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The Professionalization Dilemma of Hospital Management Personnel: A Study of Guangzhou Public Hospitals

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Doctor of Management

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BUSINESS
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Marketing, Operations and General Management Department

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Abstract

At present, public hospitals in China have entered the stage of constructing a modern hospital management system. However, the progress of professionalization among hospital management personnel in China has been extremely slow, which has greatly hindered the construction of modern hospital management systems and the high-quality development of hospitals. Under this background situation, it is necessary to make the professionalization of public hospital management personnel a research priority, and recommendations should be proposed to promote the professionalization process of public hospital management personnel in China.

For this purpose, this study employed a literature review and the Delphi expert consultation method to determine the core elements of professionalization for hospital management personnel. It constructed an evaluation index system for the professionalization of hospital management personnel, consisting of 4 primary indicators and 18 secondary indicators. Based on this index system, surveys were conducted using questionnaires on 790 hospital management personnel in pilot hospitals of the modern hospital management system in Guangzhou, as well as 23 hospitals. In addition, interviews were conducted with 17 hospital leaders. The research materials were comprehensively analyzed using descriptive analysis, chi-square tests, and NVivo 14 software to understand the current status of professionalization among hospital management personnel in Guangzhou and to identify existing issues. Finally, the study constructs a path model for the professionalization reform of Chinese hospital managers under the modern hospital management system, and puts forward targeted suggestions for promoting the professionalization of Chinese public hospital managers from five levels: government, hospitals, universities, industry associations and individuals.

Keywords: public hospitals, hospital management personnel, professionalization

JEL: I180, H750

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Resumo

Os hospitais públicos chineses estão na fase de construção de um sistema moderno de gestão hospitalar. Contudo, o progresso na profissionalização dos gestores hospitalares tem sido extremamente lento, o que atrapalhou muito a construção do sistema moderno de gestão hospitalar e o desenvolvimento de hospitais de alta qualidade. Tendo em consideração a situação descrita anteriormente, torna-se necessário priorizar a pesquisa sobre a profissionalização dos gestores hospitalares e propor recomendações para promover o processo de profissionalização dos mesmos.

Este estudo utiliza os métodos revisão de literatura e o Delphi para isolar os elementos centrais da profissionalização dos gestores hospitalares. Construimos um sistema de índices de avaliação para a profissionalização dos gestores hospitalares, com quatro indicadores primários e 18 indicadores secundários. Tendo por base este sistema de índices, conduzimos um questionário que obteve a resposta de 790 gestores hospitalares, que trabalham em hospitais piloto do sistema hospitalar moderno de Guangzhou, assim como a resposta de 23 hospitais. Entrevistamos, também, 17 líderes hospitalares. Para compreendermos a situação da profissionalização dos gestores hospitalares em Guangzhou e identificar problemas existentes analisamos os resultados utilizando estatística descritiva e o software NVivo 14. Com base na análise dos resultados, fizemos recomendações direcionadas para avançar com a profissionalização dos gestores hospitalares na China. Finalmente o estudo constrói um modelo de trajetória para a reforma da profissionalização dos gestores hospitalares chineses no âmbito do sistema hospitalar moderno e apresenta sugestões direcionadas para a promover a profissionalização dos gestores de hospitais públicos chineses a partir de cinco perspetivas: governo, hospitais, universidades, associações do setor e indivíduos.

Palavras-Chave: hospitais públicos, gestão hospitalar, profissionalização

JEL: I180, H750

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摘要

当前，中国公立医院进入了现代医院管理制度构建阶段。然而，医院管理人员职业化在中国的推进进程极其缓慢，严重影响了现代医院管理制度构建和医院高质量发展。在此背景下，有必要将公立医院管理人员职业化作为研究重点并提出推进中国公立医院管理人员职业化进程的建议。

为此，本研究通过采用文献研究法和德尔菲专家咨询法确定了医院管理人员职业化的核心要素，构建了包含4个一级指标和18个二级指标的医院管理人员职业化评价指标体系。依据指标体系制定调查问卷分别对广州市现代医院管理制度试点医院的790名医院管理人员、23家医院进行调研，同时对17名医院领导进行访谈。综合运用描述性分析、卡方检验和使用NVivo 14软件对调研材料进行分析，了解了广州市医院管理人员职业化现状，梳理了当前存在问题。最后，构建了现代医院管理制度下中国医院管理人员职业化改革路径模型，有针对性的从政府、医院、高校、行业协会、个人5个层面提出推进中国公立医院管理人员职业化的发展建议。

关键词：公立医院，医院管理人员，职业化

JEL: I180, H750

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Acknowledgments

Returning from the battlefield, I resumed my studies. Although my second doctoral study was more difficult, arduous, and challenging, I found it fulfilling, enjoyable and grateful. During these four years, I have received a great deal of care, support and help from my teachers, family, leaders, and colleagues, which will become precious wealth and experience in my life journey. I would like to express my sincere gratitude to them.

First of all, I would like to thank my supervisors, Prof. Nelson Antonio and Prof. Hong Jiang. They have devoted a lot of effort to guiding my thesis, providing comprehensive and systematic guidance from the selection of the topic, literature review, questionnaire design, research methods, data analysis, thesis writing and revision, especially in the aspect of confusion and suggestions for hospital management professionalization. They have patiently provided guidance and strict review, which made me deeply feel their scientific rigorous academic attitude, profound academic knowledge, and broad international vision. Under their guidance, I have gained a deeper understanding of the basic theories and research methods of management and completed the transformation from a management practitioner to a scientific researcher. I would like to express my highest respect and heartfelt thanks to them for their great help, rigorous academic style, and profound academic attainments. I would also like to thank Prof. Virginia Trigo for her special guidance, help, and concern in the process of thesis proposal, midterm report, and completion.

Secondly, I would like to thank all the teachers who taught me, including Prof. Virginia Trigo, Prof. Nelson Antonio, Yuanli Liu, Weidong Xia, Di Zhao, and other teachers from both China and Portugal. It is your carefully prepared knowledge feast that enables me to efficiently learn professional knowledge and expand research horizons in depth. I also appreciate the supervision and assistance from Dean Dong Wang and teacher Weiyan Ou of Southern Medical University, as well as the fierce discussions and help from my fellow students in the 2019 cohort.

I would like to thank Prof. Yangdong Fan, Mr. Haijie. Lin, and Chief Ming Ouyang for their care, help, and support. I also appreciate the selfless help and work inspiration provided by leaders and colleagues from major hospitals in Guangzhou, such as Changsen Feng, Jinkun Huang, Sitang Gong, and Mingsong Xu. I am also grateful to my former colleagues, such as Longgui Chen and Xihui Wang, for their help in work and questionnaire distribution and entry.

Finally, I would like to thank my wife Lihui Yin, parents, parents-in-law, son Ding Ouyang, and daughter Jing Ouyang for their strong support for my studies. With their understanding, tolerance, and continuous encouragement, I was able to complete my studies on time.

致谢

百战归来再读书，第二个博士学习虽然更困难、更艰辛、更考验人，但我觉得很充实、很享受、很感恩。四年期间凝聚着老师、亲友、领导和同事们的大量关心、支持和帮助，这些将成为我人生旅程的宝贵财富和经历。在此向他们表示诚挚的谢意！

首先，要感谢的是我的导师Prof. Nelson Antonio和姜虹教授。二位教授在我的论文指导中倾注了大量的心血，从论文选题、文献综述、问卷设计、研究方法、数据分析、论文写作及修改等方面给予我全面、系统的指导，尤其在医院管理职业化困惑和建议环节进行耐心的指导及严格把关，使我深深感受到二位教授科学严谨的治学态度、渊博深厚的学术知识、广阔无边的国际视野。在他们的教导下，我掌握了较深的管理学基本理论及研究方法，完成从管理实践操作者向科学研究者的蜕变。在此，再次对二位教授的大力帮助、严谨的治学风格、深厚的学术造诣表示崇高的敬意和衷心的感谢！还要特别感谢Prof. Virginia Trigo在论文开题、中期汇报和全文完成过程中给予得特别指导、帮助与关心！

其次，我要感谢Prof. Virginia Trigo、Prof. Nelson Antonio、刘远立、夏卫东、赵棣等所有中葡两国的授课老师，正是你们精心准备的知识盛宴，让我高效学到专业知识、深度拓展研究视野！感谢南方医科大学王冬院长、欧玮艳老师等院领导和老师们的督导与帮助！感谢一起攻读博士的2019级同学们的激烈讨论及帮助！

还要感谢范阳东教授、林海杰教授、欧阳明科长给予的关心、帮助、支持；感谢冯常森、黄锦坤、龚四堂、徐名颂等广州地区各大医院领导及同道提供的无私帮助及工作上的启发；感谢陈龙贵、王锡辉等老同事在工作上、在问卷的发放及录入方面提供的帮助。

