organizations to treat each employee as equitably as possible and make each employee feel that the organization is truly impartial to them.

From the above introduction of these incentive theories, it can be seen that human nature is complicated, people's needs are diverse, and individual differences are significant. Therefore, as to HRM that concerns the handling of people-related issues and the engagement in the management of peoples' work, and motivates employees to increase job satisfaction and productivity, we have to recognize that there is no single source of incentive measures and methods that can be universally applied. In other words, we shall realize that it is impossible to rely on a single measure and method to achieve the purpose of effective incentives. Effective incentive is a systematic process that must take all aspects into account (Mo, 2007).

2.4.2 Psychological contract theory

Ideally, psychological contract is considered as a mutual agreement (Dabos & Rousseau, 2004). Individuals and organizations act on the basis of perceived fulfillment of commitments between organizations and employees (Argyris, 1960). For example, employees hold the expectation that the organization will give them a corresponding return according to their dedication, and insist on working hard for the organization for several years. The psychological contract is usually divided into four types, i.e. transactional, relational, balanced and transitional (Robinson, Kraatz, & Rousseau, 1994). Transactional psychological contract focuses on money transactions or economic exchanges, emphasizing limited duration and clear and specific performance terms. For example, employees work hard to get the appropriate salary, benefits

and safe working environment (Thompson & Bunderson, 2003). Relational psychological contract focuses on long-term, economic and social emotion exchanges based on mutual trust and loyalty, with incomplete or vague performance clauses that focus on mutual satisfaction, loyalty and commitment. The balanced psychological contract combines the characteristics of transactional and relational contracts. A transitional psychological contract is a short-term insecure contract with little or no clear performance requirements or incentives.

2.4.3 Person-organization fit theory

Person-organization fit theory focuses on the fit of individual characteristics and organizational environment. Based on previous studies, Kristof proposed a more complete integration model of person-organization fit. He believes that when the basic characteristics between the organization and the individual are similar, there will be a consistent fit. The basic characteristics of the organization mainly include organizational culture, organizational values, organizational goals and norms, while the basic characteristics of the individual mainly include personality characteristics, values, personal goals and attitudes. Besides, there is a complementary fit between individuals and organizations, as the organization can provide financial, physical and psychological resources, interpersonal opportunities, etc. for individuals, and individuals can provide their own time, effort, commitment, experience and KSAs (knowledge, skills, abilities) that can help complete tasks and establish interpersonal relationships and other resources to meet organizational requirements (Kristofbrown, Zimmerman, & Johnson, 2005). There are two main ways to improve the person-organization fit: one is to select suitable candidates through recruitment; the other is the socialization of new employees after they join the company. Recruiting in a person-organization fit pattern can greatly reduce the socialization costs of new employees after they join the company.

2.4.4 Competence model theory

American psychologist McClelland (1996) applied results of research on achievement motivation to the selection and motivation of talents and proposed the competence model. Competence is a combination of skills, knowledge, values, self-image and motivation that can achieve high performance. McClelland portrays the human quality model as an iceberg. The underwater part of the iceberg are the potential features. The difference in depth from top to bottom means that the difficulty of being excavated and perceived is different. Deeper parts are more difficult to be excavated and perceived. The above-water part of the iceberg is the surface

part, that is, the knowledge and skills of people, which are easy to be perceived (Long, 2016). The combination of professional quality elements can constitute different job post quality models. The basic principle of building the competence model is to distinguish the difference between outstanding and mediocre employees in knowledge, skills, social role, self-cognition, traits and motivation. Through collection and analysis of data as well as scientific integration of data, the competence model of a certain job post will be built to produce a corresponding feasible human resource management system. According to the development level of health service in the sample area, researchers explore the basic meaning of the competence of the general service team, and initially construct a set of objective and feasible general service team post competence framework in line with the actual situation of the sample area, providing a reference for the community medical and health institutions in training, employment, assessment and evaluation of general service team. In addition, it is of great significance to the development of community health work, standardization of community medical work and improvement of community service capabilities.

In conclusion, this research takes the six modules, namely human resource planning, recruitment and distribution, training and development, performance management, salary management, and employee relationship management, as the theoretical framework, focuses on the status quo of human resource management in community health service centers, and mainly solves problems such as "How to select talents, how to cultivate talents, how to train talents, and how to motivate talents". In this way, the author intends to establish corresponding talent quality models, mixed training models, step-by-step job rotation mechanism, multi-dimensional incentive system, so as to form a ladder-like progressive human resource management model, and improve the efficiency and innovation level of human resource management in community health service centers from multiple perspectives and directions.

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Chapter 3: Status Quo of Researches of Community Health Human Resource Management

3.1 Researches on community health services outside China

3.1.1 Development patterns of community health services outside China

Due to differences in politics, economics, cultural background, health management and social security mechanism, different countries have different development patterns of community health services. Based on business operation types, there are three globally representative development patterns of community health services.

3.1.1.1 The national operation and management pattern represented by the U.K.

The concept of community health service originally appeared in the U.K. in 1940s, which referred to non-hospitalized medical services（Li, 2006）. In the U.K., community health services are the basis of National Health Service (NHS), which was established based on the National Health Service Act (1948). The Act specified that government tax revenue would be used to pay for primary health services, community health services and hospital specialist medical services (Huang, Ye, & Li, 2004) and that a general practitioner system would be implemented. As a result, a multi-layered National Health Service system with a great resemblance to welfare system was established. Consisting of such medical institutions and social service agencies as public hospitals at all levels, various clinics, community medical centers and nursing home, NHS is aimed at providing British residents with free-of-charge medical services (Liu, 2009).

In the NHS system, community health services are of the fundamental importance and constitute the firm and strong foundation of the multi-layered medical health system. The development pattern of community health services in the U.K. is a government-oriented one in which the government is responsible for providing funds and the operating entities of community health services are public medical institutions, and the government, through high salary incentive as well as strict performance appraisal and supervision, ensures the high quality of community service staff and community health services. On top of community health services, NHS also includes secondary specialist medical services and tertiary expert medical

services, and thus a multi-layered pyramid medical service system including primary health services and secondary medical services and tertiary medical services is formed (as indicated in Figure 3-1). Secondary medical services in the middle mainly refer to specialist medical services, centering on hospitalization, including serious disease treatment and surgical treatment and allocating and coordinating medical resource. Tertiary medical services on the top mainly refer to medical expert services in which experts provide advanced diagnosis and treatment to a few patients who suffer difficult and complicated diseases or serious diseases.

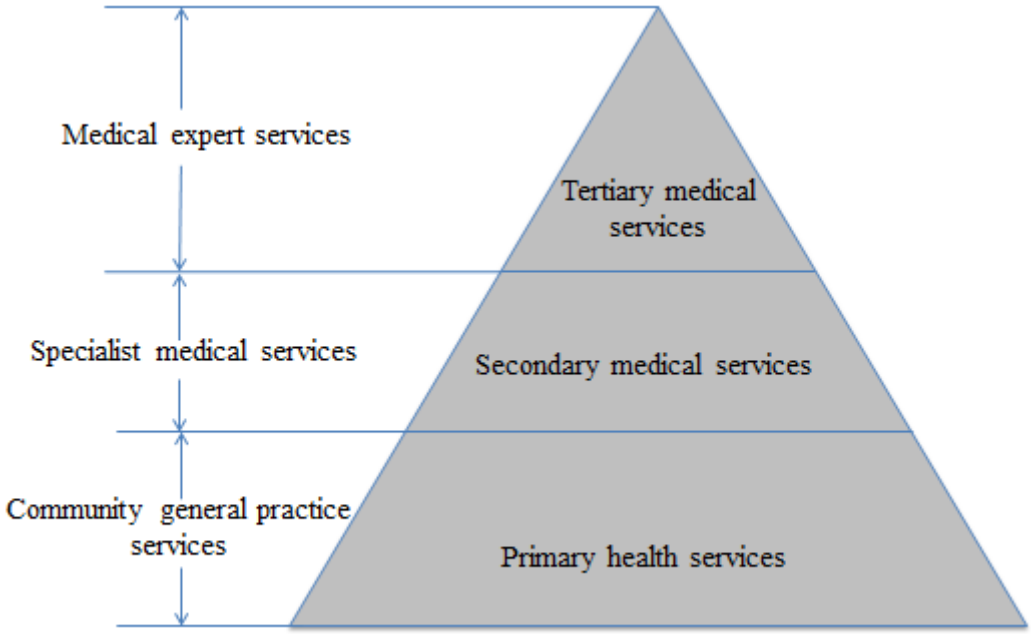

Figure 3-1 NHS multi-layered medical service system in the U.K.

Among the three medical service systems, medical resources and medical services concentrate on community health services in primary level. In the U.K., 80% to 90% of health problems are solved by general practitioners in community health services institutions. As the primary level of the pyramid medical service system as well as the main part of NHS, primary health services are a community general practice service system consisting of family clinics, and community clinics. 80% of funds in the NHS system are used in the primary health services (Yu et al., 2007), which, as a result, constitutes a strong foundation of NHS multi-layered medical service system. The core of community health services is general practitioners (GPs). In the U.K., GPs are not subordinated to governmental departments. Governmental health departments purchase primary health services for community residents from GPs and manage GPs' service contents and service scopes based on contracts. GPs' work relies on certain general practice clinic, which is a small health service team that generally consists of GPs, clinic

managers, nurses and receptionists. GPs are the operators of a clinic, which can be solely operated or jointly operated. And GPs have to hire other personnel in accordance with stipulated personnel allocation requirements. Governmental health departments staff a certain number of auxiliary personnel, such as community nurses and health-visitors, for community clinics. These personnel are under the management of and paid by governmental health departments. NHS specifies that each resident shall appoint one general practitioner as his or her family doctor. Therefore, general practice clinics boast regional characteristics and their service scopes mainly cover residents near the clinics, and the scopes are determined by the scales and service quality of the clinics instead of being specified by governmental health departments (Qiu et al., 2006). Health departments manage the clinics based on regions and the establishment of a new general practice clinic shall be approved by local health departments.

3.1.1.2 The operation pattern in which the country conducts plan and management while individuals provide services, represented by such countries as Germany, Japan, Australia and Canada

Over 98% of family doctors have signed service contracts with health insurance agencies and some of family doctors specifically provide services for patients of private insurance companies. Since most residents enjoy legitimate social health insurance, patients, with their Health Insurance Card, can seek medical advice from any general practice clinics that have signed service contracts with health insurance companies (Yang & Xuan, 2006). Therefore, demand-side investors enable patients gain the initiative of purchasing services and only by improving their service quality can GPs attract more patients. GPs in private practice enter into contracts with social (national) health insurance departments and provide community health services (Chen et al., 2004). As GPs are keen on medical services with high profits, national and local health departments have to set up some specialized community health service institutions to cover the shortage in community prevention and healthcare.

3.1.1.3 The operation pattern centering on private operation, represented by the United State of America

Community health service system in the United States of America (U.S.A.) is perfect. Community health resource allocation is centering on market adjustment while the value of community healthcare is mainly oriented to community health service demands, which is manifested in the service pattern that are family-oriented. As comprehensive community health service institutions, community health service centers in the U.S.A. are fully equipped with

medical staff, software and hardware. These centers mainly provide community residents with complete family life nursing services centering on nursing care. Meanwhile, the Medicare, which is under the management of Center for Medicare and Medicaid Services subordinated to Department of Health and Human Services, is the largest and single payer in the whole medical system as well as the community medical service system (Li et al., 2012).

3.1.2 Characteristics of community health services outside China

Such countries as the United Kingdom (U.K.), the U.S.A., Canada, Australia and Germany boast a variety of community health service institutions, including GP clinics, community health service centers, healthcare service centers for the aged and children and other special groups, community nursing agencies, family care centers and community mental health centers. The community health services they provide are unique, including three major parts: prevention, medical care and nursing, which are in line with but distinctive from the six-in-one services (namely, prevention, medical care, healthcare, rehabilitation, health education and family planning guidance) in China's community health services (Zhang & Qi, 2005). Based on literature review, Yi Fan made a summary on characteristics of community health services outside China: there are systematic and normative community service institutions; there are diversified service patterns; there are social support and participation by all people, including preference and financial support in decision making and financial resources by governmental departments at all levels as well as economic support by insurance companies and social groups (Yi, 2008). Shen Li made a comparison among community health service patterns and operations in the U.K., France, Australia and the U.S.A., believing that they have community health administration system with distinct rights and obligations, effective market competition adjustment mechanisms, strict quality management and evaluation mechanisms, smooth and efficient referral systems and high-quality GP team training mechanisms. Shen also pointed out that special attention should be paid to train high-quality community health service staff.

3.1.3 Community health personnel access and general practice training

All countries attach great importance on community health human resource capabilities and quality, and have very strict access of community health human resources. The U.S.A. is the birthplace of general practice education; general practice medical students in the U.S.A. will first receive the four-year medical education and participate in a three-year standardized training of resident doctor after passing an exam, and then sit another examination carried out

by the Family Doctor Association; they will get a registered qualification certificate if they pass the examination, and continue to take part in further general practice education during practice (Zhang et al., 2009). In the U.K., ones will spend at least nine years on medical education and post training before becoming a GP. After being qualified as a doctor, they have to undergo a three-year clinical training and pass an exam conducted by Royal College of General Practitioners (RCGP), only after which can they become a GP. After registering as a GP, they will have to receive further education and training. In Germany, the school system of higher education in medicine is six years; ones have to participate in clinical internship and pass the national medical examination after graduation, and spend five years on advanced specialized training before becoming a GP (Shen, 2008). There is a shortage of doctor in rural areas in the U.S.A. To solve this problem, based on universities and colleges, rural medical education programs are developed, such as Physician Shortage Area Program (PSAP) (Rabinowitz et al., 1999), Rural Medical Education Program (RMED) (Glasser et al., 2008), Rural Physician Associate Program (RPAP) (Halaas, 2005). In Europe, more attention is paid to the training and development of general practice and College of General Practitioners and R&D Center for Primary Health Care are established. In Australia, community health centers undertake all public health services except for that of public hospitals and private clinics.

3.1.4 Performance management patterns of community health services outside China

Primary-care physicians are the major providers of community health services in the U.S.A. The payment project, which was originated from the U.S.A., almost includes incentive measures for primary-care physicians so as to provide primary medical services. Complete primary health services have been introduced since 2004 to improve health care quality (Mcdonald & Roland, 2009). In this project, the U.K. aims at raising the attention of local health institutions to improving performance and establishing a set of improved health information system so as to provide everyday data. On account of performance evaluation of general practice, community health service institutions in Australia have carried out in-depth research and released three indicator systems. The three systems mainly stress the service contents and standards of GPs and these systems play an active role in improving community health service quality; based on these indicator systems in Australia, countries such as New Zealand and Ireland, combining with their own national conditions, have successively developed performance evaluation indicators of general practice (You et al., 2011).

3.1.5 Community health personnel allocation outside China

In terms of allocation quantity of community health personnel, the number of GPs accounts for 34% of total number of physicians in the U.S.A., while the figure exceeds 50% in such countries as Canada and the U.K. (Zhou, 2000). Although there are sufficient doctors in Germany, there is still a shortage of community health human resources, especially in remote outskirts and rural areas where there are not enough qualified physicians and physicians are distributed off balance. In such developed countries as the U.S.A., Australia and Canada, there is one GP among every two to three thousand population and about 7.3 physicians among every 10,000 population in the U.S.A. (Wang & Li, 2005), and about 4.5 GPs among every 10,000 population in the U.K.. In developing countries, however, community health human resource allocation standards are much lower.

3.1.6 Demand forecast of community human resources

There are more researches on forecast of specialist physicians and nurse than that of total amount of health human resources outside China. Tsuen-Chiuan, Misha, and Chen (2012) provided a regression-based PD model to calculate a "norm" number of PD for a specific country. A large PD discrepancy in a country indicates the needs to examine physician's workloads and their well-being, the effectiveness/efficiency of medical care, the promotion of population health and the team resource management. Recently, the unemployment rate of health professionals in Serbia has risen and the situation becomes even worse. This highlights that it is necessary to understand how to change policies to meet actual and predicted demands. Based on historic trends, physician supply and nurse supply in the public healthcare sector by 2015 (with corresponding 95% confidence level) have been modeled by using Autoregressive Integrated Moving Average (ARIMA) / Transfer function (TF) models. The results showed that physician and nurse rates per 100,000 population increased by 13%. The model predicts that the vacancies of graduates and jobs in public health are expected to be 8,698 physicians (Santricmilicevic, Vasic, & Marinkovic, 2013). Deal et al. (2007) used the system dynamics model to predict total demands for specialist physicians in developed countries.

3.1.7 Countermeasures for community human resource management

In researches on health human resources outside China, particular emphasis has been placed on how to stabilize and encourage primary medical workers and how to improve their service capability and level. Crettenden, Poz, and Buchan (2013) introduced the thematic series

of "Right time, Right place: improving access to health service through effective retention and distribution of health workers". To improve access to health through more effective human resources policies, planning and management, the primary focus is on health workforce distribution and retention. One of the main goals of Human Resource Management (HRM) is to increase the performance of organizations. However, few studies have explicitly addressed the multidimensional character of performance and linked HR practices to various outcome dimensions. Vermeeren, who paid attention to the mediating role of job satisfaction, related HR practices to three outcome dimensions: financial, organizational and employee (HR) outcomes and further analyzed how HR practices influence these outcome dimensions. It is found that the use of HR practices is related to improved financial outcomes (measure: net margin), organizational outcomes (measure: client satisfaction) and HR outcomes (measure: sickness absence). The impact of HR practices on HR outcomes and organizational outcomes proved substantially larger than their impact on financial outcomes. This is in line with the view that employee' attitudes are an important element in the 'black box' between HRM and performance. The results underscore the importance of HRM in the health care sector, especially for HR and organizational outcomes (Vermeeren et al., 2014). Turnover in the health workforce is a concern as it is costly and detrimental to organizational performance and quality of care. Most studies have focused on the influence of individual and organizational factors on an employee's intention to quit. Steinmetz, de Vries and Tijdens (2014) focused on the influence of working-time characteristics and wages on an employee's intention to stay. Wage-related characteristics demonstrate that employees with a low wage or low wage satisfaction are less likely to express an intention to stay. When it follows a policy of wage increases, attention to the issues of working time—including overtime hours, working part-time, and commuting time—and wage satisfaction are suitable strategies in managing health workforce retention.

3.2 Research on community health services in China

3.2.1 GP team building

Main service providers of the first diagnosis in communities include community health institutions and GP teams. In terms of GP team building, specialist physicians, public health staff and community nurses, who have taken part in short-term general practice post training in Changning District, Shanghai City, has formed a general practice service team to deal with the problem of GP shortage by integrating knowledge and supplementing each other in professions.

In Changning District, only GPs with a bachelor degree or above will be recruited and they will receive training in family service awareness and capability (He et al., 2012). In Xicheng District, Beijing City, Guiding Opinions on Family Doctor Services in Xicheng District was formulated to specify service objects, contents and procedures; community doctors' work will be assessed and assessment results will be linked up with their performance to improve work efficiency and satisfaction. But at the same time, there is a serious shortage of family doctor teams; currently, there are only 264 family doctor teams in Xicheng District; based on the Job Specifications for Community Family Doctor services in Beijing, every team should be responsible for at least 600 households, and as a result, 767 teams need to be allocated (Wang et al., 2014).