最后我要感谢我的妻子尹丽辉、父母、岳父岳母、儿子欧阳鼎、女儿欧阳婧对我学业的大力支持，在他们的理解、包容和不断鼓励下使我按期完成学业。

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Chapter 1: Introduction

1.1 Research background

The modern hospital management system is an important part of the basic medical and health system with Chinese characteristics. To establish a modern hospital management system, it is necessary to adhere to the people's health as the center, adhere to the public welfare of public hospitals, adhere to the separation of government affairs and management, adhere to the classification guidance, encourage exploration and innovation, put social benefits first, implement the separation of ownership and management rights, and realize the modernization of hospital governance system and management ability. In 2017, the General Office of the State Council of China issued the *"Guiding Opinions on Establishing a Modern Hospital Management System"* which emphasized the continuous improvement of the quality of medical services and the organic integration of social benefits and operational efficiency. It called for mobilizing the enthusiasm of medical personnel, implementing democratic management and scientific decision-making, strengthening the leading role of public hospitals, improving the diversified pattern of medical practice, accelerating structural reforms in the supply side of medical services, and achieving modernization of hospital governance and management capabilities. These efforts aim to lay a solid foundation for promoting the construction of a healthy China (General Office of the Council, 2017). In December 2019, the 15th session of the Standing Committee of the 13th National People's Congress passed the "People's Republic of China Basic Healthcare and Health Promotion Law" (Office of the Standing Committee of the National People's Congress, 2019). This law gives the "modern hospital management system" a clear legal status, while requiring hospitals to strengthen management, improve efficiency and service capabilities (Jiu et al., 2020). The process of establishing and improving a modern hospital management system is the process of institutional construction, cultural construction, fine management, and also the process of promoting hospital development. The modern hospital management system has become a key institutional arrangement for the "pillar and beam" of China's basic medical and health care system (W. S. Liu, 2019). The father of modern management, Drucker, once said, "Managers are the key factors of enterprises, the source of endogenous forces in enterprises, and the work of managers must be effective" (Bond & Gomes,

2009). This reveals that managers play a core role in organizational development, and their value is reflected in the effectiveness of management. Management is a decisive factor in the construction of modern hospitals. The construction and development of modern hospitals depend on scientific and effective management, and the scientific and effective management of hospitals depends on professionalized management of hospital management personnel (Y. Xu et al., 2010). In the context of the continuous promotion of the construction of the modern hospital management system, the demand for the professionalization of public hospital management personnel in China is extremely urgent and important.

In 2021, the General Office of the State Council of China issued the *"Opinions on Promoting the High-Quality Development of Public Hospitals"*, proposing to strengthen system innovation, technological innovation, model innovation, and management innovation with the goal of establishing and improving a modern hospital management system. The aim is to accelerate the expansion and balanced regional distribution of high-quality medical resources. Efforts will be made to achieve "three changes and three improvements" in public hospitals over five years: shifting from scale expansion to quality and efficiency improvement in development mode; from extensive management to fine management in operation mode; and from focusing on material elements to paying more attention to talent and technology elements in resource allocation. Concurrently, the National Health Commission of China and the State Administration of Traditional Chinese Medicine jointly issued an Action Plan (2021-2025) emphasizing modern hospital management system improvement.

In developed Western countries, with the advancement of the modern technological revolution, the level of social productivity and socialized production has been increasing, along with the rapid development of market economy. As a result, a professional managerial class characterized by business management has gradually emerged in enterprise management, and business management has gradually become a specialized profession. Later, this professionalization and specialization of management received attention and application in various fields such as health and education. In the field of medical and health care, developed countries such as the United States, Britain, and Australia have gradually formed a professionalization of hospital managers. Hospital operations and management are undertaken by hospital managers or professional managers with relevant professional backgrounds in management and special training in hospital management (Y. Xu et al., 2010). In China, health managers have also gradually realized the importance of the professionalization of hospital management personnel. In 1997, *"The Decision of the Central Committee of the Communist Party of China and the State Council on Health Reform and Development"* (Central Committee

of the Communist Party of China, State Council of the People's Republic of China, 1997) proposed to attach great importance to the cultivation of health management talents and to create a professional management team that can adapt to the development of the health industry. In 2000, W. K. Zhang (2000), the former Minister of Health of China, pointed out at a national conference of health bureau directors that special attention should be paid to the training and establishment of a leadership team of health institutions who understand economics, law, modern management knowledge, and technology. In the 2009 new medical reform plan (Central Committee of the Communist Party of China & State Council of the People's Republic of China, 2009), it was explicitly proposed to "standardize the appointment conditions of hospital managers and gradually form a professional and specialized management team for medical institutions". In 2017, the Organization Department of the Communist Party of China, together with the Publicity Department of the Communist Party of China, the Ministry of Education, the Ministry of Science and Technology, and the National Health and Family Planning Commission, jointly issued the *"Interim Measures for the Management of Public Hospital Leaders"*. However, in the actual implementation process, the professionalization of hospital management personnel is difficult to achieve. At present, most of the hospital presidents and department managers in China's public hospitals are "medical doctors who excel and then enter government service". The vast majority of them are selected from the medical technology backbone or discipline leaders of hospitals, who also undertake clinical and management work and implement the "double burden" (Gao, 2017).

Currently, the development of public hospitals in China has entered a stage of high-quality development, and management innovation is urgently needed. Against the background of modern hospital management system construction, it is worth exploring the current status of professionalization of management personnel in public hospitals in China and how to better promote the professionalization process of public hospital management in China. This is conducive to achieving the "three transformations and three improvements" of public hospitals and providing strong support for the construction of a healthy China. To this end, this study, based on the core elements and concepts of professionalization of hospital management personnel, constructs an evaluation framework for the professionalization of hospital management personnel. Taking public hospitals in Guangzhou as an example, this study investigates the current status of professionalization of management personnel in public hospitals in Guangzhou and proposes policy suggestions on how to promote the professionalization process of management personnel in public hospitals in China.

1.2 Research dilemma

The construction of modern hospital management system requires hospitals to realize the modernization of hospital governance system and management ability, which inevitably requires the construction of a consistent professional management team. However, it is an indisputable fact that it is difficult to promote the professionalization of hospital managers in China, and it is also a research dilemma currently encountered. There are underlying reasons behind this, which are the result of a combination of multiple factors. We believe that this may be related to the undetermined core elements of the professionalization of hospital management personnel, the lack of evaluation criteria, limited current research, and a shortage of reform recommendations.

1.2.1 The core elements remain undefined

Currently, within domestic research in China, there is a wide range of definitions for the professionalization of hospital management personnel, and a unified definition has not been achieved. Many scholars use the concept of the professionalization of hospital management personnel to refer to the idea that hospital management work must be carried out by individuals who have undergone specialized training in hospital management skills, passed examinations conducted by national statutory authorities, obtained professional qualifications, and are employed as specialized personnel whose main economic source comes from engaging in hospital management. The professionalization of hospital management personnel includes various aspects such as specialization of work, serialization of positions, "T"-shaped knowledge, professional skills, modernization of managerial awareness, and market-oriented management talent, among others. There is still no unified, recognized, and scientifically defined concept for "professionalization of hospital management personnel" in China. Without a well-formed concept, it is challenging to clarify the core elements of the professionalization of hospital management personnel and to establish evaluation indicators and training systems for professional standards. This significantly hinders the progress of the professionalization of hospital management personnel in China. The questions of what constitutes the professionalization of hospital management personnel, what its core elements are, and how the concept should be defined are pressing issues that require immediate research.

1.2.2 Lack of evaluation standards

Due to the current absence of scientifically sound definitions for the core elements and conceptual framework of the professionalization of hospital management personnel, it is challenging to establish an evaluation system to assess the level of professionalization of management personnel in a specific region or hospital. In the existing research, there is also a dearth of specialized reports on the evaluation of the professionalization level of hospital management personnel. Objective and scientific evaluation standards and systems can provide a scientific diagnosis of the level of professionalization of management personnel in a particular region or hospital, thereby facilitating the advancement of the professionalization process. Therefore, it is imperative to develop a scientifically sound evaluation indicator system for the professionalization of hospital management personnel.

1.2.3 Lack of current situation research

China has 34 provincial-level administrative regions (including 23 provinces, 5 autonomous regions, 4 municipalities directly under central government administration, and 2 special administrative regions), as well as 293 prefecture-level cities. Given this vast territory conducting a nationwide survey would be time-consuming and labor-intensive. Therefore, it is important to select a representative city for investigating the professionalization status of hospital managers in China. By end-2023 there were 6, 677 medical institutions including hospitals (131 public & 200 private), primary health institutions (6, 132), professional public health institutions (67) & other medical facilities (147). There are many types of public hospitals, including university affiliated hospitals, provincial hospitals and district hospitals. The large number and complete types of public hospitals in Guangzhou, coupled with the fact that Guangzhou is at the forefront of China's reform and opening up, and the reform of the medical and health system is at the forefront of the country, make Guangzhou the best choice for the representative city in this study. Research on the current status and progress of the professionalization of hospital management personnel in Guangzhou provides insights into the current situation of hospital management personnel professionalization in China, holding significant importance for advancing the professionalization process nationwide. However, there is currently limited research on the professionalization of hospital management personnel in Guangzhou, and existing studies have not established dedicated evaluation standards for the professionalization of hospital management personnel to assess the current situation. In 2019,

the Guangzhou Health Commission and five other departments issued a notice on "*Carrying out the Pilot Project of Modern Hospital Management System and the Establishment of Party Building Demonstration Points in Public Hospitals in the City*", selecting 40 hospitals in Guangzhou as pilot hospitals to establish and improve the modern hospital management system. The implementation of the modern hospital management system and the selection of pilot hospitals provide new opportunities for the development of the professionalization of hospital management personnel. Understanding the current status of the professionalization of hospital management personnel in Guangzhou, identifying obstacles to progress, and determining the subsequent steps for advancement are crucial issues worth addressing. Therefore, conducting research on the status of the professionalization of hospital management personnel in Guangzhou is highly necessary in the current context.