3.2.2 The accessibility of community health institution building and human resource allocation

In terms of the accessibility of community health institution building, the number of local community health institutions is rising; from 2012 to 2013, primary health service network had basically covered all urban areas in Chongqing, Shanghai and Wuhan with one center for every 100,000 population and one station for every 10,000 population (Bao, Du, & Liang, 2012). In terms of the accessibility of service providers, more efforts are made in all regions to strengthen GP allocation and capacity building; allocation quantity of GPs in Beijing and Shanghai has risen, with 3.82 and 2.85 GPs per 10,000 population in Beijing and Shanghai respectively in 2014, both meeting the national standard of 2 to 3 GPs per 10,000 population (Song et al., 2017). Wang et al. (2014) conducted a research on 115 government-funded community health service centers in Guangzhou, finding that there were differences in regional personnel structure, that the staff quota was irrational, that attention should be paid to geographic equity and that it should further play the roles of government, market and society to optimize allocation and promote sustainable development of community health services.

3.2.3 Status quo of human resource management in community health service centers

Currently, as China increases supports in community health services, community health services have been carried out in all cities above prefecture level, all municipal districts and most county-level cities in China and the number of community health service institutions has constantly risen. Based on the Annual Data of Year 2015 released by National Bureau of Statistics of China, by 2015, there has been 34,000 community health service centers (stations) and 600 million hospital visits each year in the country. In 2015, the probability proportionate

to size sampling method was used to conduct a research on 333 community health service centers in 17 prefecture-level cities in Shandong Province, finding that there was a shortage of staff and a serious shortage of public health staff, GPs and medical technicians in health service centers, and that structure in these centers is irrational. It is suggested to use such means as revitalizing inventories, up regulation, appropriate introduction, retention and training to increase staff number and optimize personnel structure (Qiu et al., 2018). Xu and Huang (2010) introduced shortcomings of internal and external environment in China's community health service institutions, and he pointed out that various management systems were unsound, that there was a shortage of general practice and a phenomenon featuring "two lows and two ageing" (namely, low academic qualifications and technical titles; old age and ageing in knowledge structure) among some medical staff in the institutions. It is suggested to accelerate the training of general practice talents and give play to primary health care (Xu & Huang, 2010). In Guangdong Province, the overall quality of medical technicians engaging in community health services in primary levels is dissatisfactory and educational levels of these technicians are mainly composed of technical secondary school degree and junior college degree, and these technicians are only engaged in such services as giving an injection, changing a medical prescription and measuring blood pressure. Talent training focuses on the post training of over 70% of health service staff with technical secondary school degrees and 80% of staff with primary titles who work in communities and multiform general practice education has to be adopted and attention shall be paid to such key aspects as teaching staff construction, teaching material construction, standardized training, quality control, evaluation and certificate issue and policy supports (Jing et al., 2002). The outflow of community health service talents remains a main issue, which exists in both developed cities such as Shanghai and Shenzhen and developing cities such as Harbin and Xi'an; since community health service institutions belong to non-profit ones, there is no uniform regulation and standard in staff's salary, welfare and promotion, which lead to the brain drain (Ma et al., 2004).

3.2.4 Countermeasures for human resource management in community health service centers

Jin et al.（2007）pointed out that there were many problems in community health services, including lack of related policy supports, lack of understanding on community health services, low quality of talents, shortage of general practice talents, inefficient management systems for community health services, poor systems, and imperfect implementation of community health

service functions. He suggested that the government should incorporate community health services into the overall development planning of community services to strengthen the construction of community health service teams and construction of the institutions themselves. By strengthening human resource management and innovation, expanding talent sources, improving personnel structure and quality for incentives, Zhou et al. (2011) analyzed that the ways of fiscal appropriation, change of the population and post structure were fundamental factors that influenced community health human resource management. He also suggested that community health service provision should be activated by such ways as improving incentive and restraint mechanisms, attracting stable talent teams and exploring new models for talent training. From August to September 2003, Liang et al. used the stratified random sampling to conduct a research in 11 provinces and cities in China, finding that China's community health services began to take shape, that special funds from government increased year on year, that staff training was carried out at a broad range, and that software and hardware in most community health service centers (stations) could basically meet the demands for community health services. However, further development is needed in professional quality and training of community health service staff, which is manifested in relatively low professional quality and lack of general practice training. Only 23.77% of community doctors have bachelor degree or above and only 11.73% have titles of a senior professional post; and they are in lack of general practice training and fail to give full play to advantages of community health services (Liang et al., 2005). Incentive mechanisms, such as salary incentive, target incentive, competition incentive and exemplification incentive, should be used to effectively develop and rationally utilize community health human resources (Zhu, 2013). Zhang, Zhang, and Wei (2014) thought that there were such problems as lack of overall planning for human resource allocation and irrational allocation of staff in urban community health service institutions in Wenzhou City, where there were 8. 08 medical staff per 10,000 population in communities with good staff allocation and where there were only 3 .6 medical staff per 10,000 population in communities with poor staff allocation. In addition, there is a serious imbalance in the ratio between clinicians and nurses. The ratio between doctors and nurses in the surveyed communities is 2.67:1, which fails to meet the requirement (namely, every medical practitioner shall be equipped with at least one registered nurse) that is stipulated in Basic Standards for Urban Community Health Service Center issued by Ministry of Health of P.R. China in 2006 (Zhang, Zhang, & Wei, 2014). Rational human resource allocation planning should be developed to optimize personal structure and improve incentive mechanisms.

3.3 Research on management system community health service institutions in China

Community health service institutions are primary-level not-for-profit medical and health service institutions that are established according to the national medical reform plan, with health as the center, family as the unit, community as the radius, and demand as the guiding principle. They integrate prevention, health care, medical treatment, rehabilitation, health education and family planning. According to China's current administrative management system, community health service institutions are classified as a public welfare public institution. Public institutions are a social organization that are differentiated from enterprises and they are a special product under the political, economic and cultural background of China. According to the Interim Regulations on the Registration of Public Institutions issued in 1998, public institutions refer to social service organizations organized by state organs or by other organizations with state-owned assets for the purpose of social welfare to engage in education, science and technology, culture, and health.

In order to promote the transformation of government functions and improve the service level of various public institutions, the Central Committee of the Communist Party of China promulgated the Guiding Opinions on Promoting the Classified Reform of Public Institutions in 2011, and divide existing public institutions into those assuming administrative functions, engaging in production and management activities and engaging in public services. The public institutions engaging in public services are further divided into two categories according to duties, tasks, service objects and resource allocation methods. One is class 1 public institutions that undertake basic public welfare services such as compulsory education, basic scientific research, public culture, public health, and basic medical services at the grassroots level. Resources involved in class 1 public institutions cannot or should not be allocated by the market. The other is class 2 public institutions that mainly undertake public welfare services such as higher education and non-profit medical treatment. Resources involved in class 2 public institutions can be partially allocated by the market. As for the financial subsidy policies, the government provides class 1 public institutions with full funds according to their normal business needs, while the government provides class 2 public institutions with subsidies based on their business characteristics and financial revenue and expenditure, and the government also supports them through government purchases of services.

Public institutions are an important driving force for China's economic development and

the main carrier for providing social welfare services. However, as they are established and developed in the era of China's planned economy, many problems have severely obstructed their development such as no distinction between government organs and public institutions, no distinction between public institutions and enterprises, inflexible mechanism, short supply of public service, single supply mode, unreasonable resource allocation and low quality and efficiency. China has begun to attach importance to and promote the reform of public institutions since the 1990s, as the employment mechanism has gradually changed from "fixed employment system" to "contracted system" and the salary incentive system has gradually changed from "average distribution system" to "performance salary system". These measures have played an invaluable role in introducing and retaining talents and fully mobilizing their enthusiasm. Due to the large scale of the public institutions in China, the reform involves a lot of interests. Therefore, while great progress has been made in the reform of public institutions, there is still a long way to go.

3.4 Research review

As the most basic part of China's community health service system, the community health service centers are the primary-level health care organizations that undertake the basic medical services, public health services and health care services of community residents in China. According to the relevant regulations of the management of public institutions, most community health service centers are classified as class 1 public institutions, and there are inevitably limitations such as the solidification of personnel management system, no diversification of management method and lack of a competition and incentive mechanism. In terms of researches on community health human resource management at home and abroad, these researches outside China start early with relatively standardized and systematic research results, which provide some references for China's researches on the field. Compared with developed countries, China's researches on this field are fewer and start rather late with poorer development. Most researches are restricted to human resources. There are fewer analyses on human resource management and there is lack of theoretical basis in researches. Many problems, including lack of staff, irrational structure, insufficient funds for community health service institutions, poor incentives for staff, relatively low job satisfaction of community health workforce and small occupational development space, exist in China's community health human resource management. What's more, most researches on human resource management in China are aimed at policies and some even directly apply foreign management methods,

without taking into full consideration endemism. Therefore, the thesis, based on human resource management theories and references from experience in other regions, carried out an in-depth analysis on problems in human resource management of community health service institutions in Guangzhou so as to cover the shortage in existing researches.

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Chapter 4: Investigation and Analysis of Status Quo of Human Resources in Community Health Service Centers in Guangzhou

4.1 Total information about community health service centers in Guangzhou

4.1.1 Basic information about community health service centers in Guangzhou

A total of 14 community health service centers from 5 districts in Guangzhou, including Baiyun District, Haizhu District, Liwan District, Tianhe District and Yuexiu District, were selected for this survey. All these 14 centers are independent legal entities and they all register under the first name of Community Health Service Center. In terms of the nature of the centers, except for community health service center 10 that is run by social organizations or individuals and does not implement two lines management mechanism of receipts and expenditures, the remaining 13 community health service centers are run by the government and its affiliated medical institutions and all have implemented two lines management mechanism of receipts and expenditures. Regarding national engaging management, 13 community health service centers have implemented the national engaging system, only except for community health service center 2. All the 14 community health service centers have been incorporated into the designated medical institutions. Among them, community health service centers 1, 3, 4, 6, 8, 9 and 13 are only designated outpatient institutions, while the rest centers are designated outpatient and inpatient institutions. The details are listed in Table 4-1.

Table 4-1 Basic information about community health service centers in Guangzhou

UNIT Code	Nature of the Center	Legal Personality	First Name for Registration	Financial Management	Employment System	Type of Designated Medical Insurance Institution
1	Run by Government And Its Affiliated Medical Institutions	Independent Legal Entity	Community Health Service Center	Two lines management mechanism of receipts and expenditures	National Engaging System	Designated Outpatient Institution
2	Run by Government And Its Affiliated Medical Institutions	Independent Legal Entity	Community Health Service Center	Two lines management mechanism of receipts and expenditures	Non National Engaging System	Designated Outpatient and Inpatient Institution
3	Run by Government And Its Affiliated Medical Institutions	Independent Legal Entity	Community Health Service Center	Two lines management mechanism of receipts and expenditures	National Engaging System	Designated Outpatient Institution
4	Run by Government And Its Affiliated Medical Institutions	Independent Legal Entity	Community Health Service Center	Two lines management mechanism of receipts and expenditures	National Engaging System	Designated Outpatient Institution
5	Run by Government And Its Affiliated Medical Institutions	Independent Legal Entity	Community Health Service Center	Two lines management mechanism of receipts and expenditures	National Engaging System	Designated Outpatient and Inpatient Institution
6	Run by Government And Its Affiliated Medical Institutions	Independent Legal Entity	Community Health Service Center	Two lines management mechanism of receipts and expenditures	National Engaging System	Designated Outpatient Institution
7	Run by Government And Its affiliated Medical Institutions	Independent Legal Entity	Community Health Service Center	Two lines management mechanism of receipts and expenditures	National Engaging System	Designated Outpatient and Inpatient Institution
8	Run by Government And Its Affiliated Medical Institutions	Independent Legal Entity	Community Health Service Center	Two lines management mechanism of receipts and expenditures	National Engaging System	Designated Outpatient Institution

9	Run by Government And Its Affiliated Medical Institutions	Independent Legal Entity	Community Health Service Center	Two lines management mechanism of receipts and expenditures	National Engaging System	Designated Outpatient Institution
10	Run by Social Organizations or Individuals	Independent Legal Entity	Community Health Service Center	Non Two lines management mechanism of receipts and expenditures	National Engaging System	Designated Outpatient and Inpatient Institution
11	Run by Government And Its Affiliated Medical Institutions	Independent Legal Entity	Community Health Service Center	Two lines management mechanism of receipts and expenditures	National Engaging System	Designated Outpatient and Inpatient Institution
12	Run by Government And Its Affiliated Medical Institutions	Independent Legal Entity	Community Health Service Center	Two lines management mechanism of receipts and expenditures	National Engaging System	Designated Outpatient and Inpatient Institution
13	Run by Government And Its Affiliated Medical Institutions	Independent Legal Entity	Community Health Service Center	Two lines management mechanism of receipts and expenditures	National Engaging System	Designated Outpatient Institution
14	Run by Government And Its Affiliated Medical Institutions	Independent Legal Entity	Community Health Service Center	Two lines management mechanism of receipts and expenditures	National Engaging System	Designated Outpatient and Inpatient Institution

In terms of the allocation of infrastructure, the 14 community health service centers surveyed are all under the jurisdiction of streets, with a total registered population of about 1.085 million, a total business house area of 49,788 m^2 and an average area of 3,556.2 m^2. Except for those seven community health service centers with only outpatient departments, the number of approved beds is totally 364. The total number of health technical personnel is 1,279 and the number of health personnel per thousand people is 1.18. The details are listed in Table 4-2.

Table 4-2 The basic configuration of community health service centers in Guangzhou

UNIT Code	Registered Population (Person)	Business House Area (m^2)	Number of Approved Beds	Total Number of Health Technical Personnel	Number of Health Personnel Per Thousand People
1	30,563	3,214	0	37	1.2
2	83,563	5,100	43	168	2.01
3	140,000	2,700	0	150	1.07
4	33,204	1,917	0	80	2.41
5	74,337	4,185	82	133	1.79
6	81,828	2,200	0	73	1.00
7	76,537	3,740	38	122	1.59
8	44,113	2,578	0	66	1.50
9	42,258	2,430	0	62	1.47
10	52,000	2,000	40	42	0.81
11	159,080	10,904	103	159	1.00
12	129,000	4,600	32	26	0.20
13	40,000	900	0	48	1.20
14	98,570	3,320	26	113	1.15
Total	1,085,053	49,788	364	1,279	1.18

4.1.2 Allocation of human resources in community health service centers in Guangzhou

The number of on-the-job staff in the 14 community health service centers in Guangzhou is 1,546, including 761 permanent staff and 808 temporary employees, accounting for 48.50% and 51.50% of the total respectively, as shown in Figure 4-1.

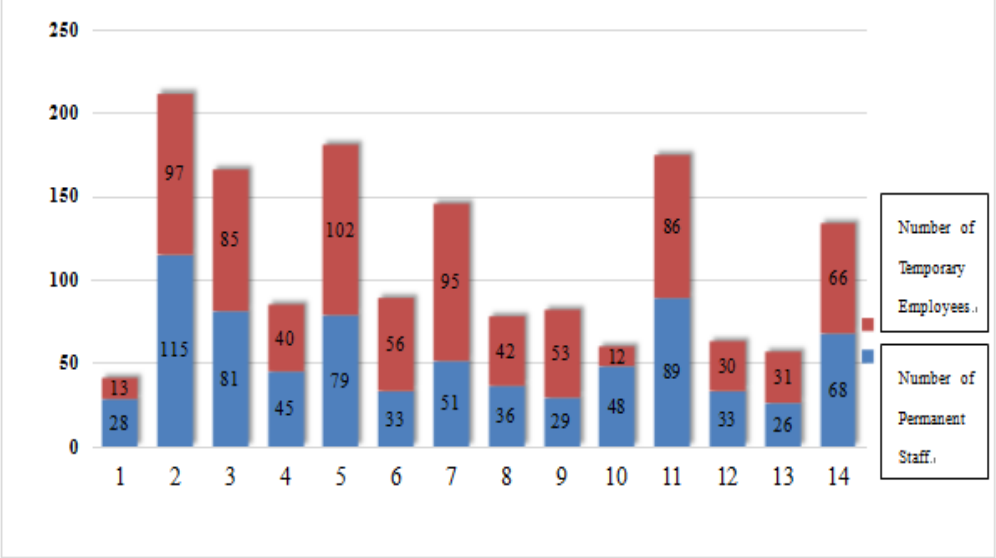


Figure 4-1 The staffing situation of on-the-job staff in community health Service centers in Guangzhou

In terms of role of employees, there are totally 1,236 health technical personnel, accounting for81.81 78.78% of the total number of on-the-job staff. The number of clinicians is 612, accounting for 49.51% of the health technical personnel, including 264 general practitioners, 138 traditional Chinese physicians and 127 public health physicians, as shown in Figure 4-2. There are 380 nurses, accounting for 30.74% of the total number of health technical personnel. The number of medical technicians and the pharmacy staff is 120 and 124 respectively, accounting for 9.71% and 10.03 % of the total health technical personnel respectively. As for the ratio of doctors and nurses, the overall ratio of doctors and nurses is 1:0.62, and there is only one community health center with a ratio of doctors and nurse of more than 1:1, as shown in Table 4-3.

In terms of general practice training, 597 medical staff in the 14 community health centers have participated in the position training of general practitioners, accounting for 46.7% of the total health technical personnel. Among them, there are 306 physicians, accounting for 50.6% of the total number of physicians, and there are 291 nurses, accounting for 76.6% of the total number of nurses. The number of staff who have participated in the standardized training of general practitioners is 30, accounting for 2.3% of the total number of health technical personnel. The number of Attending Physician of General Medicine is 56, accounting for 11.4% of the total number of general practitioners, as shown in Table 4-4.

Figure 4-2 Occupational types of clinicians in community health centers in Guangzhou

Table 4-3 Allocation of human resources in community health service centers in Guangzhou

Unit Code	Total Number	Health Technical Personnel					Managerial Personnel	Labor Personnel
		Clinicians	Nursing Staff	Medical Technicians	Pharmacy Staff	Other Technicians		
1	37	23	10	2	2	2	1	1
2	142	65	50	5	22	26	29	15
3	132	66	39	12	15	16	6	12
4	70	45	15	3	7	4	2	9
5	142	79	35	6	22	6	17	16
6	64	43	14	3	4	5	6	14
7	117	47	45	14	11	7	5	17
8	60	34	15	2	9	8	2	8
9	68	20	8	32	8	6	4	4
10	47	27	18	0	2	2	5	6
11	149	63	60	9	17	10	3	13
12	47	16	20	11	0	0	8	8
13	48	21	15	9	3	0	4	5
14	113	63	36	12	2	4	6	11
The Total	1,236	612	380	120	124	96	98	139

Table 4-4 Training of general practitioners in community health centers in Guangzhou

Unit Code	Number of Participants in the Position Training of General Practitioners			Number of Staff Participating in the Standardized Training	Number of Attending Physicians of General Medicine
	Total Number	Physicians	Nurses		
1	20	10	10	1	3
2	89	46	43	3	0
3	56	26	30	5	3
4	31	16	15	0	0
5	63	35	28	1	5
6	23	13	10	1	10
7	63	22	41	1	12
8	29	16	13	1	2
9	16	8	8	8	8
10	20	10	10	2	2
11	109	62	47	3	0
12	27	14	13	2	3
13	15	8	7	1	2
14	36	20	16	1	6
The Total	597	306	291	30	56

4.2 Cognition of medical staff in Guangzhou community health service centers

4.2.1 Basic situation of human resources

This survey involved 14 community health service centers in 5 districts of Guangzhou, and a total of 328 medical staff in these centers were surveyed.

Among the 328 respondents, the proportion of males and females is 23.78% and 76.22% respectively, indicating that the number of female staff far outweighs that of males; in terms of age structure, their age mainly ranges from 25 to 54 years old, of which the respondents aging from 25 to 34 accounts for 50.91%; that from 35 to 44 takes up 25.00%, and those from 45 to 54 occupies 12.80%; in the respect of educational level and structure, respondents are mainly at the level of undergraduate and junior college, of whom undergraduates accounts for 65.85% and junior college graduates 22.56%; the proportion of those who obtained the first degree of the full-time general higher education and full-time general secondary professional schools takes up 47.26% and 45.12% respectively; as for the professional title and structure,

respondents with the primary and intermediate titles are of great majority, accounting for 53.66% and 29.88% respectively; regarding the majors, respondents of nursing major are of the largest proportion, accounting for 31.4% and respondents majoring in public health come second, taking up 21.04%, which are followed by those of Western medicine and traditional Chinese medicine, accounting for 17.38% and 14.33% respectively.

Among the 328 respondents, the proportion of those participating in work for 5 to 10 years is the highest, taking up 33.23% and followed by the proportion of those working for less than 5 years, which is 27.74%; and the proportion of those working in the same center for less than 5 years is the highest, accounting for 64.63%, and this is followed by those working from 5 to 10 years, which is 19.51%.

In terms of job types, the proportion of clinical work is the highest, registering at 30.79%; the proportion of nursing work and public health work ranks the second and third, which is 28.66% and 20.73% respectively, as shown in details in Table 4-5.

Table 4-5 Human resources demographics of Guangzhou community health service centers

Items		Frequency	%	Items		Frequency	%
Gender	Male	78	23.78	Professiona	Senior title	1	0.30%
	Female	250	76.22	l Title	Vice-senior	15	4.57%
Age	Below 25	31	9.45%		Intermediate	98	29.88%
	25-34	167	50.91		Primary title	176	53.66%
	35-44	82	25.00		Without any	38	11.59%
	45-54	42	12.80	Working	Less than 5	91	27.74%
	55-59	4	1.22%	Years	5 to 10 years	109	33.23%
	60 and above	2	0.61%		11 to 15	43	13.11%
Educational	Junior High	0	0.00%		16 to 20	36	10.98%
Background	School and below				years		
	Senior High	2	0.61%		More than	49	14.94%
	Secondary	22	6.71%	Length of	Less than 5	212	64.63%
	Secondary	74	22.56	Service in	5 to 10 years	64	19.51%
	Undergraduate	216	65.85	Current	11 to 15	18	5.49%
	Postgraduate	13	3.96%	Unit	16 to 20	8	2.44%
	Doctor	1	0.30%		More than	26	7.93%
First Degree	Full-time	148	45.12	Job Type	Clinical	101	30.79%
	Full-time	155	47.26		Nursing	94	28.66%
	Adult	25	7.62%		Pharmacy	11	3.35%

Major	Nursing	103	31.40	Imaging	5	1.52%
	Public Health	69	21.04	Laboratory	8	2.44%
	Western Medicine	57	17.38 %	Managemen t	29	8.84%
	Traditional	47	14.33	Logistics	11	3.35%
	Management	16	4.88%	Public Health	68	20.73%
	Pharmacy	15	4.57%	Others	1	0.30%
	Medical	12	3.66%			
	Others	4	1.22%			
	Oral Cavity	3	0.91%			
	Information	2	0.61%			

4.2.2 Personnel recruitment conditions

(1) Implementation of the Employment System

According to the survey results, the work units of 81.71% of the respondents have implemented the employment system, of which 57.32% are satisfied with their units' employment system, 22.56% are generally satisfied, and only 1.83% are dissatisfied. Details can be seen in Table 4-6.

Table 4-6 Implementation of the employment system in Guangzhou community health service centers

Items	Choices	Number	Proportion
Whether the center has implemented the employment system or not			
	Yes	268	81.71%
	No	9	2.74%
	Not clear	51	15.55%
Whether they are satisfied with the employment system or not			
	Very satisfied	54	20.15%
	Comparatively satisfied	134	50.00%
	Generally satisfied	74	27.61%
	Unsatisfied	6	2.24%
	Rather unsatisfied	0	0.00%
	Total	268	100.00%

(2) Channels for personnel recruitment and evaluation methods

The survey results show that the application for posts is the most important recruitment method, accounting for 74.70%, and the proportion of acquaintances' recommendation and talent introduction into the current center is 9.15% and 4.27% respectively. interview as well as

knowledge and skills test are the most frequently used methods to survey respondents' experience, accounting for 88.41% and 55.18% respectively, shown in Table 4-7.

Table 4-7 Channels of employment and evaluation methods of community health service centers in Guangzhou

Items	Choices	Number	Proportion
Channels of entering the current center			
	Application for the post	245	74.70%
	Internal promotion	8	2.44%
	Talent introduction	14	4.27%
	Employment agencies	1	0.30%
	Acquaintances' recommendation	30	9.15%
	Campus recruitment	6	1.83%
	Other channels	24	7.32%
Channels of entering the current center			
	Interview	290	88.41%
	Knowledge and skill test	181	55.18%
	Psychological tests of personality and interest	34	10.37%
	Others	13	3.69%
	Leaderless group discussion	10	3.05%
	Public speeches	9	2.74%

(3) Cognition of one's own competitive advantages in job application

According to the survey results, 56.10% of the respondents believe that professional skills are the most important advantages for them to be recruited by the current center, and their work attitudes and educational background rank the second and third respectively, accounting for 18% and 15% respectively. Details can be seen in Figure 4-3.

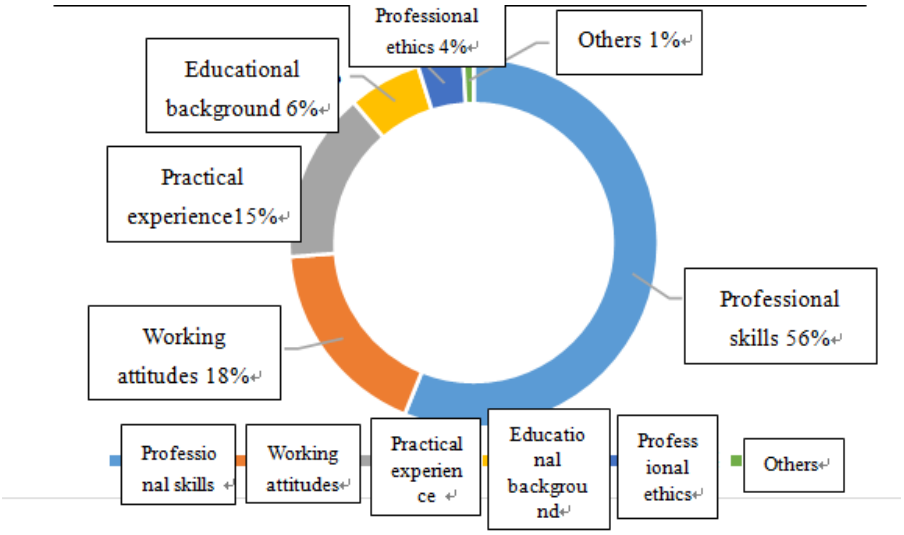


Figure 4-3 Cognition of advantages in entering into Guangzhou community health service centers

4.2.3 Personnel training and development

(1) Participation in training activities in the past three years

According to the survey results, the proportion of respondents who have received training for more than 10 times since 2016 is the highest, which is 36.89%; the proportion of those who received training for 6 to 10 times and 3 to 5 times is 24.70% and 22.56% respectively. Details can be seen from Table 4-8.

(2) Forms of training activities

The survey results display that the internship at relevant posts, the visits to various departments, and the study of written materials are the top three pre-job training forms with the highest proportion among respondents, accounting for 58.23%, 54.88% and 51.52% respectively.

Table 4-8 Training situation in the past three years in Guangzhou community health service centers

Items	Choices	Number	Proportion
Times of training received since 2016			
	0 time	16	4.88%
	l-2 times	36	10.98%
	3-5 times	74	22.56%
	6-10 times	81	24.70%
	Over 10 times	121	36.89%

According to the survey results, the internal training (including lectures, seminars, etc.) are the primary training activity participated by the respondents, accounting for 80.49%; the

proportion of those who go to other medical centers at the higher level or the same level for further study and those who participate in short-term training courses for less than 3 months ranks the second and third among all forms of training activities, with participation ratios of 38.41% and 33.54% respectively.

The survey results show that the training activities of the respondents are biased towards professional theoretical knowledge and professional practice competence, and the participation ratios are 83.84% and 81.40% respectively, as shown in Table 4-9.

Table 4-9 Training forms and preferred contents of community health service centers in Guangzhou

Items	Choices	Frequency	Percentage
Pre-job training forms			
	Internship on relevant posts	191	58.23%
	Visits to medical departments	180	54.88%
	Learning of written materials	169	51.52%
	Participation in training classes	153	46.65%
	Explanation of department functions by health center leaders and department heads	144	43.90%
	No pre-job training	7	2.13%
	Others	1	0.30%
In-service training forms			
	Internal training including lectures and seminar	264	80.49%
	Further study in higher-level or same-level medical centers	126	38.41%
	Short-term training classes less than three months	110	33.54%
	Academic education	57	17.38%
	Secondment for getting experience	8	2.44%
	Others	5	1.52%
	Further study abroad	3	0.91%
Preferred contents of training activities			
	Professional theoretical knowledge	275	83.84%
	Professional practical ability	267	81.40%
	Professional ethics	136	41.46%
	Management skills	70	21.34%
	Others	9	2.74%

(3) Training satisfaction

The survey results show that 73.13% of the respondents are satisfied with the times of training arranged by their center, and 24.70% are generally satisfied with the times of training arranged. Regarding the training contents, 73.48% of the respondents express satisfaction, while 25.30% express general satisfaction. Details can be seen from Table 4-10.

(4) Demands for training contents

The survey results show that the most desired training contents include professional practice competence, professional theoretical knowledge, and management skills. And they respectively account for 57%, 17% and 17%, as shown in Figure 4-4.

Table 4-10 Satisfaction of training in community health service centers of Guangzhou

Items	Choices	Number	Proportion
The satisfaction degree of the training contents arranged by the centers			
	Very satisfied	77	23.48%
	Comparatively satisfied	164	50.00%
	Generally satisfied	83	25.30%
	Unsatisfied	4	1.22%
	Rather unsatisfied	0	0.00%
The satisfaction degree of times of training arranged by the centers			
	Very satisfied	76	23.17%
	Comparatively satisfied	164	50.00%
	Generally satisfied	81	24.70%
	Unsatisfied	5	1.52%
	Rather unsatisfied	2	0.61%

Figure 4-4 Demands for training contents of Guangzhou community health service centers

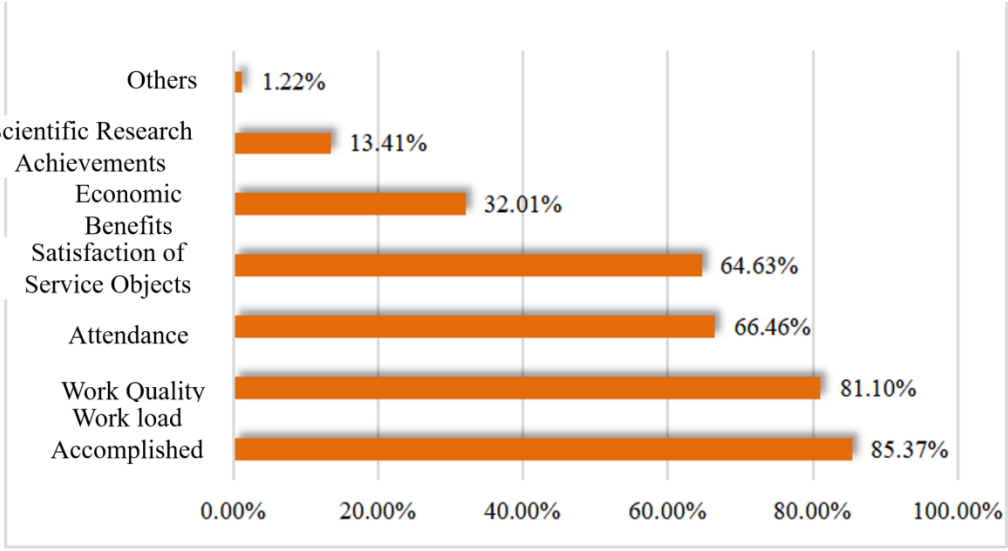
4.2.4 Personnel performance management

(1) Major indicators of performance evaluation

The survey results show that the completed workload and work quality are the major assessment criteria for the performance evaluation of the centers, accounting for 85.37% and

81.10% respectively; the attendance and service objects' satisfaction ranks the third and fourth, taking up 66.46% and 64.63% respectively, as shown in Figure 4-5.

Figure 4-5 Performance appraisal indicators of community health service centers in Guangzhou



(2) Basis and methods of rewarding

Table 4-11 Basis and methods of rewarding in community health service centers in Guangzhou

Items	Choices	Frequency	Percentage
Major basis of rewarding			
	Appraisal results	140	42.68%
	Attendance	38	11.59%
	Work completion	129	39.33%
	Praise of service objects	19	5.79%
	Others	2	0.61%
Motivating factors mobilizing work enthusiasm of employees			
	Income increase	295	89.94%
	Promotion of professional title	158	48.17%
	Good interpersonal relationship	133	40.55%
	Favorable work environment	130	39.63%
	Increase of training and development opportunities	95	28.96%
	Promotion	91	27.74%
	Organizational caring and leader support	89	27.13%
	Others	3	0.91%

The survey results show that the appraisal results are the most important basis for the centers to reward employees, accounting for 42.68%; the workload completion comes second, accounting for 39.33%. Income increase (including bonus and welfare) is considered to be the top incentive to arouse employees' working enthusiasm and the proportion of this choice is

89.94%; the choices of promotion and harmonious interpersonal relationship as well as good working environment rank the second and third, the proportion is 48.17% and 40.55% respectively. Details are shown in Table 4-11.

(3) Basis and methods of punishment

The most important basis for penalizing employees is work liability accidents, accounting for 40.55%; this is followed by violation of rules and regulations, accounting for 38.72%. The most important punishment for employees is the deduction of bonuses or salary, which accounts for 89.94%; this is followed by the usage of warnings, taking up 55.79% as shown in Table 4-12.

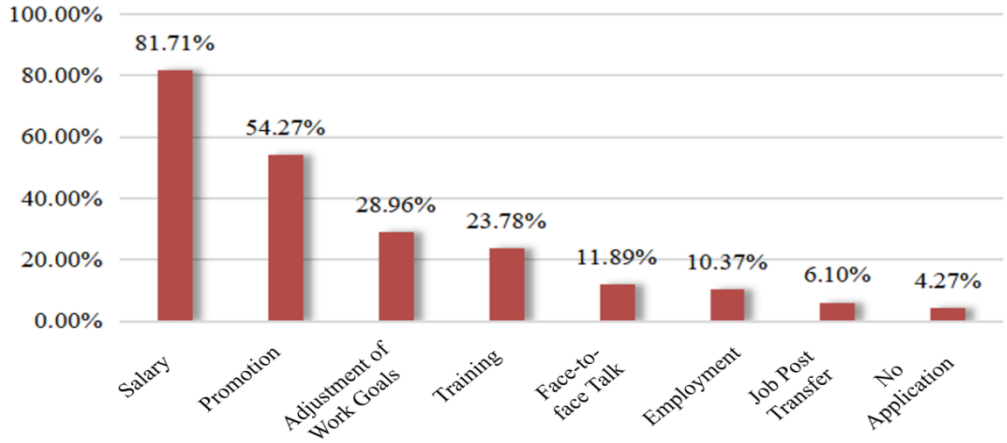
Table 4-12 Basis and methods of punishment in community health service centers in Guangzhou

Items	Choices	Frequency	Percentage
Major basis of punishment			
	Work accidents	133	40.55%
	Absence rate	47	14.33%
	Tense relationship with service objects	15	4.57%
	Colleague contradiction	3	0.91%
	Violation of rules and regulations	127	38.72%
	Others	3	0.91%
Methods of punishment			
	Deduction of bonus or salary	295	89.94%
	Warning	183	55.79%
	Awaiting job assignment or changing job posts	62	18.90%
	Unemployment	26	7.93%
	Others	2	0.61%

(4) Performance appraisal results

The survey results show that salary is the most important method applied to the performance evaluation results by the center, accounting for 81.71%; promotion ranks second, accounting for 54.27%, as shown in Figure 4-6.

Figure 4-6 Major application methods of performance appraisal results in community health service centers in Guangzhou



According to the survey results, 70.43% of the respondents are satisfied with the evaluation procedures performed by their center, and 25.61% express general satisfaction with the evaluation procedures. For the results of the evaluation formed by the center, 70.12% of the respondents express satisfaction, and 26.52% say that they are generally satisfied, as shown in Table 4-13.

Table 4-13 Satisfaction degree of performance appraisal in Guangzhou community health service centers

Items	Choices	Number	Proportion
As for the appraisal procedures performed by the center			
	Very satisfied	52	15.85%
	Comparatively satisfied	179	54.57%
	Generally satisfied	84	25.61%
	Unsatisfied	13	3.96%
	Rather unsatisfied	0	0.00%
As for the appraisal results formed by the center			
	Very satisfied	48	14.63%
	Comparatively satisfied	182	55.49%
	Generally satisfied	87	26.52%
	Unsatisfied	11	3.35%
	Rather unsatisfied	0	0.00%

(5) Difficulties in performance appraisal

The survey results show that the difficulty in quantifying indicators is the biggest problem in the center performance appraisal and the proportion of this choice is 64.94%. The lack of detailed performance appraisal system and the lack of operational evaluation methods rank the second and third, accounting for 47.56% and 35.67% respectively, as shown in Figure 4-7.