1.2.4 Lack of scientific reform recommendations

Since the issuance of the "*Decision on Health Reform and Development*" by the Central Committee of the Communist Party of China and the State Council in 1997, which emphasized the "high importance of cultivating health management talents and nurturing a professionalized management team adaptable to the development of the health industry", there has been a connection between health management talents and a professionalized management team. Subsequently, multiple policy documents mentioned the promotion of the professionalization of hospital management personnel. However, since its initial promotion in 1997, domestic scholars in China have increased research on the professionalization of hospital management personnel, mostly from a theoretical perspective, emphasizing the necessity of professionalization and proposing relevant recommendations. Nevertheless, as of today, the progress of the professionalization of hospital management personnel in China has been extremely slow. It is undeniable that the sluggish progress is related to the Chinese national context and healthcare system. For this reason, any proposed recommendations must be tailored to the practical realities of China and be in line with the national context. Addressing how to put forward scientifically feasible suggestions to advance the professionalization process of hospital management personnel in Chinese public hospitals is a key focus of this study.

1.3 Research questions

Based on the research dilemma that "the professionalization of Chinese hospital management personnel is difficult to advance", this study aims to address the following questions:

- (1) What are the core elements of the professionalization of hospital administrators?
- (2) How to evaluate the status and level of professionalization of hospital administrators?
- (3) What is the current development status of the professionalization of hospital administrators in Guangzhou city?
- (4) How to further promote the professionalization of hospital administrators in our country?

1.4 Research purpose

The purpose of this study is based on a literature review, the study preliminarily defines the core elements and evaluation index system framework for professionalization among hospital management personnel. Subsequently, through Delphi expert consultation, the core elements and evaluation index system are finalized. Secondly, using selected hospitals participating in the pilot program for modern hospital management systems in Guangzhou as the research subjects, questionnaires are distributed to a sample of hospital management personnel, and interviews are conducted with selected hospital leaders to understand the status and level of professionalization among public hospital management personnel in Guangzhou. Finally, recommendations are proposed to promote the professionalization of management personnel in public hospitals in China within the context of modern hospital management system development.

1.5 Research significance

1.5.1 Theoretical significance

This study aims to enrich the theory of professionalization for hospital management personnel. On one hand, this study defines the core elements of professionalization among hospital management personnel and constructs an evaluation index system for professionalization. This fills the research gap in this area. On the other hand, the current situation of professionalization of hospital administrators in Guangzhou was investigated, and a path model of professionalization reform of hospital administrators in China was constructed under the modern hospital management system, and suggestions for promoting the professionalization of hospital administrators were put forward, which could provide theoretical reference for related research.

1.5.2 Practical significance

This study clarifies the diverse concepts of professionalization for hospital managers, summarizes the core elements and concepts of hospital management professionalization, the constructed evaluation index system of the current state of hospital management professionalization can provide an evaluation tool for assessing the professionalization status of managers in a particular region or hospital. The survey on the current status of hospital management in Guangzhou, the construction of a professional reform path model of hospital managers in China under the modern hospital management system and the relevant policy recommendations can provide a reference for the government and hospitals to develop related policies, indicating the significant practical significance of this study.

1.6 Thesis structure

The thesis has 5 parts as follows:

Chapter 1: Introduction. This chapter introduces the research background, research difficulties, research questions, research objectives, research significance, and structure of the thesis.

Chapter 2: Literature Review. This chapter reviews the theories of New Public Management, Division of Labor, Modern Corporate Governance, and Principal-Agent Theory. At the same time, it summarizes the research status of hospital management personnel professionalization at home and abroad, points out the problems of current research and puts forward research hypotheses.

Chapter 3: Research Methodology. This chapter elucidates the research process, encompassing research methods and statistical analysis techniques, and presents the research's technical roadmap.

Chapter 4: Research on the Professionalization of Hospital Management Personnel. In response to the research challenges, this chapter primarily focuses on 3 aspects of the professionalization of hospital management personnel:

Study 1: Defining the core elements of professionalization for hospital management personnel and constructing an evaluation index system.

Study 2: Investigating and analyzing the current development status of professionalization among hospital management personnel in Guangzhou.

Study 3: NVivo 14 software was used to analyze the expert interview results, laying the

foundation for proposing recommendations to promote the professionalization of public hospital management personnel in China.

Chapter 5: Conclusion and Prospect. Summarize the study's conclusions, identify its limitations, and suggest future research directions.

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Chapter 2: Literature Review

2.1 Theoretical basis

2.1.1 New public management theory

New Public Management originated from the government reform movement initiated in Western countries in the 1970s and 1980s. It began in Western countries such as the United Kingdom, the United States, and Australia, and quickly spread to other Western countries, emerging industrialized countries globally, and developing countries (Shen, 2003). Different from traditional public administration theory, New Public Management theory takes economic theory and private sector management theory as its theoretical core, promoting the transformation of traditional public administration theory into new public theory and bringing a revolution to public management. The emergence of New Public Management theory is not accidental, it has its own special historical background and practical dilemma.

2.1.1.1 Historical background of emergence

The emergence of NPM theory was mainly reflected in the impact of globalization and informatization on traditional public administration management. Traditional public administration theory is based on the dichotomy of politics and administration and the theory of bureaucracy. Woodrow Wilson pointed out in his article "*The Study of Administration*" that "administration lies outside the proper sphere of politicism (Wilson, 1987). And thus, administration became independent of politics. Subsequently, Goodnow elaborated on the dichotomy of politics and administration in his book "*Politics and Administration*", emphasizing that politics and administration cannot be completely separated and must be coordinated in some way (Goodnow, 1987; R. Fan 2012). The dichotomy of politics and administration proposed by Woodrow Wilson and Goodnow laid the theoretical foundation for traditional public administration theory. The father of organizational theory, Max Weber's theory of bureaucracy, provided practical guiding principles for traditional public administration management theory. Bureaucracy, as the classic paradigm of administrative organization, has been widely used in management organizations. Traditional public administration governance theory has played an important role in public management and

government governance all along, but with the rise of globalization and informatization since the 1970s, traditional public administration governance theory has been greatly challenged. Informatization and globalization have strengthened the links between people, countries, and posed new requirements for the political, economic, and cultural aspects of countries worldwide, and also posed new challenges for the field of public administration management. The traditional paradigm of administrative management is no longer suitable for the development of the times, and countries must reform their own government governance systems and governance methods.

2.1.1.2 Main content of New Public Management Theory

New Public Management emphasizes the introduction of market mechanisms, believing that the market is the best way for various departments to allocate resources and improve efficiency, and advocating market-oriented competition. At the same time, it attaches importance to the quality of public service products and the efficiency of public service provision and believes that the government is not a bureaucratic organization that is superior to society. Government officials should play the role of entrepreneurs, and citizens should be viewed as customers. The value orientation of new public management theory is market-oriented and customer-oriented. Looking back at the research on new public management theory in China, it can be seen that a systematic theoretical system and conceptual framework have not yet been established, but consensus has been reached in the following areas (An, 2020; Ma, 2019; Mai & Huang, 2020): 1) repositioning the government's functions and citizen relationships. The government's function is to steer rather than paddle. The government is no longer a management agency. As taxpayers, citizens are customers who enjoy government services, and government services should be customer-oriented; 2) attaching importance to the input and output of government activities. Changing the traditional practice of only focusing on input and ignoring output in the public management process, focusing on customer needs, based on transaction cost theory, striving to achieve maximum output with minimum input, and providing satisfactory services to the public; 3) managing with a market orientation while introducing competition mechanisms. Fully exerting the role of the market, using market mechanisms, and introducing competition, changing the drawbacks of traditional government department monopolies in the past, and improving the operational efficiency of government departments; 4) establishing an effective performance evaluation system and accountability mechanism. In order to ensure the accuracy of the government's function positioning, the scientific and rationality of input and output, a set of performance evaluation and accountability mechanisms are needed for control. New public

management theory emphasizes performance, accountability mechanisms, and post-control. Through effective interaction among government, market, and society, an effective and diversified accountability system is constructed to achieve public responsibility and public interest; 5) learning from the experience of advanced enterprises for professional management. In the theory of new public management, it is required to learn from the experience of advanced enterprise management, change the traditional rigid government management methods, attach importance to human resource management, comprehensive quality management, and strategic management, and pay attention to professional and vocational management. Public management scholar Hood (1991) proposed timely vocational management, allowing managers to manage and take responsibility.

2.1.1.3 New Public Management Theory and professionalization of hospital management personnel

The New Public Management theory emphasizes clarifying government functions, emphasizing efficiency, market orientation, performance evaluation, and professional management, which is highly compatible with the concept of modern hospital management system construction that China is currently promoting. Chinese public hospitals are essentially public sectors that provide public products of medical services, and the New Public Management theory is applicable to hospitals. Therefore, it is necessary to use the New Public Management theory to guide the construction of China's modern hospital management system, clarify the government's role, introduce private sector management tools and management methods, implement professional management, improve hospital management efficiency, and achieve "efficiency through management". Introducing the New Public Management concept, implementing professional management of management personnel, and implementing professionalization of hospital management personnel will help solve the problems encountered by the modern hospital management system in external governance systems, legal person governance mechanisms, and internal management systems in China, and effectively promote the process of China's medical reform.

2.1.2 Theory of Social Division of Labor

The exploration of the idea of division of labor in human society can be traced back to ancient Greece, from the ideas of Xenophon and Plato to classical economics, Marxism, and then to neoclassical economics. The theory of division of labor has gone through a process of gradually being valued, then silenced, and finally gradually resurging with modern division of labor

theory. It has gone through five stages: ancient Greek division of labor thinking, classical economics division of labor thinking, Marxist division of labor thinking, neoclassical economics division of labor thinking, and modern division of labor thinking (M. L. Zhao & Pan, 2020).

2.1.2.1 The evolution of the concept of Social Division of Labor

(1) Division of labor in ancient Greece

The representative figures of division of labor in ancient Greece were Xenophon and Plato. Xenophon elaborated on how slave owners could manage wealth in his book "Economics", by obtaining more valuable labor through effective management in order to improve wealth (F. Q. Zhu, 2015). He believed that management required skills, order, and the principles of economic division of labor, and attributed increases in output and quality to division of labor. He proposed the concept of "orderly arrangement", in which each person should be in their proper position and do their job well. Division of labor can improve management efficiency and production efficiency, and market size and degree of division of labor interact with each other. In his work "The Republic", Plato explored the reasons for division of labor and elaborated on its form and significance. He believed that individual talents could be one-sided, and that everyone has different natural abilities and personalities, so they should do suitable work at the appropriate time. Therefore, division of labor is necessary, which can improve labor efficiency, promote the formation of currency and the evolution of the market.

(2) Division of labor in classical economics

Adam Smith and William Petty are representatives of the division of labor in classical economics. In his masterpiece "Political Arithmetic" (Q. R. Li & Ye, 2020) William Petty repeatedly mentioned the idea of division of labor, and for the first time introduced statistical methods into economic research to intuitively demonstrate the role of division of labor in increasing labor productivity. Adam Smith inherited the ideas of previous Greek scholars and innovated on this basis, pushing the idea of division of labor to unprecedented heights. In his work "The Wealth of Nations", Adam Smith systematically elaborated on the idea of division of labor, arguing that the reason for division of labor is human nature to exchange, and division of labor in turn promotes the development of productivity. One of his core points is that division of labor increases labor productivity and leads to the accumulation of wealth. He summarized three reasons why division of labor increases output: first, specialization improves labor productivity; second, the singleness of work can save time between various processes; third, specialization is conducive to the improvement of machinery and equipment (Z. L. Yu, 2018).

(3) Marxist division of labor theory

Marxist critique inherited Adam Smith's labor division theory and provided a comprehensive analysis of division of labor from the perspective of historical materialism. In his monumental work "*Capital*", Marx dialectically analyzed the duality of "general division of labor" and "specific division of labor", and discussed the role of division of labor in the capitalist system from the dual perspectives of productivity and production relations (Y. Zhu, 2017). Marx's division of labor theory mainly includes three aspects: the reasons for division of labor, the forms of division of labor, and the consequences of division of labor. He proposed that division of labor arises from the dual function of natural differences and commodity exchange. The logical relationship between them involves natural division of labor caused by victory and geographical differences in the production field. The development of productivity inevitably produces surplus products, which leads to exchange. Further development of exchange gives rise to division of labor. Marx also made a detailed classification of the forms of division of labor, dividing it into natural division of labor and social division of labor. Social division of labor is further divided into general division of labor, specific division of labor, and individual division of labor. Marx also affirmed the positive role of division of labor, believing that it improves labor efficiency and promotes the development of productivity. However, Marx also pointed out that the specialization of division of labor limits the comprehensive development of human beings.

(4) Division of labor in the new classical school of economics

Marshall incorporated organization as an important factor in the analysis of economic growth. He affirmed the role and significance of division of labor using the form of biological organization, while acknowledging that division of labor does not significantly improve the efficiency of skilled labor. In his exploration of increasing returns to scale, Marshall simultaneously considered both external and internal sources of division of labor and studied the conversion of internal economies of a firm into external economies of other firms. This shift changed the direction of economic research in academia and led to the diminishing of the division of labor theory for over half a century. Later, the emergence of the division of labor theory by Young (1996) marked an important sign of the return of the division of labor theory to economics. In his speech "*Increasing Returns and Economic Progress*", Young emphasized a return to Smith's theory of division of labor and the study of division of labor in classical economics. Young's analysis pointed out that the main factors determining increasing returns to scale are specialization and division of labor, and he proposed Young's Law: first, the realization of increasing returns to scale depends on the evolution of division of labor; second, market size

and division of labor evolve together, and market size determines the degree of division of labor, which is limited by the degree of division of labor; third, demand and supply constitute the two aspects of division of labor.

(5) Modern division of labor

The development of economic globalization and informatization has brought renewed attention to the concept of division of labor. Yang (2000) enriched the theory of division of labor on the basis of classical and neoclassical schools of thought. He advocated for economics to return to the study of specialization and economic organization, attempting to reconstruct the basic theory of economics on the foundation of the theory of division of labor. In "*Specialization and Economic Organization*", he proposed that "the evolution of division of labor will expand market size, accelerate human capital accumulation, and increase trade dependence and endogenous comparative advantage". Yang believed that the specialization of individuals and labor skills greatly enhances labor productivity, namely, division of labor improves the labor productivity of enterprises and increases their size. Becker (1992) analyzed the theory of division of labor in terms of coordination costs and knowledge introduction, and constructed a theory of division of labor model to explain economic growth. He affirmed the positive role of division of labor in labor productivity and economic growth, while also pointing out that division of labor is not only influenced by market size but also by coordination costs and knowledge limitations.

2.1.2.2 Division of Labor Theory and professionalization of hospital management staff

From the division of labor concept in ancient Greece, classical economic school, Marxist thought, neoclassical economic school, to modern division of labor thinking, overall, each era's division of labor thinking has slight emphasis but generally affirms the positive role of social division of labor, mainly manifested in: social division of labor can improve labor productivity, save time for process conversion, facilitate machinery and equipment improvement, help increasing remuneration, facilitate market expansion, accelerate human capital accumulation, and promote productivity development. Hospital management is a division of labor that has emerged in response to hospital development and is a highly specialized profession. The construction of modern hospital management puts higher requirements on the management ability and level of hospitals. How to use the theory of social division of labor as a guide, separate management work from the cumbersome hospital affairs, promote the professionalization of hospital management staff, is of great benefit to improving the operational efficiency of hospitals.

2.1.3 Theory of Modern Enterprise System

From the primitive enterprise system to the modern enterprise system, Western countries have undergone a long and spontaneous evolution of enterprise systems (Wei, 1998). With the development of socialized large-scale production and market economy, China has absorbed the essence of human economic civilization and consciously formed a modern enterprise system based on the Western stock enterprise form, with separation of ownership and management rights (Jiang, 2019). Unlike the modern enterprise system of Western countries, which mostly evolved from private ownership, China's modern enterprise system was basically reconstructed on the basis of state-owned and collective ownership enterprises, with clear property rights, well-defined rights and responsibilities, separation of government and enterprises, and scientific management (D. P. Fan, 1998). In China, research on the development model of modern enterprise system began in the 1990s, and with the continuous deepening of state-owned enterprise reforms, related theoretical research has become more and more refined.

2.1.3.1 Theoretical framework

(1) Modern enterprise property rights theory

Property rights refer to the total sum of legal subjects' various powers over property, including ownership, use, allocation, income, disposal, supervision (G. G. Du, 2020). The modern enterprise property rights system theory is the cornerstone of other modern enterprise theories and affects the operating efficiency and resource allocation of legal subjects regarding the interrelationship of property rights and responsibility arrangements. Currently, the separation of ownership and operation is the biggest characteristic of the modern enterprise property rights structure and has become a consensus. X. P. Li (1995) summarized that the American economist Chandler had analyzed the causes of this feature, believing that the separation of ownership and operation is the product of the complexity of management and technology brought about by enterprise expansion, and the determining factor for senior management positions is management capability rather than shareholding size. Chinese scholar X. W. Wang (2014) has summarized the evolution of the modern enterprise property rights system and concluded that its creation and development are the results of changes in the factors driving enterprise value creation. From capital-driven to creating a community of interests between investors and managers, and to knowledge employee shareholding, this reflects the increasing importance of knowledge, management experience, and technological proficiency possessed by contemporary employees.