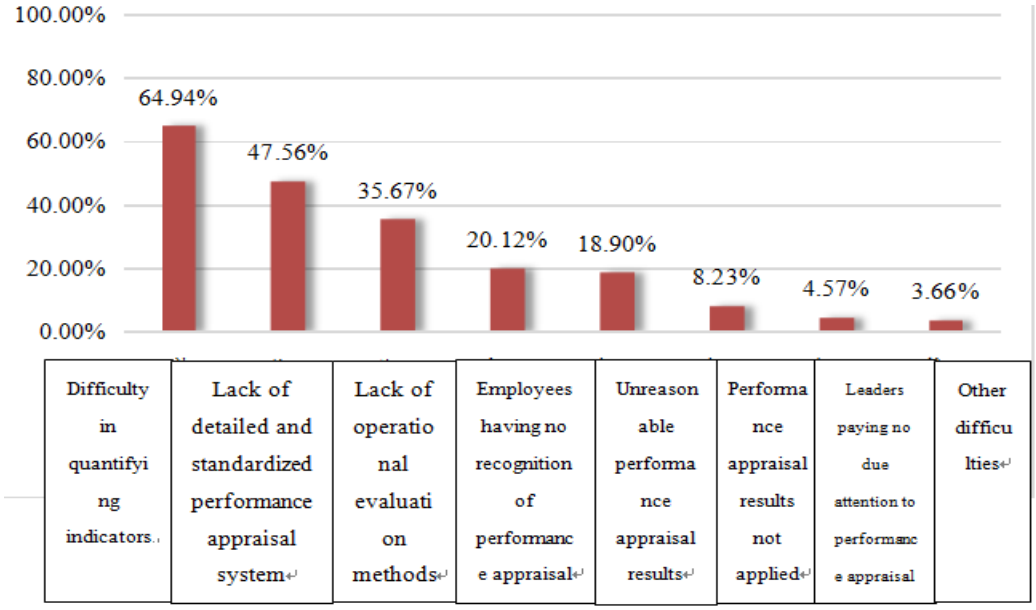


Figure 4-7 Difficulties in performance appraisal of Guangzhou community health service centers

4.2.5 Salary and benefits of medical staff

(1) Satisfaction degree of income

Table 4-14 Satisfaction of employees of Guangzhou community health service centers on their salary

Items	Choices	Number	Proportion
Their salary is at a medium level among the same industry			
	Comparatively higher	8	2.44%
	Above medium level	45	13.72%
	Of the medium level	166	50.61%
	Below medium level	73	22.26%
	Comparatively lower	36	10.98%
Satisfaction degree of their income			
	Very satisfied	11	3.35%
	Comparatively satisfied	80	24.39%
	Generally satisfied	173	52.74%
	Unsatisfied	56	17.07%
	Rather unsatisfied	8	2.44%
Satisfaction degree of the bonus distribution methods of the center			
	Very satisfied	15	4.57%
	Comparatively satisfied	110	33.54%
	Generally satisfied	165	50.30%
	Unsatisfied	33	10.06%
	Rather unsatisfied	5	1.52%

According to the survey results, 86.59% of the respondents believe that the salary offered by their center is at a medium level among that of the same industry and only 2.44% believe that their salary is at a comparatively higher level. The survey results show that only 24.39% of respondents are satisfied with their income, and 52.74% are generally satisfied with their income. For the distribution method of their center's bonus, only 38.11% of the respondents express satisfaction, and 50.30% of them are of average satisfaction degree. Details can be seen in Table 4-14.

(2) Welfare plan of the centers

According to the survey results, the provident fund is the most important welfare plan for the whole center, and the proportion is 75.61%; what follows is paid vacation, accounting for 46.63%; the supplementary medical insurance and supplementary pension insurance rank third and fourth, with proportion of 64.02% and 63.41% respectively, as shown in Figure 4-8.

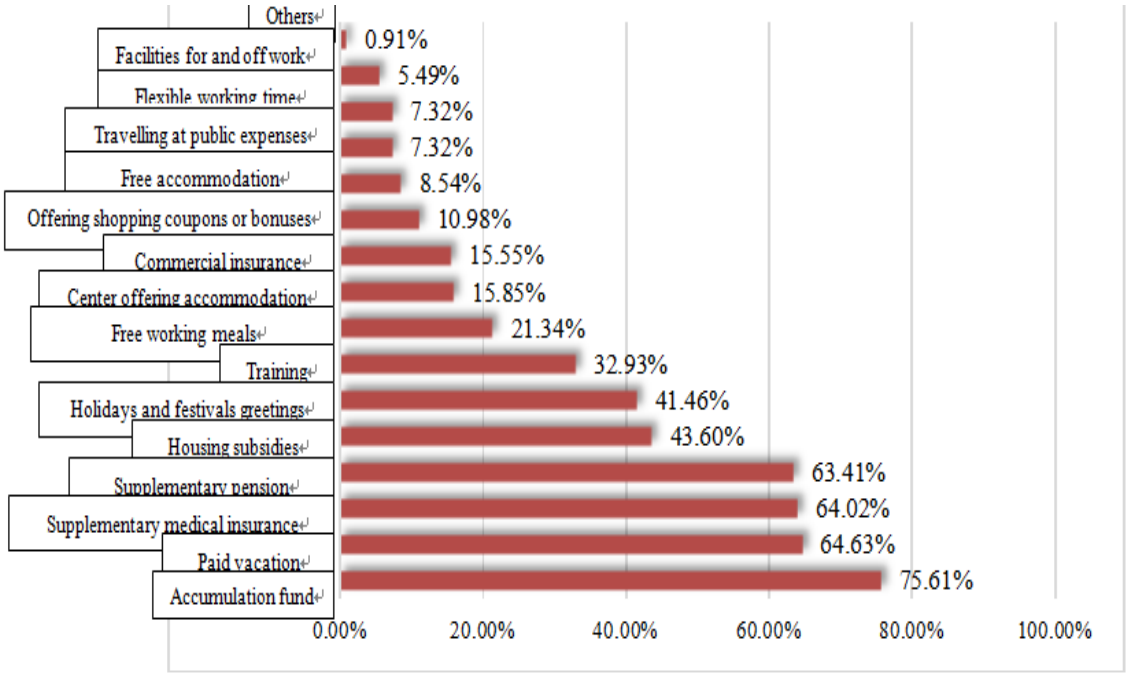


Figure 4-8 Welfare plan for all members of the Guangzhou community health service centers

4.2.6 Personnel flow

(1) Turnover intention and causes

The survey results show that more than half of the respondents express that if there is a better center to choose from, they will consider leaving the current one. The proportion is 57.62%. The survey results show that the top four attractive factors that tempt the respondents to leave the current center are higher income, being conducive to improving professional level

and skills, more comfortable and convenient living conditions and good environment, and a broad career development space. The proportions are 73.48%, 63.41%, 57.93% and 54.88% respectively, as shown in Table 4-15.

Table 4-15 Turnover intention of employees of health community centers in Guangzhou and causes

Items	Choices	Frequency	Percentage
Turnover intention			
	Yes	189	57.62%
	No	139	42.38%
Factors leading to turnover			
	Higher income	241	73.48%
	Enhancement of professional expertise and professional skills	208	63.41%
	More comfortable and convenient living conditions and good living environment	190	57.93%
	Broad career development space	180	54.88%
	Harmonious interpersonal relationship	113	34.45%
	Relaxed work environment	86	26.22%
	Others	6	1.83%

(2) Influencing factors of personnel flow

The survey results show that the primary factor influencing the personnel flow is remuneration packages and living conditions, accounting for 94.21%; while the secondary factor is personal development and self-value actualization, taking up 72.56%. Details can be seen in Figure 4-9.

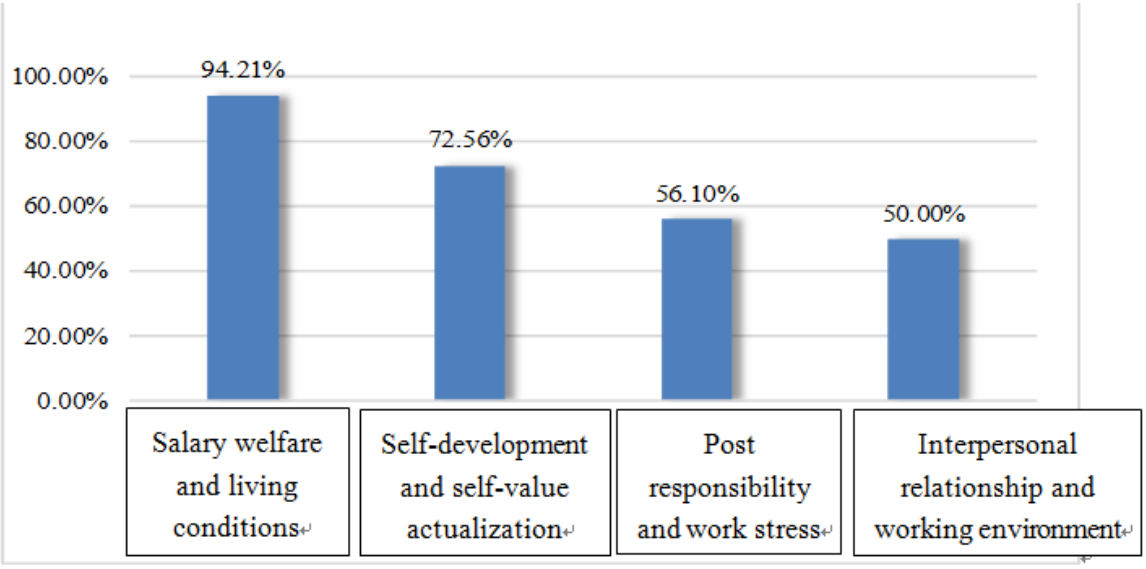


Figure 4-9 Influencing factors of personnel flow in Guangzhou community health service centers

(3) Influencing factors of employees’ satisfaction

Abundant welfare, high salary, career development plan, center’s development prospects and leadership attention are among the top five factors that improve employees’ satisfaction, accounting for 75.61%, 64.63%, 64.02%, 63.41%, and 43.60% respectively. Details can be seen in Table 4-16.

Table 4-16 Influencing factors of employees' satisfaction in Guangzhou community health service centers

Item	Choices	Number	Proportion
Factors of improving employees’ satisfaction			
	Abundant welfare	204	75.61%
	High salary	192	64.63%
	Career development plan	147	64.02%
	Center’s development prospects	124	63.41%
	Leaders’ attention	92	43.60%
	Training opportunities	80	41.46%
	Emphasis on knowledge	78	32.93%
	Learning atmosphere	58	21.34%
	Center’s culture	54	15.85%
	Other factors	0	15.55%

4.2.7 Analysis of the correlation between demographic characteristics and human resource management

This study uses the Pearson correlation coefficient to analyze the correlation between the demographic characteristics of the sample and the human resource planning recognition, satisfaction with training and development, satisfaction with performance management, and satisfaction with salary and welfare. According to Table 4-17, the employees’ recognition of the organization's development goal is significantly correlated with their age, professional title, working years and length of service in the current organization. Employees’ recognition of the fact that the organization will consider the human resource management factors in the formulation of strategy is significantly correlated with age, professional title and working years. The employees’ satisfaction with income is significantly correlated with age, professional title and length of service in the current organization. The employees’ satisfaction with bonus distribution method is significantly correlated with gender, specialty and job category. Educational level and first degree have no significant correlation with employees’ recognition of the organization's development goal, employees’ recognition of the fact that the organization

will consider the human resource management factors in the formulation of strategy, employees' satisfaction with income, and employees' satisfaction with bonus distribution method. All demographic characteristics have no significant correlation with employees' satisfaction with training contents, satisfaction with amount of training, satisfaction with performance evaluation procedures, and satisfaction with performance evaluation results.

4.2.8 Results of difference analysis of human resources management in demographic characteristics

(1) Homogeneity of variance test results

Table 4-18 shows that the distribution of recognition of the organization's development goal and satisfaction with training contents in the characteristic of age does not satisfy the homogeneity of variance ($P<0.05$), and the other items all satisfy the homogeneity of variance.

(2) F-test results

This study adopts One-Way ANOVA to analyze the differences between human resource planning awareness, satisfaction with training and development, satisfaction with performance management, and satisfaction with salary and welfare. Table 4-19 shows that the difference between the employees' recognition of the organization's development goal in terms of professional title, working years and the length of service in the current organization is statistically significant ($P<0.05$); the difference of employees' recognition that human resource management factors will be considered in the strategy formulation in terms of age is statistically significant ($P<0.05$); the difference of employees' satisfaction with performance evaluation procedures in terms of age and job category is statistically significant ($P<0.05$); the difference of employees' satisfaction with performance evaluation results in terms of job category is statistically significant ($P<0.05$); the difference of employees' satisfaction with income in terms of age, specialty, professional title, working years and job category is statistically significant ($P<0.05$); the difference of employees' satisfaction with bonus distribution method in terms of gender, age, specialty, and job category is statistically significant ($P<0.05$). There is no significant difference between the training contents and satisfaction with amount of training in terms of all the demographic characteristics ($P>0.05$).

Table 4-17 The correlation between the demographic characteristics and the human resource planning recognition, satisfaction with training and development, satisfaction with performance management, and satisfaction with salary and welfare

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.Gender	1																
2.Age	0.011	1															
3.Educational level	-.178**	-0.082	1														
4.Specialty	0.052	-.189**	0.032	1													
5.Professional title	0.011	-.495**	-.199**	.242**	1												
6.Working years	0.107	.850**	-.209**	-.189**	-.471**	1											
7.Length of service in the current organization	0.049	.556**	-.187**	-.151**	-.337**	.645**	1										
8.Job category	0.087	-.160**	-0.022	.819**	.223**	-.154**	-.161**	1									
9.First degree	-.245**	-0.02	.140*	.156**	0.077	-.166**	-0.105	.149**	1								
10.Recognition of the organization's development goal	0.078	-.120*	-0.085	-0.013	.186**	-.136*	-.115*	0.015	-0.034	1							
11.Recognition of the strategies formulated by the organization	0.062	-.146**	-0.08	-0.037	.129*	-.125*	-0.066	-0.022	-0.048	.314**	1						
12.Satisfaction with training contents	0.042	-0.049	-0.044	-0.042	0.074	-0.049	-0.045	-0.064	-0.032	.373**	.459**	1					
13.Satisfaction with amount of training	0.009	-0.052	-0.028	-0.021	0.07	-0.04	-0.092	-0.044	0.057	.281**	.447**	.847**	1				
14.Satisfaction with performance evaluation procedures	0.047	-0.07	-0.021	-0.082	0.058	-0.037	-0.053	-0.085	-0.022	.335**	.451**	.654**	.654**	1			

15.Satisfaction with performance evaluation results	0.035	-0.069	-0.046	-0.078	0.053	-0.009	-0.026	-0.095	-0.021	.335**	.461**	.632**	.639**	.922**	1	
16.Satisfaction with income	-0.001	-.145**	-0.05	-0.043	.171**	-0.097	-.135*	-0.108	-0.044	.374**	.319**	.424**	.422**	.473**	.494**	1
17.Satisfaction with bonus distribution method	.111*	-0.083	-0.072	-.116*	0.091	-0.016	0.008	-.179**	-0.047	.352**	.404**	.521**	.481**	.577**	.582**	.695**	1

Notes: Pearson. N=381. **. P is significantly correlated on the 0.01 level (2-tailed);*. P is significantly correlated on the 0.05 level (2-tailed).

Table 4-18 Homogeneity of variance test results

Variable	Gender	Age	Educational Level	Specialty	Professional Title	Working Years	Length of Service in the Current Organization	Job Category	First Degree
Recognition of the organization's development goal	0.471	0.036	0.104	0.445	0.095	0.392	0.392	0.432	0.492
Recognition of the strategies formulated by the organization	0.424	0.867	0.176	0.698	0.654	0.279	0.279	0.798	0.963
Satisfaction with training contents	0.281	0.018	0.192	0.108	0.789	0.214	0.214	0.419	0.134
Satisfaction with amount of training	0.755	0.100	0.547	0.273	0.901	0.556	0.556	0.441	0.782
Satisfaction with performance evaluation procedures	0.466	0.432	0.155	0.921	0.337	0.082	0.082	0.405	0.962
Satisfaction with performance evaluation results	0.178	0.599	0.047	0.764	0.428	0.34	0.34	0.08	0.481
Satisfaction with income	0.194	0.891	0.566	0.818	0.028	0.216	0.216	0.982	0.597
Satisfaction with bonus distribution method	0.235	0.999	0.826	0.136	0.026	0.300	0.300	0.296	0.838

Table 4-19 F-test results

Demographic Characteristics	Category	N	Recognition of the organization's development goal		Recognition of the strategies formulated by the organization		Satisfaction with training contents		Satisfaction with amount of training		Satisfaction with performance evaluation procedures		Satisfaction with performance evaluation results		Satisfaction with income		Satisfaction with bonus distribution method	
			F VALUE	Significance	F VALUE	Significance	F VALUE	Significance	F VALUE	Significance	F VALUE	Significance	F VALUE	Significance	F VALUE	Significance	F VALUE	Significance
Gender	Male	78	2.005	0.158	1.278	0.259	0.587	0.444	0.028	0.867	0.71	0.4	0.403	0.526	0	0.983	4.068	0.045*
	Female	250																
Age	Below 25 years old	31	3.305	0.011*	2.849	0.024*	1.51	0.199	1.444	0.219	2.648	0.033*	1.826	0.123	4.334	0.002*	3.069	0.017*
	25-34 years old	167																
	35-44 years old	82																
	45-54 years old	42																
	Over 55 years old	6																
Educational level	High school and below	2	0.849	0.495	0.625	0.645	1.106	0.354	0.917	0.454	0.263	0.902	0.609	0.657	0.405	0.805	0.646	0.63
	technical secondary school	22																
	Junior college	74																
	Undergraduate	216																
	Graduate	14																
Specialty	Clinical specialty	107	1.655	0.16	2.021	0.091	1.226	0.3	0.464	0.762	2.096	0.081	1.77	0.135	3.6	0.007*	6.813	0.001*
	Nursing specialty	103																
	Medical technology specialty	27																

	Public health specialty	69																
	Other specialties	22																
Professional title	Senior professional title	16	4.029	0.008*	2.589	0.053	0.996	0.395	0.771	0.511	0.855	0.465	1.103	0.348	4.898	0.002*	2.197	0.088
	Intermediate professional title	98																
	Primary professional title	176																
	No professional title	38																
Working years	Below 5 years	91	5.681	0.001*	1.414	0.229	1.523	0.195	1.577	0.18	1.603	0.173	1.07	0.372	3.066	0.017*	0.169	0.954
	5-10 years	109																
	11-15 years	43																
	16-20 years	36																
	Over 20 years	49																
Length of service in the current organization	Below 5 years	212	2.506	0.042*	0.901	0.464	0.705	0.589	1.635	0.165	1.037	0.388	0.785	0.536	1.676	0.155	0.136	0.969
	5-10 years	64																
	11-15 years	18																
	16-20 years	8																
	Over 20 years	26																
Job category	Clinical work	101	2.216	0.067	1.608	0.172	1.795	0.129	0.89	0.47	2.808	0.026*	3.123	0.015*	5.067	0.001*	9.518	0.001*
	Nursing work	94																
	Medical technology work	24																
	Public health work	68																

	Other work	41																
First degree	Full-time general technical secondary school	148	0.198	0.821	0.743	0.477	0.265	0.767	0.767	0.465	0.096	0.909	0.176	0.839	0.326	0.722	2.151	0.118
	Full-time general higher education	155																
	Adult education	25																

(3) Multiple comparisons test results

Gender

Table 4-20 shows that the mean difference of satisfaction with bonus distribution method between male and female employees is 0.20, and the P value is 0.045, indicating that male employees have significantly lower satisfaction with bonus distribution method than female employees.

Table 4-20 Multiple comparisons test results on gender

Dependent Variable	Analytical Method	(I) Gender	(J) Gender	Mean Difference (I-J)	Significance
Satisfaction with bonus distribution method	-	Male	Female	0.20*	0.045

Notes: Significance level of mean difference is 0.05

Age

Table 4-21 shows that in terms of recognition of the strategies formulated by the organization, the mean differences between the employees aged below 25 years old and those aged 25-34 years old and 35-44 years old are 0.48 and 0.30 respectively, and the P values are 0.007 and 0.009 respectively, indicating that compared with employees aged 35-44 years old, those aged below 25 years old and 25-34 years old have higher recognition of the strategies formulated by the organization.

In terms of satisfaction with performance evaluation procedures, the mean differences between employees aged below 25 years old and those aged 25-34 years old, 35-44 years old, and 55 years old and above are 0.37, 0.43, 0.68 respectively, and the P values are 0.010, 0.005, and 0.037 respectively, indicating that employees aged 25-34 years old, 35-44 years old, and over 55 years old have lower satisfaction with performance evaluation procedures compared with those aged below 25 years old.