(2) Modern enterprise organization theory

Management scholar Barnard (1974) has had a profound impact on modern organizational management research, the most representative work is the *Function of Manager* (Barnard, 1974), which is regarded as a classic by the management circle. He pointed out that an organization is a consciously coordinated system for human behavior. Each person in the organization has their own goals, but individual power is limited. Therefore, it is necessary to combine individual goals with organizational goals and use collaboration and motivation to unleash individual initiative, thereby achieving the purposes of the organization and individuals. The contingency theory emerged after the 1960s, focusing on the influence of leaders, followers, and relevant environmental conditions on organizations and emphasizing that enterprises should actively adjust according to the specific situation in reality. Mintzberg (1983, 1989, 1979) the representative of the classic role school, has made great contributions to organizational design. He believes that organizational design needs to consider five key factors, which are: division of organizational departments, coordination mechanism of departments, organizational design parameters, organizational contingency factors and organizational structure. In his book *The Structure of Organizations*, he elaborated on the meaning of each factor. He pointed out that the structure or framework of any organization, regardless of its specific form, consists of five basic parts: Operating Core, Strategy Apex, Middle Line, Technology Structure, and Support Staff. He later added a sixth layer, the Ideology layer, in his book *Mintzberg on Management: Inside Our Strange World of Organizations*. In another of his books, *Structure in Fives: Designing Effective Organizations*, Mintzberg again emphasized the components of an organization, while proposing three parameters for the design of specific positions in an organization: The professionalization of work, the standardization of work behavior, and the training and indoctrination required for work.

(3) Modern enterprise management and operation theory

In reality, enterprise management and operation involve many aspects, and the specific content is complex and tedious, with related theoretical research emerging one after another. For example, facing increasingly fierce market competition, modern enterprises need to analyze the internal and external environmental conditions to formulate development strategies, and thus the theory of strategic management emerged. Professor Porter of the Harvard Business School proposed the Five Forces model in the early 1980s, which includes the five forces of competition between existing industries, the bargaining power of suppliers and buyers, the threat of substitutes, and the threat of potential entrants. The interaction of these five forces is closely related to the profitability of enterprises. To achieve profitability, enterprises need to

continually adjust and make corresponding strategic plans based on changes in these five forces. Zhai (2010) pointed out in terms of enterprise culture, the theory of the "learning organization", represented by Peter Senge, is popular in the development of knowledge-based enterprises. Senge combines self-transcendence and improvement of mental models with team learning, believing that a powerful driving mechanism, a shared vision, needs to be established within the organization. In this way, a belief in driving sustainable development and team spirit can be formed, thereby enhancing cohesion and competitiveness of the enterprise.

2.1.3.2 Real dilemmas and imbalances

As modern enterprise system theories evolve with changing times, there are some common problems in the operation of modern enterprises that require reflection. For example, some state-owned enterprises in China have borrowed from the modern enterprise system of the West, but the lack of adaptation and matching with the actual environment has resulted in low efficiency, as well as phenomena such as downsizing without improving efficiency and unemployment without leaving the factory (H. Huang, 2017). In addition to the institutional mismatch, the governance and management structure is also chaotic, and the management is not scientific. The board of directors, management department, and regulatory department should each perform their duties and exercise their powers and fulfill their obligations in the organization. Due to the lack of standardized and normalized work processes, coordination and balance between them have not been formed, and it is easy to encounter problems such as management being sidelined (Guo, 2020) or multiple leadership management. Furthermore, the enterprise culture is more superficial and less attentive to employees. As modern enterprise organizational managers, they should have the awareness and ability to cultivate human resources and career planning. For the long-term development of employees, there is a lack of humanized, systematic, and scientific talent training mechanisms (Bai, 2018), and the connection between enterprise employees and the community of interests of enterprise development is not close enough.

2.1.3.3 Modern enterprise system theory and professionalization of hospital management personnel

As an important theory of modern enterprise system, modern enterprise property rights theory, modern enterprise organization theory, modern enterprise management and operation theory have provided scientific references from different perspectives to improve the modern enterprise system, and have important research value for modern hospital management system. Nowadays, many hospitals are also exploring the introduction of enterprise management

models. On the one hand, because modern enterprise system theory attaches great importance to the experience of management personnel's organizational operation and ability to coordinate various parties, it has put forward certain requirements for the professionalization of hospital management personnel. Under the basic ideas and framework of this theory, higher standards and clearer directions are provided for the comprehensive quality of management personnel, therefore, it is necessary to further clarify and implement the human resource management, incentive, organization, supervision and other functions of hospital management personnel. On the other hand, modern enterprise system theory provides powerful support and development momentum for the professionalization of hospital management personnel. For example, while reforming the property rights system, ways such as introducing social capital and external investment and cooperation have been used to strengthen the hospital management personnel team (J. S. Wang et al., 2007). By setting up a board of directors to concretize and assign hospital management functions and responsibilities, it can enhance the professional quality and governance level of hospital management personnel. Combining personal development with organizational development and linking management personnel's abilities with hospital operation conditions lays the foundation for improving the hospital's resource allocation ability and operational efficiency.

2.1.4 Principal-agent theory

The Principal-agent Theory rapidly developed in the 1970s and became a hot topic of interest among scholars in the field of economic management. In recent years, some researchers have gradually introduced Principal-Agent Theory into hospital management research. Exploring the professionalization of hospital management personnel inevitably relies on Principal-Agent Theory as its theoretical foundation.

2.1.4.1 Theoretical content

Principal-Agent Theory was developed by a group of economists, including Wilson, Spence and Zeckhauser, Ross, Mirrless, Stiglitz, Meckling, Holmstrom, Crossman and Hart, through in-depth research into issues of information asymmetry and incentive problems within organizations (C. Y. Zhao, 2016). In a principal-agent relationship, information is asymmetric due to the different professional roles of the principal and agent, and there are differences in their interests during the transaction. Both parties aim to maximize their own interests, resulting in a mutual strategic interaction (Long et al., 2022). Therefore, the central task of Principal-Agent Theory is to effectively address the conflicts of interest and utility between the principal

and agent in situations of information asymmetry, create effective institutional arrangements, and achieve a win-win situation for both parties (Man, 2011).

2.1.4.2 Principal-agent theory and professionalization of hospital management personnel

As the scale of hospitals continues to expand, especially with the increasing complexity and specialization of hospital management, hospital owners face limitations in various aspects such as professional knowledge and management capabilities. They often find it challenging to resolve operational issues when confronted with risks. In such cases, hospital owners entrust the management of the hospital to professionals, giving rise to the principal-agent relationship between hospital ownership and management. In the realm of hospital management research, the application of Principal-Agent Theory has gained increasing attention. It is essential to review the key figures and main viewpoints of Principal-Agent Theory.

Coase (1937), the founding figure of New Institutional Economics, argued that the mechanisms for resource allocation in the market and within firms differ. He contended that the operation of the market price mechanism incurs costs, such as information acquisition, negotiation, and contract costs. The emergence of firms is seen as a means to reduce these transaction costs, with the fundamental characteristic of firms being the substitution of the price mechanism. Building on Coase's transaction cost analysis, Jensen and Meckling (1976), representing the principal figures in agency theory, proposed that agency problems arise from conflicts of interest and are prevalent in the cooperation between principals and agents. In situations where ownership and control are separated in a firm, how managers act on behalf of owners' interests becomes a key issue in the principal-agent relationship. Holmstrom and Milgrom (1991) introduced the multitask principal-agent model, suggesting that under strong incentive contracts, agents allocate more effort to tasks with high measurability and tend to neglect tasks with low performance measurability. Bond and Gomes (2009) argued that in the utility function of hospital managers, multiple goals exist, establishing a multitask principal-agent relationship between hospital managers and physicians.

In the context of China, it is generally believed that internal principal-agent relationships in public hospitals can be classified into two types: one where the government acts as the principal and hospital managers as agents, and the other involving a dual agency relationship between hospitals and physicians (Hu & Dai, 2009). Scholars have applied agency theory to analyze how the governance structure of public hospital legal entities affects overall performance, proposing recommendations for improving the governance structure of hospital legal entities (Xiong & Su, 2016). Some scholars, from a game theory perspective, have

explored the principal-agent relationship between hospital directors and physicians in public hospitals. They argue that strengthening supervision is conducive to reducing economically motivated behaviors of physicians; improving hospital incentive mechanisms helps align the interests of principals and agents; and strengthening the constraints on public hospitals contributes to reducing opportunistic behavior by physicians (T. R. Zhou & Wang, 2022).

The professionalization of hospital management personnel primarily emphasizes their expertise. This study considers that hospitals exist within both external and internal principal-agent relationships. As mentioned earlier, externally, there is a principal-agent relationship where the government serves as the principal and hospital managers act as agents. Internally, there are multiple principal-agent relationships, including hospital managers as principals and middle-level executives or medical staff as agents, and middle-level hospital executives as principals and ordinary employees as agents. Focusing on hospital management personnel, within the hospital, there are principal-agent relationships between hospital managers as principals and middle-level executives in the hospital management department as agents, and between middle-level hospital executives as principals and hospital management personnel as agents. To achieve mutual benefits for both principals and agents, professionalism and vocationalism are essential for agents under the premise of information asymmetry. Proper incentive policies should also be established to encourage agents to perform their tasks effectively, achieving a win-win situation.