Table 4-21 Multiple comparisons test results on age

Dependent Variable	Analytical Method	(I) Age	(J) Age	Mean Difference (I-J)	Significance
Recognition of the strategies formulated by the organization	LSD	Below 25 years old	35-44 years old	0.48*	0.007
		25-34 years old	35-44 years old	0.30*	0.009
		35-44 years old	Below 25 years old	-0.48*	0.007
			25-34 years old	-0.20*	0.009
Satisfaction with performance evaluation procedures	LSD	Below 25 years old	25-34 years old	0.37*	0.010
			35-44 years old	0.43*	0.005
			Over 55 years old	0.68*	0.037
		25-34 years old	Below 25 years old	-0.37*	0.010
		35-44 years old	Below 25 years old	-0.43*	0.005
		Over 55 years old	Below 25 years old	-0.68*	0.037
Satisfaction with income	LSD	Below 25 years old	35-44 years old	0.38*	0.022
			Over 55 years old	1.33*	0.001
		25-34 years old	Over 55 years old	1.11*	0.001
		35-44 years old	Below 25 years old	-0.38*	0.022
			Over 55 years old	0.95*	0.005
		45-54 years old	Over 55 years old	1.12*	0.001
		Over 55 years old	Below 25 years old	-1.33*	0.001
			25-34 years old	-1.12*	0.001
			35-44 years old	-0.95*	0.005

			45-54 years old	-1.12*	0.001
Satisfaction with bonus distribution method	LSD	Below 25 years old	Over 55 years old	1.04*	0.002
		25-34 years old	Over 55 years old	0.89*	0.005
		35-44 years old	Over 55 years old	0.76*	0.018
		45-54 years old	Over 55 years old	1.00*	0.003
		Over 55 years old	Below 25 years old	-1.04*	0.002
			25-34 years old	-0.89*	0.005
			35-44 years old	-0.76*	0.018
			45-54 years old	-1.00*	0.003

Notes: Significance level of mean difference is 0.05

In terms of satisfaction with income, the mean differences between employees aged below 25 years old, 25-34 years old, 35-44 years old, and 45-54 years old and those aged 55 years old and above are 1.33, 1.12, 0.95, and 1.12 respectively, and the P values are 0.001. 0.001, 0.005, 0.001, indicating that compared with employees aged 55 years old, those aged 25-34 years old, 35-44 years old, and 45-54 years old have higher satisfaction with income; the mean difference of employees aged below 25 years old and those aged 35-44 years old is 0.38, and the P value is 0.022, which indicates that employees aged 35-44 years old have lower satisfaction with income compared with those aged below 25 years old.

In terms of satisfaction with bonus distribution method, the mean differences between the employees aged below 25 years old, 25-34 years old, 35-44 years old, 45-54 years old and those aged 55 years old and above are 1.04, 0.89, 0.76, and 1.00 respectively, and the P values are 0.002, 0.005, 0.018, and 0.003, indicating that employees aged below 25 years old, 25-34 years old, 35-44 years old, and 45-54 years old have higher satisfaction with bonus distribution methods than those aged 55 years old and above.

Educational level

Table 4-22 shows that in terms of satisfaction with income, the mean differences between employees graduating from high school and below, junior college, university, post-graduate programs and those graduating from technical secondary school are -0.33, -0.40, -0.25, -0.50 respectively, and the P values are 0.002, 0.021, 0.041, and 0.007 respectively, indicating that compared with employees graduating from technical secondary school, those graduating from high school and below, junior college, university and post-graduate programs have lower satisfaction with income.

In terms of satisfaction with bonus distribution method, the mean differences between employees graduating high school and below, junior college, university, and post-graduate programs and those graduating from technical secondary school are -0.31, -0.59, -0.28, and -0.73 respectively, and the P values are 0.003, 0.001, 0.016, and 0.001 respectively, indicating that employees graduating from high school and below, junior college, university and post-graduate programs have lower satisfaction with bonus distribution method compared with those graduating from technical secondary school; the mean differences between employees graduating from high school and below and university and those graduating from post-graduate programs are 0.43 and 0.45 respectively, and the P values are 0.001 and 0.013 respectively, indicating that the employees graduating from high school and below and university have higher satisfaction with bonus distribution method than those graduating from post-graduate

programs.

Professional title

Table 4-23 shows that in terms of recognition of the organization's development goal, the mean differences between the employees with senior and intermediate professional titles and those with no professional title are -0.52 and -0.45, and the P values are 0.033 and 0.004 respectively, indicating that compared with employees with no professional title, those with senior and intermediate professional titles have lower recognition of the organization's development goal; the mean differences between those with intermediate professional title and primary professional title is -0.26, indicating that compared with employees with intermediate professional title, those with primary professional title have higher recognition of the organization's development goal.

In terms of satisfaction with income, the mean differences between employees with senior and intermediate professional titles and those with junior professional title are -0.54 and -0.32, and the P values are 0.009 and 0.002 respectively, indicating that employees with senior, intermediate and primary professional titles have lower satisfaction with income.

Working years

Table 4-24 shows that in terms of recognition of the organization's development goal, the mean differences between employees who have worked for less than 5 years and those who have worked for 5-10 years, 11-15 years, 16-20 years, and 20 years or more are 0.47, 0.56, 0.37, and 0.38, and the P values are 0.001, 0.001, 0.019, and 0.007 respectively, indicating that compared with employees who have worked for less than 5 years, those who have worked for 5-10 years, 11-15 years, 16-20 years, and 20 years or more have lower recognition of the organization's development goal.

In terms of satisfaction with income, the mean difference between employees who have worked for less than 5 years and those who have worked for 11-15 years and 20 years or more are 0.39 and 0.33 respectively, and the P values are 0.008 and 0.019 respectively, indicating that compared with employees who have worked for less than 5 years, those who have worked for 11-15 years and more than 20 years have lower satisfaction with income; the mean differences between employees who have worked for 16-20 years and those who have worked for 11-15 years and 20 years or more are 0.44 and 0.38, and the P values are 0.015 and 0.031 respectively, indicating that compared with the employees who have worked for 16-20 years, those who have worked for 11-15 years and more than 20 years have lower satisfaction with income.

Length of service in the current organization

Table 4-25 shows that in the recognition of the organization's development goal, the mean difference between the employees working in the organization for less than 5 years and 5-10 years is 0.33, and the P value is 0.005, which means that compared with the employees who work in the organization for 5 years or less, those working for 5-10 years have lower recognition of the organization's development goal.

Job category

According to Table 4-26, in terms of satisfaction with performance evaluation procedures, the mean differences between employees doing clinical work, nursing work, public health work and other work are 0.28, 0.40, and 0.35 respectively, and the P values are 0.042, 0.004, and 0.016 respectively, indicating that compared with employees doing other work, those doing clinical work, nursing work, and public health work have higher satisfaction with performance evaluation procedures. The mean difference of employees doing nursing work and medical technology work is 0.34, and the P value is 0.004, indicating that compared with employees doing nursing work, those doing medical technology work have lower satisfaction with performance evaluation procedures.

Table 4-22 Multiple comparisons test results on educational level

Dependent Variable	Analytical Method	(I) Educational Level	(J) Educational Level	Mean Difference (I-J)	Significance
Satisfaction with income	LSD	High school and below	technical secondary school	-0.33*	0.002
		technical secondary school	High school and below	0.33*	0.002
			Junior college	0.40*	0.021
			Bachelor	0.25*	0.041
			Master or doctor	0.50*	0.007
		Junior college	technical secondary school	-0.40*	0.021
		Bachelor	technical secondary school	-0.25*	0.041
		Master or doctor	technical secondary school	-0.50*	0.007
Satisfaction with bonus distribution method	LSD	High school and below	technical secondary school	-0.31*	0.003
			Master or doctor	0.43*	0.015
		technical secondary school	High school and below	0.31*	0.003
			Junior college	0.59*	0.001
			Bachelor	0.28*	0.016
			Master or doctor	0.73*	0.001
		Junior college	technical secondary school	-0.59*	0.001
		Bachelor	technical secondary school	-0.28*	0.016
			Master or doctor	0.45*	0.013
		Master or doctor	High school and below	-0.43*	0.015
			technical secondary school	-0.73*	0.001
			Bachelor	-0.45*	0.013

Table 4-23 Multiple comparisons test results on professional title

Dependent Variable	Analytical Method	(I) Professional Title1	(J) Professional Title1	Mean Difference (I-J)	Significance
Recognition of the organization's development goal	LSD	Senior professional title	No professional title	-0.52*	0.033
		Intermediate professional title	Primary professional title	-0.26*	0.012
			No professional title	-0.45*	0.004
		Primary professional title	Intermediate professional title	0.26*	0.012
		No professional title	Senior professional title	0.52*	0.033
			Intermediate professional title	0.45*	0.004
Satisfaction with income	LSD	Senior professional title	Primary professional title	-0.54*	0.009
		Intermediate professional title	Primary professional title	-0.32*	0.002
		Primary professional title	Senior professional title	0.54*	0.009
			Intermediate professional title	0.32*	0.002

Notes: Significance level of mean difference is 0.05

Table 4-24 Multiple comparisons test results on working years

Dependent Variable	Analytical Method	(I) Working Years	(J) Working Years	Mean Difference (I-J)	Significance
Recognition of the organization's development goal	LSD	Less than 5 years	5-10 years	0.47*	0.001
			11-15 years	0.56*	0.001
			16-20 years	0.37*	0.019
			Over 20 years	0.38*	0.007
		5-10 years	Less than 5 years	-0.47*	0.001
		11-15 years	Less than 5 years	-0.56*	0.001
		16-20 years	Less than 5 years	-0.37*	0.019
		Over 20 years	Less than 5 years	-0.38*	0.007
Satisfaction with income	LSD	Less than 5 years	11-15 years	0.39*	0.008
			Over 20 years	0.33*	0.019
		11-15 years	Less than 5 years	-0.39*	0.008
			16-20 years	-0.44*	0.015
		16-20 years	11-15 years	0.44*	0.015
			Over 20 years	0.38*	0.031
		Over 20 years	Less than 5 years	-0.33*	0.019
			16-20 years	-0.38*	0.031

Notes: Significance level of mean difference is 0.05

Table 4-25 Multiple comparisons test results on length of service in the current organization

Dependent Variable	Analytical Method	(I) Length of Service in the Current Organization	(J) Length of Service in the Current Organization	Mean Difference (I-J)	Significance
Recognition of the organization's development goal	LSD	Less than 5 years	5-10 years	0.33*	0.005
		5-10 years	Less than 5 years	-0.33*	0.005

Notes: Significance level of mean difference is 0.05

In terms of satisfaction with performance evaluation results, the mean differences between employees doing clinical work, nursing work, public health work and other work are 0.28, 0.43, and 0.33 respectively, and the P values are 0.036, 0.001, and 0.018 respectively, indicating that compared with employees doing other work, those doing clinical work, nursing work, and public health work have higher satisfaction with performance evaluation results. The mean difference of employees doing nursing work and medical technology work is 0.33, and the P value is 0.042, indicating that compared with employees doing nursing work, those doing medical technology work have lower satisfaction with performance evaluation results.

In terms of satisfaction with income, the mean differences between employees doing clinical work, medical technology work, public health work, other work and nursing work are -0.34, -0.43, -0.30, and -0.60 respectively, and the P values are 0.003, 0.016, 0.017 and 0.001 respectively, indicating that compared with employees doing nursing work, those doing clinical work, medical technology work, public health work, and other work have lower satisfaction with income. As for satisfaction with bonus distribution method, the mean differences between employees doing clinical work, medical technology work, public health work, other work and nursing work are -0.31, -0.63, -0.28 and -0.78 respectively, and the P values are 0.003, 0.016, 0.017 and 0.001, indicating that compared with employees doing nursing work, those doing clinical work, medical technology work, public health work, and other work have lower satisfaction with bonus distribution method. Moreover, the mean differences between employees doing clinical work, medical technology work, public health work and other work are 0.47, 0.78, 0.16 and 0.50 respectively, and the P values are 0.001, 0.410 and 0.001, indicating that compared with employees doing other work, those doing clinical work, medical technology work and public health work have higher satisfaction with bonus distribution method. In addition, the mean differences between employees doing medical technology work and public health work is -0.35 and the P value is 0.048, which indicates that compared with

employees doing public health work, employees doing medical technology work have higher satisfaction with bonus distribution method.

4.3 Human resource management in community health service centers in Guangzhou

4.3.1 Basic situation

A total of 14 key insiders in community health service institutions were interviewed in the investigation. The interviews focused on four aspects including existing talent teams, personnel management, personnel training and general practitioner service teams.

4.3.2 Talent teams

According to the interviews, 64.3% of the key insiders believe that the existing staff in their community health service centers fail to meet human resource requirements. With the implementation of the Healthy China Strategy, the deepening of the policy of hierarchical diagnosis and treatment, and the popularization of family doctor contract services, community health service centers not only undertake basic medical services and public health services for community residents, but also need to offer them a whole range of health management services including education, assessment, intervention, and follow-up visits. Although these centers are basically equipped with general practitioners and public health doctors, they still lack human resources, and their service capacity needs to be further enhanced. As for the heavy workload in community health service centers:

Table 4-26 Multiple comparisons test results on job category

Dependent Variable	Analytical Method	(I) Job Category	(J) Job Category	Mean Difference (I-J)	Significance
Satisfaction with performance evaluation procedures	LSD	Clinical work	Other work	0.28*	0.042
		Nursing work	Medical technology work	0.34*	0.043
			Other work	0.40*	0.004
		Medical technology work	Nursing work	-0.34*	0.043
		Public health work	Other work	0.35*	0.016
		Other work	Clinical work	-0.28*	0.042
			Nursing work	-0.40*	0.004
			Public health work	-0.35*	0.016
Satisfaction with performance evaluation results	LSD	Clinical work	Other work	0.28*	0.036
		Nursing work	Medical technology work	0.33*	0.042
			Other work	0.43*	0.001
		Medical technology work	Nursing work	-0.33*	0.042
		Public health work	Other work	0.33*	0.018
		Other work	Clinical work	-0.28*	0.036
			Nursing work	-0.43*	0.001
			Public health work	-0.33*	0.018
Satisfaction with income	LSD	Clinical work	Nursing work	-0.34*	0.003
		Nursing work	Clinical work	0.34*	0.003
			Medical technology work	0.43*	0.016
			Public health work	0.30*	0.017
			Other work	0.60*	0.001
		Medical technology work	Nursing work	-0.43*	0.016
		Public health work	Nursing work	-0.30*	0.017
		Other work	Nursing work	-0.60*	0.001

Notes: Significance level of mean difference is 0.05

"At present, community hospitals undertake increasingly heavy tasks regarding medical care, family contract doctors, and public health. At the same time, they face many indicators for work and projects, tight deadlines, and intensive inspections. All these factors occupy many human resources." (Key informant A)

"Community health service centers are responsible for a lot of work. Apart from clinical services, we carry out health education and promote public awareness of dengue. As the pattern of family contract doctors becomes popular, we have to do a series of work including health assessment and health management. All of these put a strain on human resources." (Key informant E)

"Community health services currently have 17 lines regarding basic public health (including health supervision and assisted management) while clinicians are responsible for basic medical services and family doctor contract services within and outside their jurisdictions. Although the existing staff in our community meet these requirements in number, but they still cannot handle all of the work." (Ky informant H)

As for the relative personnel shortage in community health centers:

"According to foreign standards, there should be one general practitioner for every 2,000 people. At present, about 74,000 people live in our community with only 14 general practitioners." (Key informant F)

"In terms of the allocation of public health doctors, there should be 1 to 2 doctors for every 10,000 people. At present, about 50,000 people live in our community with 6 public health doctors. Although we can meet the requirement of personnel allocation in number for the time being, we have relatively heavy tasks about managing the public health of 50,000 people." (Key informant K)

"Other functional departments such as rehabilitation department, imaging department, and nurse department, etc. still cannot meet the demand. The quality of recruited nurses may be relatively poor. Besides, we have difficulty in introducing imaging talents due to the insufficient supply in the market." (Key informant N)

78.6% of the key insiders point out that in the face of increasing demand for health services, community health service centers need high-quality general practitioners the most. On the one hand, due to the late start of standardized training for general practitioners, there is insufficient supply of general practitioners. On the other hand, it is difficult to attract general practitioners to work at a grassroots level due to limited authorized strength of public institutions and lack

of promotion channels. As a result, most of the existing general practitioners formerly work as specialists whose quality and ability of health management fail to enable them to be "first goalkeepers" of health.

As for the shortage of general practitioners in amount:

At present, the government encourages the development of general practitioners. However, the number of general practitioners is relatively small as they need to receive standardized training of three years. Therefore, we need to wait. (Key informant B)

As the quota of authorized strength becomes stricter, we cannot hire some workers even they have been promoted. Consequently, it is difficult to motivate them as their treatment cannot be improved. (Key informant E)

Apart from clinical services, we carry out health education and promote public awareness of dengue. As the pattern of family contract doctors becomes popular, we have to do a series of work including health assessment and management. All of these put a strain on human resources. (Key informant N)

As for deficiency of general practitioners in quality:

Most of the general practitioners just receive job-transfer training. Strictly speaking, the ability of our general practitioners is still at a distance from standards such as "5+3" as well as that of general practitioners in the US and Europe. (Key informant G)

General practitioners not only treat patients, but also follow up their patients through WeChat groups and messages. (Key informant I)

In response to the general practitioner resource short board, community health service centers adopt the measures of improving the increment and vitalize the stock:

To deal with the shortcomings, we recruit practitioners through human resource networks apart from open recruitment. (Key informant C)

In terms of introducing talents, we hope to introduce doctors with certificates of standardized general practice training so that they can work directly. (Key informant D)

We send specialists in our hospital outside for training on their weaknesses so that they can meet the standard and work as general practitioners. (Key informant K)

At the same time, we cooperate with Grade A, Class 3 hospitals. We send our doctors to these hospitals for training or invite teachers from these hospitals to give lectures. (Key informant L)

4.3.3 Personnel management

According to the interviews, the personnel in community health service centers consist of in-staff personnel and off-staff personnel. In-staff personnel can be employed only by reaching the threshold set by the government and passing the written examinations and interviews of open recruitment. Off-staff personnel face lower threshold as they only take part in the recruitment of community health service centers. In general, regarding the recruitment of both in-staff and off-staff personnel, doctors must have a bachelor's degree or above while nurses, massagists, and registration toll collectors must graduate from a junior college or above. Apart from educational requirements, professionals must have corresponding professional qualifications.

Generally speaking, doctors must have a bachelor's degree or above while nurses must graduate from a junior college or above. (Key informant A)

Admittance thresholds fall into two aspects. On the one hand, job seekers take part in the open recruitment of the government and the educational requirement is a full-time bachelor's degree. On the other hand, positions for temporary employees and off-staff personnel have relatively lower thresholds. However, clinicians must have a bachelor's degree while other personnel including registration toll collectors and massagists must graduate from a junior college. (Key informant D)

We attach importance to professional titles. Recruited talents in our hospital generally have professional qualifications. (Key informant M)

In terms of promotion channels, 57% of the key insiders' communities set their own mechanisms of promotion and assessments with main indicators including professional skill level, workload, job performance, and medical ethics and style. These mechanisms also refer to factors including performance in continuing education, research project and paper, and team collaboration. In regard to arousing the initiative of the staff, most key insiders agree that reasonable distribution models based on performance effectively motivate the staff.

Our hospital sets an assessment standard that involves factors of all aspects including education background, job performance and workload and we grade the personnel according to the standard. (Key informant C)

We have a standard quantification table to assess and select talents. The table covers medical ethics and style, professional skill and ability, and team collaboration. (Key informant H)

The staff need to pass the national examination first. Then we grade the staff according to their performance and quality assessment (including theory and practice). (Key informant J)

At the same time, key insides point out that the lack of spiritual motivation measures makes it difficult to retain talents. Speaking of personnel turnover, the key insiders indicate that low pay and the need to get authorized strength mainly cause the staff to resign.

The staff leave office mainly because of retirement, family factors and the open recruitment of the government. (Key informant F)

The most important factor lies in treatment. Performance salary raises will make it easier to retain talents. (Key informant I)

The enthusiasm of the staff can be aroused through many ways, and merit pay is an important and effective one. We set a basic workload for the staff and reward those who overfulfill the target. (Key informant K)

4.3.4 Personnel training

The interviews show that current training in community health service centers is mainly targeted at doctors and nurses. The training mainly focuses on general medical knowledge and diagnostic skills in order to cultivate high-quality general practitioner teams so as to offer residents better health services.

The nature of an institution determines key training objects. Our training is mainly targeted at doctors, nurses and other related medical personnel. For other professionals, they need to receive training by themselves according to the requirement of their profession. (Key informant A)

The training, mainly targeted at doctors and nurses, is organized by the health bureau and includes training for backbone staff and standardized training. (Key informant C)

Generally speaking, the training basically focuses on knowledge update and operation skills. (Key informant I)

The training mainly focuses on medical treatment and public health. Regarding medical treatment, the training centers around diagnosis of common diseases and new progress in this area. Regarding public health, we mainly have special training such as that on family doctor contract services. (Key informant K)

71.4% of the key insides say that their health service centers cooperate with other institutions in training. 50% of them say that their centers build close cooperative relationships

with Grade A, Class 3 hospitals.

The form of training mainly consists of training within hospital including lectures, seminars, and case discussion and training outside hospital including further education and standardized training.

Duration of training depends. For example, short-term training lasts half a day, a day, a week, or a month while long-term training such as standardized training lasts three years. (Key informant D)

Duration of training depends on specific training projects. For example, standardized training lasts the longest for three years, job-transfer training lasts about one year, and nursing training lasts 2 to 3 months. (Key informant H)

Although most of the key insiders believe that the current personnel training can basically meet human resource requirements in community health service centers, they also hope there to be a standardized, multi-level, multi-form, and targeted training system to cultivate health technical personnel with higher quality.

Through training, we hope to improve the quality of our medical treatment and the level of our professional skills so as to optimize the service process, reduce the time for residents to seek medical care and improve their medical experience. (Key informant F)

Through training, we hope to improve our level of general practice so that we can train others. Apart from giving treatment, we should know patients' biological and mental health in order to provide residents with quality services. (Key informant J)

At present, the training still fails to meet human resource needs. Though the current training of medical personnel is large in quantity, it is not systematic enough. (Key informant L)

The current training is not systematic but fragmented. (Key informant N)

4.3.5 General practitioner service teams

According to the interviews, 14 community health service centers have built general practitioner service teams. The key insiders believe that to offer residents a full range of health services, general practitioner service teams must be fully equipped with human resources. Apart from general practitioners, nurses, and public health physicians, traditional Chinese medicine practitioners, dietitians, pharmacists, and psychologists also need to provide support for general practitioner service teams. In addition, some key insiders suggest that these teams cooperate

with medical associations to supply residents with better medical resource security.

General practitioner teams made up of general practitioners, nurses, and public health doctors are not comprehensive enough. They should be equipped with more traditional Chinese medicine doctors, dietitians, and psychiatrists to offer residents comprehensive health services. (Key informant B)

It's more reasonable for a team to have fixed members such as family doctors, specialists, community doctors, and public health workers, as well as a pharmacist and a dietitian, if possible. In this way, when general practitioners work on the front lines, they have a strong specialist team as backup. (Key informant G)

As for the operation of general practitioner service teams, the key insiders think that understaffing poses the biggest challenge to general practitioner teams in offering services. Residents' health concept also affects the promotion of services of general practitioner teams.

On the one hand, the lack of funds makes it difficult to improve the treatment of general practitioner service teams. On the other hand, the lack of personnel makes it difficult for a team to serve such a huge population. (Key informant E)

Firstly, there is a shortage of general practitioners as community hospitals have difficulty in recruiting them. Secondly, the lack of funds makes it difficult to improve the treatment of the staff. Thirdly, the lack of personnel makes it difficult for a team to serve such a huge population. Fourthly, some residents don't understand these teams and therefore can't fully accept such pattern. (Key informant H)

At the same time, the key insiders point out that external factor such as existing medical insurance policies and performance support are also key factors that limit general practitioners' services. In terms of the development of general practitioner service teams, the key insiders suggest boosting support from three aspects including supporting policies, talent training and social propaganda.

Firstly, the government should introduce more support policies to improve the treatment of general practitioner service teams so that more talents will be attracted to stay at grassroots health service centers. Secondly, the government should cultivate more general practitioners to meet the current needs. Thirdly, more propaganda should be carried out among residents so that they will accept and trust such teams. (Key informant B)

Policy support is firstly needed such as introducing favorable health care policies and allocation policies. Besides, hospitals themselves should adjust their internal allocation

mechanisms to give more support to teams of family doctors. (Key informant J)

Firstly, related policies are needed to enhance propaganda through ways such as cooperating with the media to make residents fully engaged. Secondly, funds should be ensured. Thirdly, the number of doctors should be improved as the current small amount will cause doctors much work stress if contract services are to be promoted in the whole region. (Key informant M)

4.4 Summary of status quo of human resource management in community health service centers in Guangzhou

4.4.1 Personnel allocation

(1) Insufficient quantity of human resource

The survey shows that human resource in community health service centers in Guangzhou basically satisfy the requirement of Staffing Standards of the City Community Health Service Institution of Guangdong Province (NO.37 (2011) of the Guangdong Office of Public Sectors Reform), namely, the community health service center is equipped with 8 doctors per 10,000 population (permanent resident population), including 2-3 general practitioners, 1 public health doctor, and a certain proportion of Traditional Chinese medicine practitioners; The ratio of general practitioners and nurses meets the basic standard of 1:1. But the interview results show that, with the gradual implementation of hierarchical diagnosis and treatment system and the family doctor signing system, except for the community health service, the community health service center should perform the work of community prevention, community healthcare, community rehabilitation, community family planning and other work related to public health service. Although the current amount of human resource can basically satisfy the needs, it is still hard to provide quality and comprehensive health management service for residents given the low prevalence of information.

(2) Relatively low quality of human resources

The research shows that the human resource structure in the community health center in Guangzhou is unbalanced, which has room for quality improvement. Among health workers, female accounts for 76.44% in the gender structure, showing a serious unbalanced male-to-female ratio. Their academic structure mainly concentrates on undergraduate and specialist with a relatively insufficient talents of higher educational background. As for the professional title

structure, preliminary title accounts for a large proportion with insufficient medium and high-level talents. According to the interview, the scarcest talent in the community health service center is general practitioners. In this investigation results, most of the health practitioners have already received on-the-job training, however, not many of them participate in the standardized training of general practitioners. Also, there are relatively fewer people granted as general medicine attending physician.

4.4.2 Personnel management

(1) The basic implementation of contract employment system

In terms of personnel admittance, the interview results show that the threshold of each community health center is the education background. The major recruitment channel includes open recruitment organized by the government or self-recruitment organized by the health center. The research result shows that most of the respondents in this research get enrolled into the work unit through application. Face-to-face interview and knowledge and skill test are the major way of appraisal for the candidate to be admitted by the work unit. This is in consistent with the interview result with Guangzhou Community Health Service Center through the government's open recruitment of talents. At present, the community health service center basically realizes the contract employment system. This system is widely recognized by employees. There is no doubt that open recruitment system is an important reform of the personnel system of public-sector organizations, which greatly promotes equity of talent recruitment and usage. But the organizer of open recruitment is the government and the community health service center are not entitled to select, resulting in the mismatch of recruited staff and the position. Therefore, the community health service center can only find more suitable talents of the position recruit through self-recruitment. But self-recruitment cannot provide candidates with authorized strength, making it hard to retain talents.

(2) Gradual emphasis on performance management

Based on the interview result, performance management is the most effective measure to mobilize the positivity of workers. Most of the community health service centers establish their individualized performance appraisal mechanism among which the number of completed work, quality of work, attendance and satisfaction level are the main indicators. The major application after gaining performance management results is the adjustment of salary. The research results show that the grade of performance appraisal is the basis for employers to win rewards. In terms of employer's punishment, accident resulted from nonperformance of working duty and

violation of regulations are the basis. Economic measures are the major punishment methods, namely deduction of bonus or salary. Although most of the respondents are satisfied with the performance appraisal procedure and results, they believe that the difficulty to quantify the performance appraisal indicators are the hardest point of performance appraisal in community health service center. Also the present performance appraisal lacks detailed and regulated system for guidance.

4.4.3 Personnel training

The interview result shows that most of the community health service center has already established training cooperation relationship with other Class A Grade 3 (top level) hospitals. Given the fact of ever-heavier work of community health service and insufficient health practitioners, general practitioners and community nurse are the key personnel receiving training from community health service center with the aim of updating general medicine knowledge and enhancing service skills through training so as to provide better health management service for local residents. In terms of the training form, pre-job employment mainly lies in job probation of related positions and touring around each department in the work unit. On-the-job training after entry takes the form of lectures organized by the work unit or seminar training. But in the past three years, employees receive relatively few trainings. Most of the respondents are satisfied with the training content and frequency, but it is found that even though the quantity of training can temporarily meet the requirement of human resource in the community health service center through the interview with key insiders, the training content falls into monotony with a low speed of knowledge upgrading and fragmented training mode, making it hard to provide more comprehensive, systematic and targeted training so that employees can better serve the community residents.

4.4.4 Personnel turnover

The research result shows that most of the respondents earns medium level salary in the industry. In terms of the allocation of personal income and bonus, their satisfactory is at medium level. As for the turnover intention, more than half of them have such intention and the main reason is to gain higher salary and improve their professional level and skills. Based on the information provided by key insiders, salary and obtaining authorized strength are the main reasons for the flow of personnel. At present, employers of the community service centers consist of people with and without authorized strength. For those with authorized strength, they

can enjoy a "lifelong secured job" and benefits provided by government finance. For those temporarily hired people, they can only enjoy salary based on the contract signed with the work unit. Except for the large discrepancies of salaries and benefits, authorized strength pertains to whether personnel can get professional title and promotion. These can affect the income level and improvement of professional skills. This survey shows that there are a large number of people hired temporarily by the community service center in Guangzhou. In order to get higher salary, better life condition and personal development and realize personal value, most of the temporarily hired personnel choose to leave the existing work unit through open recruitment organized by the government.

Chapter 5: Analysis of the Human Resources Management Problems of Community Health Service Institutions

5.1 Policy factors

5.1.1 Backward management policies

5.1.1.1 Inefficient recruitment system

At present, the community health service centers in Guangzhou recruit staff mainly through open recruitment organized by the government. The specific unit in charge of the open recruitment is the health management department of the district where the community health service center operates and the recruitment is basically held once a year. Since the personnel recruited through governmental open recruitment are budgeted staff, they must be reviewed by the human resources and social security management department. However, as it is often difficult for the human resources and social security management departments to understand the actual employment demands of the community health service centers, the staffing plans submitted by the community health service centers are often cut. Besides, the governmental open recruitment is mainly publicized on the official website. Due to insufficient publicity, there is either no applicant or insufficient number of applicants to organize an examination, leading to unsatisfactory recruitment results and low staffing rate. In addition, as the open recruitment exam typically includes unified written test and structured interview, the community health service centers can only select among the candidates passing the exam, making it difficult to recruit the personnel qualified for specialized posts.

5.1.1.2 Lifeless personnel management system

In terms of personnel management system, most of the community health service centers in Guangzhou are currently hosted by the government and its affiliated medical institutions. Most of the units of this type are institutions of public welfare and the staff are managed under the institutions' administration, while some other units manage staff referring to the civil servant management system. As this type of unit is supported by financial funds, the personnel pay is relatively stable. But it also nurtures a notion of taking a "stable job", leading to insufficient work enthusiasm of the staff and inefficient development of human resources.

5.1.2 Insufficient financial investment

5.1.2.1 Untapped value of medical personnel

The investigation results show that the income level of medical personnel in community health service institutions of Guangzhou is relatively low. Most medical personnel believe that their salary is at a medium level in the industry, while only a small percentage of people are satisfactory with their income. The salary of physicians with junior professional titles, the majority of the investigated objects, is only at the average income level in Guangzhou, which downplays the labor value of medical personnel.

5.1.2.2 Disproportionate public health investment

Although the financial investment into community health service centers has increased in recent years, it's still far from meeting the rising needs for public health services. In particular, the group receiving health service has expanded from resident population to both resident and floating population. The costs for medical and health services are continuously increasing, while the public health service fee in Guangzhou has only increased to 60 yuan/ person in 2017. The increase of financial investment fails to cover the growing public health expenditure. Insufficient funds not only led to narrowed emphasis on medical services and ignorance of other services of the "Six in One" community services, but also restricted the salary scope of medical personnel working in community health service centers. After several years of training at the community health service centers, a large number of physicians with junior professional titles tend to hop into large-scale Grade A Class 3 hospitals or other secondary and tertiary hospitals for further study, so it's difficult to retain high-quality talents of the community health service center.

5.1.2.3 Backward hardware facilities

The backward hardware facilities seriously restrict the provision of basic medical services and public health services in community health service centers. Among the 14 community health service centers surveyed, half of them only set clinics due to limitation of medical operation area. At the same time, although most community health service centers are equipped with basic medical equipment, due to the limited funding of community health service centers, they can only obtain the required medical equipment through long-term bidding and procurement by government departments. Thus, the existing medical equipment isn't renewed timely. Even worse, the equipment that is too old to precisely judge the patients' conditions isn't updated, leading to problems such as misdiagnosis caused by blurred X-rays,

affecting the diagnostic and treatment effect and losing patient's trust. This has also led to a low willingness of medical staff to work at the community level, which has made it difficult to introduce quality medical personnel.

5.2 Institution management factors

5.2.1 Lack of human resource planning

As the starting point of human resources management, human resource planning mainly includes recruitment and cultivation of personnel. In other words, each community health service center predicts the structure, quantity and basic quality of personnel needed in the future by analyzing existing human resources, and introduces talents or improve the quality of existing personnel to provide basic medical services and public health services to community residents. However, although the community health service centers have reported the recruitment plan to the health management departments of Guangzhou, due to the "staff-cutting" of the human resource and social security management department and the low salary level, it is difficult to recruit popular professional talents in fields such as medical images, medical tests, public health doctors and pediatricians. Even if the academic degree requirement is lowered to "college or above", there are still few applicants for these posts. In addition, as the community health service work in China starts late, community health service centers are mostly converted from small primary and secondary hospitals in the district. Most of the medical staff at the community health service center are basically transferred from hospitals. Their inherent service concept and professional knowledge can hardly work for the "Six in One" function of community health services, so it is necessary to carry out corresponding training. However, most of the existing continuing education is to retrain specialized medical knowledge required for large hospitals. Due to little training for community health service models, monotonous training content, slow knowledge update, fragmented training mode, low staff coverage and small number of trainees, it is difficult to effectively improve the public health management capabilities of the medical staff. At present, there is only one official and systematic full-time training, which is Standardized Training for General Practitioners in Guangzhou, with a training period of 3 years. However, due to the shortage of personnel, the technicians in the community health service center have few training opportunities to participate in full-time systematic training and they can only participate in short-term training such as public health special training and management seminars lasting a few days. In addition, due to the lack of financial support for

such training, the community health service centers have to select some doctors to attend training in higher-level hospitals subject to their own economic conditions, which restricts the training to a certain extent. Due to lower salary and fewer opportunities of title promotion, it is difficult for community health service centers to attract excellent professional and technical personnel and enlarge their talent pool. Besides, the incomplete training system makes it difficult to give full play to the advantages of talents in community health services.

5.2.2 Incomplete performance appraisal mechanism

Performance management is the core of the six modules of human resources management. The survey results show that although most community health service institutions in Guangzhou have established their performance appraisal indicator system and attach importance to the appraisal results, the indicators of the existing appraisal system are difficult to quantify, which remains a difficulty of performance management. The performance appraisal of some community health management centers is still superficial, such as subjectively scoring the medical staff, especially the workload of public health physicians, and voting to evaluate the services provided by medical staff. Instead of faithfully reflecting comprehensive capabilities, such evaluation method will dampen the enthusiasm of the "doers". In addition, although most community health service centers apply the assessment results to salary adjustment, due to the inherent nature of the institution, the salary adjustment is extremely limited, making it difficult to give full play to the incentive effect of performance management. For employees with poor assessment results, especially the budgeted staff of the institution, only punishment measures without direct impact can be applied, which results in low assessment efficiency and little attention to the assessment work. Salary and welfare are designed to motivate people to solve the problem of "retaining personnel". However, in order to maintain stability, some of the heads of community health service centers are not willing to widen the gap in the salary level of employees, resulting in the phenomenon of unjustified equalitarianism, leading to the dysfunction of performance incentive system through salary.

5.3 Personal development factors

5.3.1 Limited development prospects

Medicine is a professional and practical discipline. As a "human health guardian", medical personnel not only need to master lots of professional medical knowledge, diagnosis and

treatment practices, and operation standards, but also should improve their own technical skill under the guidance of experienced seniors and in the practice of diagnosing and treating patients. However, due to the "siphon effect", most high-quality medical resources, including doctor, equipment, and patient, concentrate in large public hospitals, while the grassroots community health service centers enjoy fewer resources. Young medical students find it difficult to obtain medical resources for their career development at the grassroots institutions and then hop into large-scale Grade A Class 3 hospitals or other secondary and tertiary hospitals. According to relevant survey results, only 20.9% are general medical students who choose to work in the community health service center because of the major, while 22.8% clinical medical students choose to work in the grassroots level due to high employment thresholds in large hospitals and low work pressure working at community health service centers (Zhou & Wang, 2010). In the survey on the willingness of working in community health service center, 23.4% of the respondents were reluctant to work at the grassroots level due to low salary, and 24.2% were reluctant because they can't achieve their personal value, which is a more common reason (Lu, 2013). According to the community health service model abroad, the primary medical institutions are the main force to provide basic medical services. The general practitioners are the "health gatekeepers", who are access to various types of cases and can gain much more medical knowledge and experience to improve their own techniques. However, because the medical insurance system in China is incomplete, patients can go directly to higher-level hospitals for medical treatment and enjoy preferential medical insurance policies. As a result, community health service centers only receive fewer and less complicated cases, so most medical students think it is difficult to achieve their own personal value at the grassroots level.

5.3.2 Unequal welfare

Although the government regularly recruits talents for community health service centers every year, it is difficult to recruit urgently needed specialized professionals due to the cumbersome and inflexible government work processes. Therefore, some community health service centers will recruit talents that fit their needs through self-employment. According to the survey results, at present, the number of contract-based staff of the community health service center has exceeded budgeted staff, but most of the community health service centers have not offered equal pay for equal work for budgeted and contract-based staff. This is particularly obvious in the gap of purchasing proportion of housing fund between the two kinds of staff. Housing subsidies and the "two subsidies" are not given to the contract-based staff. The family planning awards, full attendance awards and other awards are not offered by all

community health service centers. In terms of retirement benefits, the contract-based staff can only enjoy the social charity and pension, without institutional subsidy. The unequal welfare is mainly attributed to the identity of staff. Most contract-based staff are rejected by the governmental open recruitment threshold due to academic qualifications or age, leaving the problem of identity unsolved. This problem affects the work enthusiasm of the contract-based staff, resulting in the difficulty of giving full play to the overall effectiveness of the human resources.