2.2 The professionalization of hospital management personnel in both domestic and international contexts

2.2.1 Foreign research status

A review of foreign research on hospital management professionalization shows that foreign scholars mainly focus on three aspects: first, the necessity of hospital management professionalization; second, the current status of hospital management professionalization; and third, the path to hospital management professionalization.

2.2.1.1 The necessity of professionalization of hospital management personnel

In foreign literature, many scholars first discuss the necessity of professionalization of management personnel to increase the persuasiveness of their research before studying it. On the one hand, many hospital managers currently come from a clinical background, but their

management skills are inadequate. Blumenthal et al. (2012) believe that effective clinical leadership can produce outstanding clinical outcomes, but few residency programs systematically teach all residents how to lead, and many clinical physicians are not adequately prepared to fulfill their daily leadership responsibilities. Stoller (2014) also suggests that most doctors feel unprepared for managerial roles because they receive clinical and scientific skills training, not leadership and management skills training, and he believes that leadership training should start early in one's career. According to Dwyer's (2010) research, medical managers are selected based on the qualifications of medical professionals and their political style. However, as the health system becomes increasingly complex, the diversity of roles and responsibilities of managers has also expanded, requiring a broader range of training and professional knowledge, not just qualifications.

On the other hand, the necessity of professionalization of management personnel stems from the positive role of professional management knowledge in the rational allocation, utilization, and management of resources. Effective leadership and management activities around all aspects of health services help ensure the safety and high quality of clinical care and enable efficient and rational allocation of resources. Tabish's (1998) review of many national health departments shows that the large recurrent expenditures of hospitals due to low technical and management efficiency within hospitals result in a significant waste of resources. To control hospital spending, improve efficiency and management levels, it is necessary to conduct professional hospital management training. He believes that professionally trained management personnel, who have undergone interdisciplinary training, will ensure the efficient use of resources, ensure that hospitals and equipment are designed to meet standardized requirements, and such specialized personnel will seek a win-win situation of effectiveness and efficiency.

2.2.1.2 Current status of professionalization of hospital management personnel

Currently, in developed countries such as Europe and the United States, the construction of professionalization of hospital management personnel has been perfected. The management team is basically composed of professional managers, who need to undergo training in hospital management and other fields.

In the United States, private non-profit hospitals are mainly run by professional managers. According to surveys, more than 90% of hospital administrators have obtained master's degrees in business administration (MBA), hospital management (MHA), or public administration (MPA), and have many years of experience in senior management positions. At the same time, more and more clinical physicians are willing to leave clinical positions and engage in hospital

management work. However, due to lack of management experience, they need more specialized learning to overcome the barriers of role transition. Therefore, American doctors must undergo management knowledge training in national professional institutions before transitioning to management professions. MHA is widely recognized by many countries and regions, and the MBA course oriented towards hospital management is a fusion of hospital management and medical knowledge. Training in leadership skills has become the basic framework for personal ability and leadership growth, and has made positive contributions to the popularization of leadership growth frameworks, such as the leadership quality framework of the UK NHS, which is based on this foundation (Walshe & Smith, 2011). Moreover, in response to the new public management situation, the concept and practice of new public leadership have been opened up, and collective leadership with power delegation and power sharing as its basic characteristics has been included in the cornerstone of new leadership.

At present, European countries have basically completed the professionalization of hospital management personnel. German hospitals implement the board structure, with three types of presidents: administrative, medical and nursing. To serve as a hospital leader, one must have training experience in hospital management, professional learning experience and hospital management practice experience. The president of a British hospital is the head of the hospital, responsible for the management and operation of the hospital. The president has the heads of medical, personnel, finance and nursing departments, similar to the assistant vice president of an American hospital. The president of the hospital is a full-time manager, and the heads of each department are also required to have a management background. Physicians transferring to management posts must receive at least six months to three years of professional training in hospital management.

Japan formulated the Hospital Law, requiring that the president of the hospital must be a physician, but at the same time, the president will be equipped with a non-physician administrative vice president or "chief secretary". The chief secretary is generally a graduate of economics or business management.

Foreign scholars have also conducted research on the professionalization of hospital management personnel. After World War II, with the expansion of hospital scale and the complexity of hospital functions, developed countries began to vigorously promote the professionalization of hospital management personnel. In 1978, the American College of Hospital Administration (ACHA) published the "*Responsibilities of Hospital Chief Executive Officers*" report, which established seven essential professional competency requirements. The 7 essential professional competency requirements are as follows: 1) Planning and Organization:

Collaborate with board members to develop hospital development strategies and plans; 2) Goal Achievement: Ensure the realization of hospital objectives through effective management; 3) Quality Monitoring of Medical Services: Work closely with physicians to ensure the provision of high-quality healthcare services; 4) Resource Allocation: Ensure the community's ability to consume provided healthcare services by acquiring and utilizing available resources; 5) Crisis Management: Establish mechanisms for stable development through timely and effective measures when crises arise; 6) Policy Consistency: Monitor the hospital's operational processes and advocate for changes when necessary to ensure alignment with national macro health policies; 7) Establish and maintain effective external communication and connections to promote the hospital's good reputation within the community and various public groups (Rakich & Darr, 1978). Subsequently, a large number of scholars began to study the construction of hospital management professionalization.

In exploring the practical level of hospital director professionalization, Chapman and Confessorre (2002) conducted research on the relationship between professional managers and professionalized hospital directors. They believed that "hospital directors should think about hospitals, which are highly concentrated places of knowledge, with the mindset of professional managers. Establishing and evaluating intangible hospital assets, building hospital culture, managing talent, dynamically managing and utilizing information resources, and re-educating personnel all reflect the importance of knowledge management". Stern et al. (1994) believe that the management ability of hospital directors determines the management practice mode. Management ability is mainly influenced by two factors: personal and professional background and training received.

On the practical level of exploring the professionalization of hospital management personnel, Tabish (1998) believes that hospital management personnel need to have professional knowledge in four areas: firstly, continuity maintenance management to maintain the organization's operation; secondly, coordinated comprehensive management to unite the organization; thirdly, evaluation management, to compare and correct results against expectations; and fourthly, adaptive change management, to actively innovate the organization when necessary. At the same time, he believes that in the field of hospital management activities, namely general management, medical management, financial management, material management, human resource management, and support services should all be controlled by trained managers. Rabbani et al. (2015) believe that hospital management is a professional discipline that requires appropriate training and skills and cannot be solely obtained through work experience. It mainly includes hospital planning and business activities, including the

development and implementation of organizational strategies to ensure an adequate quantity and quality of trained human resources, effective financial management, disaster preparedness, utilization of health management information systems, support services, biomedical engineering, transportation, and waste management, among others.

With the new public management reforms, many scholars abroad advocate for increased participation and organization of doctors in hospital management. American sociologist Freidson (2001) proposed the theory that as professionals, clinical doctors primarily organize their practice according to the logic of specialization, while hospital managers follow the logic of management science or bureaucracy. As these two logics often conflict with each other, tensions between clinical doctors and hospital managers are common. Therefore, incorporating doctors into hospital management will alleviate these tensions and ultimately improve hospital performance (Edwards & Marshall, 2003). Sharma et al. (2011) believe that clinical directors can incorporate management tasks into their work, but management personnel cannot perform clinical tasks. This one-sidedness constitutes the unique position of doctors with management responsibilities in healthcare institutions. The emergence of clinical directors (senior doctors assuming management responsibilities) can create a "two-way window" in healthcare management, increasing the visibility of each other's work through the activities of clinical directors, and promoting mutual understanding between clinical doctors and management personnel. Spurgeon et al. (2015) believe that more doctors need to be encouraged to take on healthcare leadership roles, but they must have the necessary skills to ensure that through their leadership, individual engagement is improved, ultimately leading to improved organizational performance. Prideaux (1993) discussed the five areas of change when transitioning from a clinical doctor to a manager: first, in terms of skills, from clinical skills to management skills; second, in terms of tasks, from explicit to vague; third, in terms of dealing with relationships, from relatively limited to broad; fourth, in terms of positioning, clinical doctors focus on individual patients, while managers focus not only on individual patients but also on the entire patient population and the entire organizational system; fifth, in terms of thinking, from systematic to intuitive. Numerato et al. (2012) believe that the effectiveness of doctors' role in management depends on their ability to redefine their professional roles by overcoming conflicts between management and specialization. Ham (2008) believes that involving doctors in leadership requires attention to a range of factors, including entry-level education and development, as well as skills needed to become effective team members, leaders, and followers throughout their careers, enabling doctors to enter and exit leadership roles while combining leadership and clinical responsibilities. Dickinson et al. (2013) found through research on

doctors that management and leadership were beyond their scope of responsibilities, and thus, the management and leadership skills that doctors possess were found to be insufficient. Walker and Morgan (1996) found through their research that although hospitals increased the provision of additional management training for doctors, this training lacked coordination and relevance.

2.2.1.3 Exploring the development path of hospital management professionalization

To strengthen hospital management capabilities and improve the performance of the healthcare system, countries around the world have taken action and actively explored the development path of hospital management professionalization.

One approach is through professional education and training. Pihlainen et al. (2016) believe that it is common practice to develop management and leadership abilities through formal education. In particular, the necessity of management education in the medical field has been recognized. Lorsch and Mathias (1987) pointed out that some medical schools train doctors who can contribute to organizational management through interdisciplinary management education and formal research training. Page (2002) found through a survey that nearly one-third of American medical schools have formal integrated degree programs in business or healthcare management. Tabish (1998) proposed in his research that hospital managers can learn detailed knowledge of professional management by studying professional management courses. Khandekar (2012) suggested that the healthcare sector can promote the career development of hospital managers through structured training and academic recognition of hospital management skills. Secondly, it is to develop management capability frameworks and standards. Till et al. (2015) found through research that over the past decade, many capability frameworks and standards have been developed worldwide to support doctors in developing management skills. Among them, the most influential ones are the standards and frameworks developed by the Faculty of Medical Leadership and Management (FMLM) in the UK, the Institute for Healthcare Improvement (IHI) in the US, and the Royal College of Physicians and Surgeons of Canada (CanMEDS). Although their positions are slightly different, they all have common basic principles that can be adjusted to meet different needs.

Kyratsis et al. (2016) pointed out that the FMLM is achieving the goal of improving patient care through three paths to enhance medical leadership, including promoting professionalization of medical leadership. The FMLM has established leadership and management standards for healthcare professionals and created a three-level certification system for doctors at all stages of their careers to support and recognize their leadership, management abilities, and achievements. Till et al. (2015) believe that these standards apply to

all doctors working in organizations at various levels in the UK, and include the following core values and behaviors: self-awareness and self-development, personal resilience, drive and energy; effective teamwork and cross-team collaboration; organizational culture, team spirit, and innovation.

The high-impact leadership framework is a leadership approach developed by the Institute for Healthcare Improvement (IHI) in the United States. The framework identifies three new areas where leaders need to focus their efforts and actions: being driven by individuals and communities, shaping an ideal organizational culture, and crossing the boundaries of traditional healthcare systems. According to Swensen et al. (2013), this leadership framework is essential for leaders throughout an organization and has been implemented by a group of leaders both inside and outside the healthcare industry, with proven effectiveness. The framework has also received significant attention in the United States and is considered crucial to achieving the IHI's "Triple Aim" of improving patient care experience, improving population health, and reducing healthcare costs.

In the early 1990s, with support from the Charity Joint Medical Services, researchers at the Royal College of Physicians and Surgeons of Canada developed a competency framework for specialists called the CanMEDS framework. This framework describes the abilities that physicians need and is now widely accepted and applied worldwide. In the draft of the Physician Competency Framework in 2015, Frank et al. (2015) pointed out that doctors need to develop leadership skills, do well in career planning and management, and master healthcare informatics. Till et al. (2015) found in their research that the CanMEDS framework provides training and continuing education, and has been adopted by all professional education programs in Canada, providing guidance for physicians in modern healthcare.

2.2.2 Research status in China

A review of the research on the professionalization of hospital management personnel in China reveals that Chinese scholars have mainly focused on four areas: firstly, the necessity of professionalization for hospital management personnel; secondly, the current status of professionalization for hospital management personnel; thirdly, the current status of professionalization for hospital presidents; and fourthly, the professionalization of hospital management personnel in foreign countries.

2.2.2.1. Necessity of professionalization of hospital management personnel

Since the 1997 *"Decision of the Central Committee of the Communist Party of China and the*

State Council on Health Reform and Development" proposed to "attach great importance to the training of health management personnel and cultivate a professional management team that can adapt to the development of the health industry", Chinese scholars have increased their research on the professionalization of hospital management personnel. The first aspect they focused on was the necessity of professionalization. X. Wang and H. Z. Wu (2002) analyzed the necessity of professionalization of hospital management personnel from the contradiction between social demands for hospital management and the actual management capabilities and levels of hospital management personnel. They believed that China already had the policy, recognition, system, material, talent, and external environment foundations to establish a professional management team for hospitals, and that the professionalization of hospital management personnel was feasible. D. Xu et al. (2013) believed that there were many problems with the current hospital management team, and that scientific management of hospitals called for the professionalization of hospital management personnel. The deepening of the medical and health system reform also urgently requires the professionalization of hospital management personnel. M. Q. Wu (2014) believed that the professionalization of hospital management personnel is a practical necessity to respond to the competition in China's medical market. With the relaxation of access to foreign-funded hospitals, the competition in the Chinese market has become more intense, and a group of management professionals who understand management are needed to manage hospitals. In addition, the professionalization of hospital management personnel is an internal requirement for improving the level of hospital services and operations.

W. Chen (2017) believed that the professionalization of hospital management personnel is the only way to solve the current hospital management problems, an internal requirement for "effective management", and an inevitable requirement for the reform and development of modern hospitals. Therefore, it is necessary and urgent for hospitals to implement the professionalization of management personnel.

2.2.2.2. Professionalization of hospital managers

Chinese scholars generally use literature research, questionnaire survey, and interview methods to study the current situation of the professionalization of hospital managers, mainly exploring the problems in the professionalization process and proposing relevant suggestions. The research scope is usually based on provinces, cities, or individual hospitals. Representative studies in this area include:

N. Li (2010) used a questionnaire survey to select 19 comprehensive hospitals in 11 cities

in Shanxi Province for investigation. It is believed that there are several problems in the professionalization of hospital managers in Shanxi Province, including the majority of hospital managers coming from a medical background rather than a management background, the common phenomenon of management and business "double burden", the serious shortage of hospital management education and training that is disconnected from the actual development of hospitals, and the lack of specialized management titles and incentive mechanisms. Suggestions for the existing problems include changing concepts, establishing a scientific management concept, strengthening management training, establishing a long-term mechanism for hospital management training, and establishing incentive mechanisms and promotion systems for management titles.

Q. H. Yu (2018) used a questionnaire survey and stratified cluster sampling method to select three Class-A hospitals in Anhui Province for investigation in the southern, central, and northern regions. It is believed that there are several problems in the professionalization of hospital managers in Anhui Province, including structural problems in the management team, the disconnection between the learning and application of management, the phenomenon of management and business "double burden", the low satisfaction rate for the institutionalized construction, and the lack of a professional atmosphere for the professionalization of the management team. Suggestions for the existing problems include establishing a management staff training system, establishing a selection and appointment mechanism for hospital managers, and increasing the policy and institutional construction of government support for the professionalization of hospital managers.

J. C. Chen et al. (2018) used a questionnaire survey and interviews to select nine Class-A hospitals in Guangzhou for investigation. It is believed that there are several problems in the professionalization of hospital managers, including the lack of supporting measures and policy support, the constraints of the administrative management system of hospital management, the lack of a scientific and effective performance evaluation system for public hospitals, the lack of a complete career planning system for management personnel, the restriction of traditional management models on the implementation of professionalization, the obstruction of professional development channels, and the constraints of traditional thinking patterns and academic power on management personnel. Suggestions for the existing problems include the introduction of relevant supporting laws and regulations, the acceleration of the establishment of a modern hospital management system, the establishment of a professional title series for hospital management, the reform of the performance evaluation system, the strengthening of human capital value-added and the development of career management training, the

transformation of the thinking mode of management personnel to enhance the awareness of professionalization, the exploration of professional complementary type professionalization hospital management team model, and the construction of an effective evaluation index system for the professionalization of hospital managers. R. Zhang (2011) also conducted a survey and interviews with the management staff of the People's Hospital in Bao'an District, Shenzhen, and believed that the degree of specialization and professional level of the hospital's management staff was not high. The hospital lacked a complete professional training mechanism and professional system, and the management staff did not have sufficient understanding of professionalism. To address these issues, the following improvement strategies were proposed: first, to standardize the professional admission system for management staff; second, to implement a professional employment mechanism for hospital management staff; third, to improve the professional training mechanism for hospital management staff; fourth, to establish a professional supervision and assessment mechanism for hospital management staff; fifth, to improve the professional incentive mechanism for hospital management staff; and sixth, to strengthen the professional awareness of hospital management staff.