5.3.3 Room for improvement in human resource management satisfaction, and differences in satisfaction with different population characteristics

The satisfaction survey is a good tool for judging organizational management and an important channel for employees to participate in management. Through the analysis of the satisfaction survey results, managers can find out the problems in their hospitals' human resource management, so as to improve the human resource management system, and promote the continuous improvement of satisfaction. It is found that there are differences in the satisfaction of human resources management among different genders, ages, education levels, job titles, working years, and job categories. To be specific, male employees are significantly less satisfied with the bonus distribution system than female employees, probably because men have higher expectations on salary than women. Compared with employees under the age of 25, employees aged from 25 to 34, 35 to 44 as well as employees aged over 55 are less satisfied with the performance appraisal procedure. Compared with employees over the age of 55, employees under the age of 25, and those aged from 25 to 34, 35 to 44 and 45 to 54 are more satisfied with their incomes and bonus distribution methods. On the one hand, new employees get lower income and performance appraisal, so they have less satisfaction with it, which indicates that performance appraisal might be more related to seniority. On the other hand, it may because senior employees have become the essential business and technical participants of the unit with higher income, stable work and a stronger sense of belonging to the unit, so they gain more satisfaction. However, the income and bonus distribution of employees who are close to retire needs further improvement. In terms of academic qualifications, employees with higher education have lower satisfaction with their incomes and the bonus distribution. Chances are high-educated hospital staff have high work pressure and high work expectation, which leads to dissatisfaction with the salary distribution system of their hospitals. In the light of job title, compared with employees with senior title, employees with intermediate title and primary

title are less satisfied with their incomes. In the light of length of service, employees who have worked for 11-15 years or more than 20 years are less satisfied with their incomes than those who have worked for less than 5 years, and this is because new employees cherish their job opportunities with low expectations, thus they get more satisfaction. In terms of job categories, clinical workers, nursing workers and public health workers are more satisfied with the performance appraisal procedure than other workers of hospitals. Compared with employees doing nursing work, employees doing clinical work, medical technology work, public health work and other work have lower satisfaction with their incomes and bonus distribution methods. The results show that the clinical medical staff have a higher sense of professional achievement and they are knowledge workers who have a higher satisfaction with their incomes and relevant distribution methods. At present, there are still some community health service centers that allocate salary according to seniority, which cannot reflect the technical content and job risk differences of the posts. As a result, medical staff are dissatisfied with human resources management because they believe that they do not receive the deserved work return and the job is below their expectation. In this case, hospital administrators need to give a full play of human resources management in salary design, and to actively explore a fair, reasonable and scientific salary system.

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Chapter 6: Policy Suggestions for Human Resources Management in Community Health Service Institutions

Human resources are the prioritized element in providing and developing community health service (CHS) and the key to a developed CHS is the appropriate allocation and application of human resources in the community. In order to develop the "Six in One" functions of prevention, health protection, medical treatment, rehabilitation, health education, and technical guidance of family planning within the network of community medical and health services, so as to provide high-quality primary medical services and public healthcare services for the community residents, which would relieve the difficulty and high cost of seeking medical treatment, this thesis would start from six modules relevant to human resources management, i.e. human resources planning, recruitment and allocation, training and development, performance appraisal, payment management, and labor relations management and provide targeted countermeasures and suggestions to optimize management on human resources of community health services, which would effectively improve the service capacity and service level of community health services.

6.1 Carry forward the deepening reform in healthcare system

In order to establish a complete medical and healthcare services network in the community and promote the development of healthcare talents in the community, governments of all levels should improve the supporting policies and implementation of community health services as soon as possible, including increasing financial investment, establishing complete hierarchical diagnosis and treatment mechanism, and deepening the reform in personnel management system.

6.1.1 Increase financial investment

Community health service centers are the main providers for the community residents in primary medical services, public healthcare services, and health management services. However, at present, because of the serious shortage in healthcare funds at the primary level, the centers can only earn income by providing medical services and have to decrease their

providing of other services, which would limit the actual functioning of the "Six in One" medical functions. Moreover, the shortage in funds is not only related to the salaries and welfares of staff in the community health service centers, which would decline the motivation of the employees, but also relevant to the construction of community healthcare training system, which would make it difficult to improve the quality and competence of the present staff in the community health service centers. Therefore, it is recommended that governments of all levels should increase their investment in the funds of community health services and establish a sound fund investment mechanism for community health services such as raising the standard of funds input of public healthcare services including average investment in prevention and health protection according to the price level. Moreover, it is suggested that the governments can set up funds for healthcare training in the community, so as to guarantee the improvement of service capability of community health service staff. Furthermore, the governments can actively explore to establish a sound, systematic, and reasonable management and control mechanism of revenue and expenditures of community health services, which could provide financial support for the normal function of community health service institutions and salary as well as welfare for the in-service staff.

6.1.2 Establish complete hierarchical diagnosis and treatment mechanism

Community health service centers are the starting point and goal of the hierarchical diagnosis and treatment system. However, to truly realize the functions of the centers as the "doorkeeper of health", the support remains required from supporting policies of medical insurance and the cooperative model among central and local medical institutions. A reasonable medical insurance system can to the largest extent guide the patients to seek medical treatment and would promote the patients to return to medical institutions of the primary level, which could relieve the difficulty and high cost of seeking medical treatment. On the one hand, this requires the management department of medical insurance, based on the reality in China, to regulate feasible policies of reimbursement for medical insurance to improve the rate of patients seeking medical treatment first in primary medical institutions. For example, in the new policies of medical insurance released in 2015, it is regulated that patients are required to appoint a community health service center as the first-visiting spot before they are accessible to the reimbursement of medical insurances in the hospitals of the second and third grade as the later-visiting spots. Moreover, patients can be reimbursed 80% of their medical expenses in their primary first-visiting spot while they can only be reimbursed 45% of medical expenses in the

clinic section of the large hospitals without being transferred from the first-visiting spots and they would get another 10%, i.e. 55% of their medical expenses in the large hospitals if they are transferred from the primary first-visiting spots. The releasing of this policy has greatly increased patient motivation to seek medical treatment in the medical institutions of the primary level. On the other hand, the management department of medical insurance is also required to actively explore new types of payment methods for medical insurance, so as to promote the joint cooperation of medical institutions of different levels and set up a joint collaborative model of medical services with clear division and smooth interaction. For example, the establishment of "green channel" of two-way referral would enable community residents to be prioritized in three services, i.e. the outpatient service, the appointment for checkups, and the arrangement in hospital beds, which would provide vigorous support and backup of specialized medical services in community health service centers.

6.1.3 Deepen the reform in personnel management system

At present, there are problems caused by the present system of personnel management in primary medical services institutions including the differentiated salaries and welfare systems of staff of the budgeted posts or contracted posts and the channels of title promotion of staff at the primary service institutions, which have severely blown the motivation of staff in the community health services. Therefore, it is recommended to vigorously promote the equal salary and welfare for equal work regardless of the budgeted posts and try to establish an employee mechanism provided by the government to supplement the defect that some employees cannot obtain the welfare of the budgeted posts by open recruitment of government because of reasons such as educational background and age while continuing to improve the title evaluation and appraisal mechanism of community health service staff. For example, the title promotion of general practitioners can enjoy preferential policies such as a shorter year limit and a looser condition requirement, which could help to clear and open the channel of title promotion of community health service staff. Moreover, it is advised to continue to vigorously promote multi-site practices of physicians and encourage to peg the title promotion of medical staff from hospitals of a higher level against the time they work in the medical institutions of the primary level, so as to inspire the talents to be promoted to a senior title in large hospitals to provide services in medical institutions of the primary level, which would improve the service capacity of community health services.

6.2 Make reasonable plans for human resources

Human resources planning is the starting point of human resources management, which refers to a series of measures worked out to keep human resources of required quality and necessary quantity in the institution in a stable manner, which would help to realize the goal of the institution. In this way, the number of personnel required corresponds with the number of personnel recruited in the future development of the institution. Therefore, in order to improve the service capacity of community health service centers, the medical personnel have to be allocated systematically based on the actual workload and the technical level of the personnel, so as to satisfy the demands of community residents for primary medical services and public healthcare services.

6.2.1 Improve the quality of general practitioners

General practitioners as the hard-core of community health services are required to be skillful at their techniques. However, with a late development of the education of general medicine in China, there is a limited number in medical students and physicians who are systematically educated in general medicine. Therefore, it is recommended to supplement the present situation of shortage in quantity and incompetence in quality of general practitioners by increasing new physicians and fully applying the existing physicians in the system. By increasing new physicians, it is required to take full advantage of the teaching resources in medical professional institutions to increase efficiency in school management and improve the educational quality. For example, it is suggested to establish full-time education for general medicine in the undergraduate and college education, on-spot continuous learning, and postgraduate educational system, so as to realize a complete development of general medicine education. Moreover, in fully applying the existing physicians in the system, it is suggested to continuously improve the on-job training and further education of general practitioners as well as relevant training of general medicine for administrators, which could develop the quality of general medicine services. Furthermore, in the process of practice education, it is suggested to dispatch trained general practitioners to work on the outpatient of general medicine and fully train the talents of general medicine on the spot by hospital beds at home and a shift at the emergency department. In this way, community residents can take full advantage of community healthcare resources through general practitioners, which not only guarantee the income of the general practitioners but also improve their "practicability".

6.2.2 Increase the number of nurses in the community

Community health service centers are primary healthcare institutions integrating services including prevention, healthcare, medical treatment, rehabilitation, health education, and technical guidance of family planning, which requires that instead of just taking the individual patients or their families as the serving subjects, community nurses need to serve the whole population in the community. The main responsibility of community nurses is to take the population as a whole, applying methods including health promotion, health maintenance, and health education, and provide coordinated and continuous caring for individuals, families, and groups in the community, and keep the residents in a healthy state. However, at present, the nursing personnel in community health service institutions in Guangzhou are generally with inadequate educational background, which makes it difficult for them to satisfy the growing demands of the people for caring services. Considering the status quo of a small number and low quality of caring personnel in communities, it is recommended that colleges and universities add a subsidiary major of community caring to cultivate professional staff for community caring, which could increase the number of competent community caring staff. Moreover, in view of the status quo that the present caring personnel with inadequate educational background, it is suggested to focus on recruiting community nurses with the degree of college or above and with experience in caring at the primary level into community health service centers. Furthermore, it is recommended to openly recruit talents from the resigned caring personnel to provide services for the community.

6.2.3 Increase the number of talents in public healthcare

Providing public healthcare services is one of the significant functions of community health service institutions. However, the health concept of prioritizing medical treatment while overlooking prevention has existed for a long time, which has gradually been given attention and improved after the epidemic of SARS in 2003 but has not been completely changed. With the development of society with the aging population and the changes in disease spectrum, public healthcare and preventive medicine play a more decisive role. Therefore, it is recommended that we have to strengthen the efforts to develop the team of prevention and health protection and recruit professional talents in public healthcare with various ways and multiple channels. Moreover, it is suggested to guide talents majoring in preventive medicine in colleges and universities to work in community and train as well as improve the working conditions of the in-service staff of prevention and health protection, increase their salary and

welfare, so as to enhance the stability of their job, which could guarantee the human resources for the principle of predominating prevention in the healthcare industry.

6.2.4 Supplement medical technical staff in the focused diseases

In 2015, after the new policies of medical insurance have been implemented, the population assigned in the community healthcare services centers has increased 30% on a year-on-year basis. The Hospital Bed at Home service promoted by the new policies not only provides better caring services for patients with chronic diseases, but also saves the medical expenses, which results in a continuous growth in the demands of the service. This kind of service goes deep into the family and serves what is appropriate to the occasion, which provides convenience for the patients and their families but also in the meantime substantially increases the workload of the medical teams of the community. Although the teams carrying their work cells on call with them to visit the patients at their homes and make a round of visits, it is hard for the team to satisfy the service demands of the patients. Moreover, the majority of patients of the Hospital Bed at Home service are elders with chronic diseases who have difficulties getting about, such as a patient with cerebral infarction, rehabilitation therapy is also one of the key services providing for the patients. However, there is a severe shortage of rehabilitation therapists equipped to the community. Therefore, it is suggested to moderately decrease the recruitment conditions of the medical technical staff of focused diseases such as rehabilitation therapists and whenever there are needs, the team of general medicine should be completed to satisfy the growing demands of the community residents for healthcare services.

6.3 Optimize the recruitment model of medical talents into the community

6.3.1 Introduce competent medical technique talents

Community healthcare talents are the prerequisite of providing healthcare services in the community and competent community healthcare talents are significant guarantee for the quality of community healthcare services. Therefore, the educational background and title of the candidates should be strictly checked in recruitment. In terms of physicians, attending physicians are required to hold a master degree or above while residents should have a bachelor degree or above. In para-professional posts such as caring personnel and pharmacists are allowed to only hold a degree of junior college or above. However, after being on board for a certain period of time, they are required to work with licenses such as community nurses. As

for talents in great shortage such as medical imaging, medical detection, and rehabilitation therapy, the candidates can be evaluated with a lower standard in educational background and title. Moreover, a supporting system of preferential policies should be established to introduce talents, including shortening the fixed number of years for qualification test for community health service staff, the time limit for post-employment, and reduce conditions in points-based application system for household registration, so as to continuously improve the quality of staff in community health services, which would promote the on-going growth of service capability of community health service centers.

6.3.2 Rehire excellent retired staff

Medical industry is knowledge-technology-intensive and an excellent doctor needs to accumulate practice through large amounts of diagnosis and treatment of patients to improve their technical skills. At present, a majority of retired medical staff in the medical industry are not only the first batch of university students after the reform and opening up with rigorous academic attitude and honest medical ethics as well as medical morals, but also, more importantly, they have accumulated rich experience in clinical practice, which makes them treasure of the field of medical healthcare services. At present, with the status quo of the inadequate general practitioners in community health service centers, these retired medical staff are precious potential treasures of human resources. Therefore, it is suggested that by granting a certain amount of post allowance and festival allowance for the retired talents, retired medical staff of attending physicians or above should be rehired to serve the community healthcare services.

6.3.3 Encourage physicians to practice on multiple sites of the primary level

With the promotion of the policy of physicians' multi-sited practice, more and more physicians, especially those with intermediate or senior titles, no longer practice only on one site. Meanwhile, community health service centers are in great shortage of this kind of physicians of high quality for reasons such as salary and welfare as well as promotion. Therefore, it is recommended to establish a joint mechanism between physician service at the primary level and the title promotion, improve the flow mechanism of medical insurance of the upper level and the lower level, and regulate corresponding policies of compensation incentives to guide physicians to serve in community health service centers, which would improve the centers' service capacity to provide the "Six in One" functions for the community residents.

6.4 Construct systematic talent training development systems

Personnel training and development refer to organizations' efforts, through learning, training and guiding, to improve employees' work capabilities and intellectual levels, give play to their potentials, match their personal quality with their job demands to the maximum extent, and raise their work performance. As a result, the sound systems for community health service personnel training can not only maximize the utilization of human resources in the communities but also improve employees' sense of work value and working enthusiasm so that they provide better services for community health work.

6.4.1 Improve the educational systems for general practice medical training

6.4.1.1 Establish scientific and systematic training systems

At present, there are insufficient medical graduates majoring in general practice and therefore the general practitioners in the health service centers in Guangzhou are mainly clinicians who have received the job-transfer training. As such training is featured by short training time and excessive training contents, it is difficult for clinicians to fully learn and master the knowledge of general practice. Health technicians who are employed through open recruitment are required to participate in the three-year general practitioner standardized training that is organized by Guangzhou Municipal Health and Family Planning Commission. Although this training is relatively scientific and systematic, it lasts for a long time and does not have relevant financial support. Consequently, in order to reduce training cost, a great majority of community health service centers recruit external staff to meet the community health service demands. Therefore, it is suggested to establish improved training systems from the following aspects: firstly, expanding the scope of training participants, including general practitioners, community nurses, and community administers, and providing corresponding training periods and training contents for different participants. Secondly, offering diversified training forms. Besides face-to-fact theoretical lecturing, the practice training should also be carried out during the process of community health services. Thirdly, improving the training evaluation mechanisms. A dynamic evaluation should be conducted for such training as general practitioner job-transfer training, general practitioner standardized training and community nurse training. And the evaluation contents should include theoretical knowledge and practical operation, aiming to cultivate high-quality general practitioners for communities.

6.4.1.2 Set up special financial security for the training

The insufficient training funds serve as a key reason for the lack of enthusiasm to participate in general practitioner training in community health centers. Therefore, it is suggested that governments at all levels should set up special training funds for community health service centers, implement the principle of "special funds for special needs", formulate annual financial plans and allocate funds regularly so as to expand the coverage of training. In addition, the priority of enjoying training funds should be given to those professionals in great demands. More training and rewards should be provided for those professional posts that have remained vacant for many years. And sound development platforms as well as promotion opportunities should be provided to attract excellent medical talents to join in the community health service teams.

6.4.1.3 Jointly cultivate reserve talents for general practice

Based on the status quo of general practitioner shortage, the current job-transfer training in community health service centers is just a "temporary solution". The "fundamental solution" is to increase the supply of medical students majoring in general practice, which requires medical universities and colleges to establish improved training systems for general practitioners, pull more efforts to recruit students majoring in general practice, cooperate with community health service centers, which in turn provide students majoring in general practice with practice bases and teaching bases to cultivate high-quality general practitioners and provide highly qualified talents for community health service undertakings.

6.4.2 Encourage current employees to raise educational levels

Under the situation of insufficient talent supply, it becomes increasingly urgent to make efficient use of current human resource pool in the community health service centers because the comprehensive professional quality of community health human resources can be improved only if the overall educational levels of community health personnel are constantly raised. As a result, educational departments are advised to proactively provide on-the-job academic education and continuing education programs that are suitable to community health service talents while health administrative departments can link the educational levels and training of employees in community health service centers with their incomes by formulating relevant compensation incentive systems to encourage these employees to raise their educational levels and meet the development demands of community health service business. Economically, employees who participate in on-the-job education and professional skill education above the

undergraduate level should be provided with corresponding compensations to raise health personnel's enthusiasm to participate in re-education programs.

6.4.3 Establish long-term training mechanism with "medical alliance" as the bond

The construction of medical alliance is an important measure for the hierarchical diagnosis and treatment policy in the new medical reform. The so-called medical alliance refers to an alliance made up of different levels of medical institutions that carry out extensive and close medical cooperation activities disregarding administrative affiliations. Usually a medical alliance is composed by a regional tertiary hospital with secondary hospitals, township hospitals or community health service centers. It is a key medical initiative that guides the effective sinking of medical resources including medical human resources. Therefore, it is recommended that the government take the lead or encourage regional medical institutions to establish an effective medical alliance. On the one hand, doctors from higher-level medical institutions in the medical alliance are regularly selected to go to the grassroots hospitals for consultation, provide on-the-spot guidance and offer training of community health service technicians to effectively improve community health service ability; on the other hand, there should be preferential policies for the grassroots medical staff to go to higher-level medical institutions for further study so as to continuously optimize the quality of human resources in the community health service centers and establish a community health service human resources team that can meet the health needs of residents.

6.4.4 Optimize training modes with "Internet +"

Shortage of community human resources is the primary problem of human resource development in community service centers, and the single form of training is the key reason for the inefficiency of training. With the development of the Internet and information and communication technologies, "Internet +" has been widely integrated into all walks of life. According to foreign practical experience, "e-Learning", which integrates medical education and information communication technology, can not only provide doctors with fragmented learning opportunities, but offer self-improvement training channels for doctors in various forms. Therefore, it is recommended to encourage and support the development of "Internet + medical education" services, make full use of the advantages of the Internet and information and communication technologies, develop online medical literature database, academic lectures, live operations, develop clinical guides and other doctor gadgets and doctor community for

their exchanges. It is hoped to constantly improve the business capacity and business level of the current community human resources with the lowest time cost.

6.5 Improve scientific performance incentive systems

Performance management is a scientific method for human resource management. Performance evaluation can be adopted to promote the reasonable operation of internal mechanisms of community health service centers, continuously raise the work efficiency of community health service institutions and inspire employees' working enthusiasm and creativity. An effective performance management system includes scientific evaluation indicators, reasonable evaluation standards, compensation and welfare as well as policies of reward and punishment that are linked with the evaluation results. Through performance evaluation, we can objectively evaluate the performance in the past and have reasonable expectations for future performance and thus guide the constant development and improvement of community health services.

6.5.1 Formulate improved performance evaluation systems

As a fundamental unit of performance management, the performance evaluation indicator systems serve as the basis for evaluating employees' working conditions. In order to objectively, accurately and scientifically evaluate employees' work performance, the community health service centers should implement classified evaluations based on different characteristics of posts of professional technologies, management and logistics. The evaluation indicators should include employees' tasks, responsibility, risks, service quantity, service quality, medical ethics, satisfaction of service objects, drug administration structure, average cost per visit, implementation of comprehensive target responsibility and work completion. The performance evaluation should be based on the principle of "distribution according to work and giving priority to efficiency" as well as the salary design of "performance-related pay in the first place and considering post work" so that employees' salary truly reflects the value of such factors as labor, technologies and management. It is suggested that, on the one hand, we should set up a post value coefficient based on the posts' liability risks, technological contents, work environment and professional titles, and on the other hand, we should evaluate employees' work performance according to the quantity and quality of the medical and public health services they have undertaken. What's more, the work performance of individual employees is linked with the performance-related pay and the evaluation and allocation results will be publicized

within the community health centers to ensure the fairness of performance evaluation to the maximum extent.

6.5.2 Construct comprehensive staff incentive mechanism

Improved internal incentive mechanisms in community health service centers should include not only the allocated incentives centering on salary design but also the development incentives that are dominated by training and projects as well as the spiritual incentives that are based on culture and honors. Among these, the development incentives mainly include the opportunities of training and further learning for outstanding employees and the chances of preferential promotion. The spiritual incentives, on the one hand, refers to create a cultural atmosphere where the principle of "distribution according to work and giving priority to efficiency" is implemented in the whole community health service centers, and on the other hand, besides allocated incentives, outstanding employees should be offered with spiritual recognition and rewards such as quarterly or annual commendation so as to fully arouse the working enthusiasm of all employees in community health service centers.

6.5.3 Increase health human resources investment

Health human resources management is the core and power source of the health industry. It is necessary to firmly establish the development awareness of talents as the first resource, implement the strategy of "strengthening health through human resource", improve the investment of health human resources, and enhance the treatment of community health service centers' staff, especially public health staff with lower income and bonus distribution satisfaction. In this way, we may alleviate the difficulty of low salary, hard promotion and entrance as well as hard remaining in office. For example, salaries can be managed in accordance with the standards of civil servants. Health workers' needs for their children education should be met. It is also necessary to increase the standard of subsidies, provide housing security to improve the treatment of community health service centers' staff, improve the working environment and living conditions of grassroots personnel, and strengthen the infrastructure construction of grassroots medical and health institutions.

Chapter 7: Conclusions and Prospects

7.1 Conclusions

This thesis conducts a survey on the status quo of the human resource management of community health service centers in Guangzhou and draws a conclusion on the reasons for the problems in these centers through analysis. At the same time, by learning from the advanced experience and effective measures of human resource management of community health service centers at home and abroad, this thesis puts forward effective countermeasures and suggestions for improving the human resource management of these centers in Guangzhou. Finally, the following conclusions are made:

Firstly, the community health service centers in Guangzhou have such problems as insufficient human resources and poor quality, imperfect talent introduction mechanisms, single and inefficient training development, formalistic performance evaluation, and unsound incentive mechanisms.

Secondly, the main reasons for the problems in the human resource management of community health service centers in Guangzhou lie on several factors: policy environment factors such as backward management policies and insufficient financial investment, organizational management factors such as lack of human resource planning and unsound performance evaluation mechanisms, as well as individual development factors such as limited development prospects and unfair welfare and benefits.

Thirdly, the human resource management of community health service centers in Guangzhou should be improved and promoted from several aspects, including deepening the medical and health system reform, formulating reasonable human resource planning, optimizing the methods of introducing community health talents, constructing systematic training development systems and improving scientific performance salary mechanisms.

7.2 Innovations and limitations

The innovation of this research lies in the fact that, although there are many researches on the human resource management in secondary and tertiary hospitals, only a few studies have

been conducted on the human resource management of community health service centers. This thesis conducts a research on the status quo of allocation and management of human resources of community health service centers in Guangzhou and provides countermeasures and suggestions for giving full play to the efficiency and efficacy of human resources in these centers from the perspective of "six modules" of human resource management, which is of practical significance.

The limitations of this thesis are: At present, the research foundation of human resource management in Chinese community health service institutions is weak, and the data sources are relatively limited. This research analyzes and explores the human resource construction in community health service centers only from the perspective of human resource management and it fails to efficiently combine the theories of Social Psychology and Health Economics to explore the long-term human resource construction mechanisms. What's more, this thesis has not explored the training models for high-quality general practitioners integrating prevention and treatment and who are suitable to local community health services, and it also fails to figure out how to build a highly qualified community health service personnel team within the shortest time. Next, the author will carry out intensive and in-depth studies on the above contents, further expand the sample size, select more cities for empirical investigation, and verify the research results. The author will also analyze the competence elements of general practitioners from the perspective of competence theory, and build models to provide valuable reference for the selection, training and development, and performance management of general practitioners.

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Appendix

Survey on basic conditions of community health service institutions

(Filled in by the Director of the center)

Distinguished leader,

The study is to get the picture of human resource status in community health service institutions in Guangzhou, provide the local health administrative department with advice on human resource allocation and management in community health institutions and promote the development of community health services. We would be very grateful for your truthful filling in the survey.

Thank you for your support and cooperation!

Unit: _____ Community Health Service Center

Address: _____

Postal Code: _____

Your name: _____

Your contact number: _____

Date: _____

Table 1 General Conditions of Community Health Center

Table A Basic conditions of the center

No.	Items	Contents
1	Nature of the center ("√" for the appropriate item)	①Established by government and its affiliated medical institutions ②Established by enterprises and public institutions ③Established by social groups or individuals ④Others
2	Is it an independent legal entity?	①Yes ②No
3	Is the Community Health Service Center the first registered name?	①Yes ②No
4	Is the two lines management mechanism of receipts and expenditures implemented?	①Yes ②No
5	Is the entire-staff appointment system implemented?	①Yes ②No
6	Is the center included as a designated institution for medical insurance?	①No ②Designated institutions for outpatient services ③Designated institutions for inpatient services ④Designated institutions for both outpatient and inpatient services
7	If included, is it a designated institution for urban workers' basic medical insurance?	①Yes ②No
8	If included, is it a designated institution for urban residents' basic medical insurance?	①Yes ②No
9	Number of subsidiaries:	
10	Number of community health service stations	

11	Amount of the center's total fixed asset (unit: RMB 10 thousand)	
12	Floorage of center's business room (square meters):	
13	Floorage of business room of self-owned property (including those provided by the government or groups free of charge)	
14	Floorage of business room of non-self-owned property (rental)	
15	Housing resource of the center	① Free of charge ②self-owned ③rental
16	Is there a traditional Chinese medicine clinic?	①Yes ②No
17	Is there a TCM pharmacy?	①Yes ②No
18	Equipment ("√" for the provided equipment, multiple choices)	①Rehabilitation physical therapy equipment ②electrocardiograph ③glucometer ④biochemical analyzer ⑤Ultrasound B equipment ⑥centrifugal machine ⑦X-ray machine
19	Number of authorized beds	

Table B Population Conditions in the Community Health Service Center

No.	Item	Contents
1	What kind of district is the center located at? ("√" for the appropriate item)	①Street ②Town ③Township
2	Demographic characteristics in the district (as of December 31, 2015)	
3	Number of registered population:	
4	Number of male	
5	Number of female	
6	Number of temporary resident population	
7	Number of people aging 60 or above	
8	Number of children aging 0 to 6	
9	Number of infant aging 0 to 1	
10	Number of pregnant and lying-in woman	
11	Number of live birth	
12	Number of fertile women	
13	Number of mental patients	
14	Number of the disabled	
15	Number of people living on minimum subsistence allowances	

Table 2 Basic Conditions of Human Resource in Community Health Service Institution

Including temporary staff working in the center for one half year or above and staff dispatched to subordinated service stations

No.	Item	Contents				
1	(1) Number of on-post staff in the center (as of December 31, 2015):					
2	Number of permanent staff					
3	Number of temporary staff					
4	Number of health technician					
5	①Number of clinician:					
	Number of general practitioners					
5	Number of doctors of traditional Chinese medicine					
6	Number of public health physician:					
7	Number of male					
	Number of female					
8	②Number of nurses					
9	③Number of medical technician					
10	④Number of pharmacists					
11	Number of other technician					
12	Number of administrative staff					
13	Number of handymen					
14	(2) Education background of on-post staff					
15	①Doctor:	Master degree	Bachelor degree	Junior college degree	Technical secondary school degree	Below technical secondary school degree
16	Newly-added doctor in last three years					
17	②Nurse					

18	(3) Professional title of on-post staff	Senior	Intermediate	Primary	No title
19	(4) Practicing qualification:				
20	Number of medical practitioners				
21	Number of licensed assistant doctors				
22	Number of registered nurses				
23	Number of registered pharmacists				
24	(5) Years of working of on-post staff:				
25	Less than 5 years				
26	5 to 10 years				
27	10 to 15 years				
28	More than 15 years				
29	(6) On-post staff training				
30	Number of staff receiving standardized training of general practitioners				
31	Number of staff receiving general practitioner training				
32	Number of staff receiving community nurse training				
33	Number of staff passing the intermediate technological qualification examination in national general practice				
34	(7) Number of health staff in every 10 thousand people				

Questionnaire of human resource management in community health service centers

(filled in by the staff of community health service center)

Dear sir/madam:

In order to learn about the current situation and existing problems of human resources in community health service centers and put forward suggestions and decisions for the development of human resources in community health service institutions, we carry out this research and hope that we can receive your sincerest opinions and suggestions. Please answer every question of this questionnaire carefully and tick"√" the box which best expresses your opinion. We keep your personal information confidential. Thank you for your support and cooperation.

Region:

Name of the health service center:

Type of the health service center:

I Basis information

1. Gender: a. male b. female
2. Age: a.＜25 b. 25-34 c. 35-44 d. 45-54 e.55-59 f.≥60
3. Education level: a. junior high school or below b. senior high school c. vocational school d. junior college e. undergraduate f. postgraduate g. PhD
4. Major: a. Western medicine b. traditional Chinese medicine c. oral medicine d. nursing e. public health f. pharmacy g. medical laboratory h. management i. information and computer science j. others:
5. Professional title：a. senior b. vice senior c. intermediate d. junior e. none
6. Working years:_____,working in this service center for years
7. Work category: a. clinical b. nursing c. pharmacy d. imaging e. medical laboratory f. management g. logistics h. others:
8. Form of the first academic degree: a. full-time vocational school b. higher education c. adult education (including self-taught examination, the Open University of China, open and distance education and online education)

II Human Resource Planning

9. As for the overall development goal of your company, you:

a. know very well b. know c. generally know d. do not know too much e. do not know

10 Has your company developed a human resources plan?

a. yes b. no c. I don't know

11 Which of the following do you think will help shape the core competencies of your company? (choose three items)

a. human resource strategy b. staffing plan c. work analysis d. work evaluation e. recruitment f. performance management g. salary management h. welfare management i. training j. others:

12. Your company will consider factors in human resource management while making strategies:

a. absolutely yes b. yes c. basically yes d. basically no d. no

III Staff recruitment and hiring

13. Has your company implemented appointment system?

a. yes b. no c. I don't know

If the answer is yes, are you satisfied with the system?

a. satisfied very much b. basically satisfied c. generally satisfied d. just so so e. not satisfied

14. How do you enter the company?

a. recruitment b. internal promotion c. talent introduction d. employment agencies e. acquaintances' recommendation f. campus recruiting g. others:

15. Which of the following evaluation methods did you receive when you were hired by this company? (multiple answers)

a. Professional knowledge and skill testing b. interview c. personality, interests and other psychological tests d. competition speech e. leaderless group discussion f. others:

16. The most important advantage you think that makes you enter this company is: (single answer)

a. professional skill b. educational background c. practice experience d. work attitude e. professional ethics f. others:

IV Training and development

17. As for the training content, you are:

a. satisfied very much b. satisfied c. generally satisfied d. not that satisfied e. not satisfied

18. As for the training frequency, you are:

a. satisfied very much b. satisfied c. generally satisfied d. not that satisfied e. not satisfied

19. How many times of training you have received from January, 2016 to today are:

a. 0 b. 1-2 c. 3-5 d. 6-10 e.≥10

20. Which of the following pre-job training did you receive when you joined the company? (multiple answers)

a. attending training classes b. visiting departments c. being an intern in relevant positions d. learning written information e. listening to the explanation of departments' functions made by leaders and heads of departments f. did not receive any pre-job training g. others:

21. The forms of training you have participated in include: (multiple answers)

a. participating in short-term training courses for less than 3 months

b. academic education c. studying abroad

d. studying in higher-level or other medical centers

e. internal training, including lectures, seminars and etc.

f. taking temporary positions g. others:

22. Focuses of the training you have participated in are: (multiple answers)

a. professional ethics b. professional practice ability c. professional theoretical knowledge d. management skill e. others:

23. Training content you want to receive most in future training is: (single answer)

a. professional ethics b. professional practice ability c. professional theoretical knowledge d. management skill e. others:

V Performance management

24. As for the evaluation procedures of your company, you are:

a. satisfied very much b. satisfied c. generally satisfied d. not that satisfied e. not satisfied

25. As for the evaluation results, you are:

a. satisfied very much b. satisfied c. generally satisfied d. not that satisfied e. not satisfied

26. The major standards when the company is evaluating your work are: (multiple answers)

a. workload b. quality of work c. client satisfaction d. attendance e. economic benefits f. achievements in scientific research g. others:

27. Please select three items that motivate you to work among the work motivation factors listed

below:

a. increasing income including bonuses and other benefits b. promotion c. promotion of professional title d. harmonious interpersonal relationship e. increasing opportunity for training and personal development f. organizational care and leadership support g. good working environment h. others:

28. That employees receive bonuses is mainly based on: (single answer)

a. evaluation result b. attendance c. work result d. clients' praise e. others:

29. That employees receive punishment is mainly based on: (single answer)

a. work accident b. absence c. tension with clients d. conflict with other colleagues e. violation of rules and regulations f. others:

30. The main methods of punishing employees are: (single/multiple answer)

a. being dismissed b. awaiting job assignment or transferring position c. deducting bonuses or salary d. warning e. others:

31. Major difficulties you think that are faced by your company in current performance evaluation are: (choose three items)

a. lack of detailed and normative performance evaluation system b. difficult to quantify indicators c. unfeasibility of the performance evaluation method d. unreasonable performance evaluation result e. Leaders do not care about the performance evaluation. f. Employees do not agree with the performance evaluation. g. Performance evaluation result is not applied. h. others:

32. The performance evaluation results of the employees are mainly applied to: (choose three items)

a. salary b. training c. promotion d. position transfer e. recruitment f. working goal adjustment g. performance interview h. are not applied

VI Salary and welfare management

33. What level do you think your company's salary is in of the same industry?

a. relatively high b. above average c. medium d. slightly below average e. relatively low

34. As for your salary, you are:

a. satisfied very much b. satisfied c. generally satisfied d. not that satisfied e. not satisfied

35. As for the method of allocating bonuses, you are:

a. satisfied very much b. satisfied c. generally satisfied d. not that satisfied e. not satisfied

36. If there is a better company that needs someone like you, would you consider leaving this company?

a. yes b. no

37. You will consider leaving this company mainly because of: (single/multiple choice)

a. higher income

b. more comfortable and convenient living condition and environment

c. help to improve professional level and professional skills

d. broader space for career development

e. harmonious inter personal relationship

f. relax working environment

g. others:

38. What do you think are the main reasons for the current brain drain? (multiple answers)

a. salary and living condition b. personal development and realization of self-value c. job responsibility and work pressure d. interpersonal relationship and working environment e. others:

39. What is the welfare for all employees of the company? (multiple answers)

a. supplementary pension insurance b. supplementary medical insurance c. commercial insurance d. paid time off e. housing subsidies f. free accommodation g. accommodation provided by the company h. provident fund i. training j. free working meals k. travelling sponsored by the company l. facility for convenient commuting m. shopping vouchers or coupons n. flexible working hours o. holidays, birthday condolences p. others:

40. What factors do you think can improve employee satisfaction?

a. attaching importance to knowledge b. learning atmosphere c. training opportunities d. opportunities for career development e. high salary f. excellent welfare g. prospect of company's development h. corporate culture i. leaders' support j. others:

(This is the end of this questionnaire. Please check again to see whether there is any question that is not filled in. Thank you again for your help!)

Interview outline of human resource demands in community health service

centers

I. Talent team

1. Briefly introduce the situation of the current talent team.

2. Do you think that current staff can meet human resource demands? What are the main weaknesses?

3. At present, what kind of talents are urgently needed? How do you plan to strengthen the team, and do you have any targets for training or introduction?

II. Staff management

1. Can you briefly introduce the entry threshold for staff in the center?

2. What is the promotion channel in this center? How does it evaluate and select outstanding talents?

3. How do you motivate the staff of the center?

4. What are the main reasons for the personnel changes of your community health service center?

III. Staff training

1. What kind of staff training does your community health service center currently carry out? What are the main training methods? (Such as further education, academic education, symposium, distance education, external expert lecture, internal expert lecture, case discussion among colleagues, observation, etc.)

2. Who are the trainees? What is the basic content of the training? (Such as basic training, knowledge update training, general medical knowledge training, etc.) How long will the training last? Who is the initiator of the training? What is the expected effect?

3. Has your community health service center cooperated with other institutions in staff training? Can you briefly introduce the specific situation?

4. Do you think the current training can meet the human resource demands of your community health service center?

5. What suggestions do you have for the training in community health service centers?

IV. General practitioner (GP) team

1. Does your community health service center have a GP team? What is your opinion on organizing a GP team?

2. What are your opinions and suggestions on how to form a GP team?

3. What are the problems or deficiencies in the management of GP team?

4. What kind of support do you think is needed for further development of the GP team?

(Notes: The background information of the interviewees should be collected, including age, educational background, professional background, title, time of appointment, job responsibility, etc.)