2.2.2.3. Professionalization of hospital presidents

The study of the professionalization of hospital presidents is also one of the main research areas for Chinese scholars, who generally analyze the related problems based on the current situation and propose corresponding solutions. Representative studies include: Cui and Feng (2012) summarized the problems of professionalization of hospital presidents in China, pointing out that the professional knowledge of Chinese hospital managers cannot meet the needs of hospital management work; part-time employment affects hospital performance; the term of office of hospital presidents affects sustainable development of hospitals; and the inability to ensure the role of hospital presidents leads to many drawbacks. Drawing on the experience of the United States and Japan, they proposed the following inspirations for the professionalization of hospital presidents in China: first, exploring the training of professional hospital presidents with medical backgrounds; second, the government formulating relevant policies to promote the professionalization process of hospital presidents; third, forming complementary hospital president teams to optimize the hospital management team; and fourth, implementing the specialization of hospital presidents to achieve the independence of hospital business management and medical management. S. J. Li et al. (2019) summarized the problems of professionalization of hospital presidents in Guangdong Province, pointing out the following problems: first, the lack of a systematic professional training platform; second, the imperfect

performance evaluation system and unclear salary distribution mechanism; third, the incomplete selection mechanism; and fourth, the imperfect governance structure. Suggestions for promoting the professionalization process of hospital presidents in public hospitals in Guangdong Province include: first, establishing online and offline training academies for professionalization of hospital presidents; second, implementing a target annual salary system for public hospital presidents and establishing a hospital president evaluation mechanism; third, improving the selection mechanism for public hospital presidents; and fourth, improving the independent governance structure of the legal person. Xiao et al. (2019) compared the professionalization of hospital presidents in China and abroad and proposed five key aspects for the professionalization of hospital presidents in China: first, the government formulating and implementing the system of professionalization of hospital presidents; second, improving the system of professionalization of hospital presidents; third, establishing a market-oriented free practice mechanism for hospital presidents; fourth, establishing a mechanism for career planning; and fifth, incorporating hospital management into the national health development strategy.

2.2.2.4 Professionalization of hospital management personnel in foreign countries

Due to the relatively late start of research on the professionalization of hospital management personnel in China, foreign countries have explored this topic more extensively and have many advanced experiences that can be used for reference. Therefore, many scholars in China have also conducted research on the current situation of professionalization of management personnel in foreign countries and summarized useful insights that can promote the professionalization process of hospital management personnel in China. For example, Su and Pei (2005) compared the differences between hospital managers in China and Australia and suggested that China should learn from the experiences of Australia and Europe to accelerate the professionalization process of hospital management. They recommended developing a system for the qualifications of management cadres, policies for the specialization of health management cadres, policies for improving the technical titles of management personnel, strategies for the development of health management education, and a standardized system for training management personnel. Mao et al. (2010) analyzed the training model of hospital management personnel in foreign countries from four aspects: education, continuing education, study abroad, and professionalization training, and proposed a plan to establish a hospital management talent training mechanism with Chinese characteristics. The plan includes developing a Chinese-style MHA training program, establishing a modern, systematic, and

scientific hospital management training system, improving the overall quality of management personnel through internal and external exchanges, and improving the mechanism for appointing and removing cadres to stabilize the management talent team. T. Q. Chen et al. (2015) sorted out the training models for hospital senior management personnel in Europe, America, and Asia and summarized the characteristics and rules of the training models in foreign countries, including a focus on cultivating professional qualities and abilities, combining theoretical knowledge with case teaching, and constructing a theoretical knowledge framework in a comprehensive way.

2.3 Summary

From existing research, Western countries are leading in the research and practice of professionalizing hospital management personnel and have conducted in-depth exploration and practice on the necessity, current situation, and realization path of hospital management personnel professionalization. China, on the other hand, started researching and practicing the professionalization of hospital management personnel relatively late, and although it has made valuable explorations on the necessity, current situation, and the professionalization of hospital management personnel in foreign countries, there are still many shortcomings.

2.3.1 Lack of defining core elements

As mentioned earlier, the concept of the professionalization of hospital management personnel used by many scholars in China currently is the following: the professionalization of hospital management personnel refers to the specialized personnel who must undergo professional training in hospital management, pass national departmental examinations, obtain professional qualifications, and be employed as their main source of income to engage in hospital management. The professionalization of hospital management personnel includes several aspects, such as job specialization, position sequence, knowledge "T" type, skill professionalization, modernization of management consciousness, and marketization of management talents. Scholars such as Geng et al. (2002), X. X. Cao and Zhao (2004), and Lin and Li (2019) have all used this concept. Gao, the director of the Hospital Management Research Institute of Fudan University, believes that the professionalization of hospital management is when hospital managers accept appointment from the competent authority or the hospital owner in a contractual form, obtain the legal person of the hospital, the right to use the assets, engage in hospital management, and gain income and livelihood based on their

management performance, management energy, and time investment (Gao, 2017). It can be seen that China currently lacks a unified concept of professionalization of hospital management personnel. Even in the West, there is no clear definition of the concept of professionalization of hospital management personnel. The lack of a unified concept of the professionalization of hospital management personnel, the core elements of professionalization of hospital management personnel are not clearly defined will inevitably affect the research and practical progress related to hospitals.

2.3.2 Lack of evaluation criteria for the current situation

Western countries have developed some evaluation standards and frameworks for hospital management personnel, such as those developed by the Faculty of Medical Leadership and Management (FMLM) in the UK, the Institute for Healthcare Improvement (IHI) in the United States, and the Royal College of Physicians and Surgeons of Canada (CanMEDS). However, these standards and frameworks are aimed at evaluating the personal management ability and level of hospital management personnel. Many Chinese scholars have also conducted competency-related research on hospital management personnel, which similarly evaluates the management ability and level of individuals. Domestic and abroad both lacks a scientific, comprehensive set of evaluation standards that can comprehensively evaluate the level of professionalization of hospital management personnel in a particular region or hospital from government, hospital, and individual perspectives.

2.3.3 Lack of research on the current situation in Guangzhou

Looking back at current research, there are few studies on the professionalization of hospital management personnel in Guangzhou. The studies that have been retrieved include: Liao (2010) conducted a survey of four government health officials and 20 hospital presidents in Guangzhou, analyzed the problems and influencing factors of hospital president professionalization, and proposed relevant countermeasures; X. Y. Huang et al. (2017) surveyed the professionalization status of management personnel in 11 tertiary hospitals in Guangzhou, summarized the problems of professionalization of hospital management personnel, and proposed relevant suggestions; J. C. Chen et al. (2018) surveyed the management personnel of nine tertiary hospitals in Guangzhou, and summarized the factors constraining the development of professionalization of hospital management personnel in Guangzhou. It can be seen that there are relatively few studies on Guangzhou, which have not been able to comprehensively evaluate

the professionalization status of hospital management personnel in Guangzhou, nor have there been studies on the professionalization status of hospital management personnel in Guangzhou based on the background of modern hospital management system construction. In 2019, the Guangzhou Municipal Health Commission and five other departments issued a notice on carrying out pilot work on the city-level modern hospital management system and the creation of public hospital party building demonstration points, selecting 40 hospitals in Guangzhou as pilot hospitals for the establishment and improvement of modern hospital management systems. Since the promotion and pilot of the modern hospital management system, it is worth studying the professionalization status of hospital management personnel in Guangzhou, and through research on Guangzhou, we can glimpse the promotion of professionalization of hospital management personnel in China.

2.3.4 Lack of feasible strategies for advancement

From the literature review, it can be seen that many scholars in China have conducted research on how to promote the professionalization of hospital management personnel, and the main strategies proposed can be summarized as follows: first, improve relevant systems and clarify the selection criteria for hospital management personnel; second, implement the de-staffing of public hospitals; third, strengthen the professionalization training of hospital management personnel; fourth, formulate specialized assessment standards for hospital management personnel; fifth, establish a professional title system for hospital management personnel. The aforementioned strategies are executable, but some strategies may lack feasibility and generalizability. In exploring the strategies for promoting the professionalization of hospital management personnel in China, it is essential to conduct empirical research based on scientific and rational approaches. By combining the current situation and its existing issues, targeted and feasible recommendations can be proposed.

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Chapter 3: Research Methodology

Based on the results of the literature review and the research objectives, this study focuses on 4 questions: a) What are the core elements of professionalization for hospital management personnel? b) How can we evaluate the status and level of professionalization among hospital management personnel? c) What is the current development status of professionalization among public hospital management personnel in Guangzhou? d) How can we further promote the professionalization of hospital management personnel in China? In order to address these questions, we need to establish corresponding research steps and employ scientific research methods. The specific methodology is outlined as follows:

3.1 Research steps

Step 1: From January to December 2021, conduct a literature review and utilize the Delphi expert consultation method to determine the core elements and evaluation indicators for professionalization of hospital management personnel. Use expert rating methods to determine the weights of evaluation indicators and construct a comprehensive evaluation indicator system. This step aims to provide a tool for assessing the current status of professionalization among hospital management personnel in Guangzhou.

Step 2: From January 2022 to April 2023, based on the established indicator system, employ a combination of questionnaire surveys and expert interviews to investigate the current status of professionalization among hospital management personnel in Guangzhou. Describe the current development status and analyze factors that may influence the level of professionalization. Lay the foundation for proposing policy recommendations to promote the professionalization of hospital management personnel in public hospitals in China.

Step 3: From May to September 2023, design four corresponding questions in expert interviews (understanding of professionalization, necessity, obstacles to implementation, and related recommendations). Utilize NVivo software for analysis to understand the views of hospital leaders on the professionalization of hospital management personnel and build a path model for the reform of the professionalism of hospital managers in China under the modern hospital management system, this will also provide support for summarizing existing issues in hospital management personnel professionalization and proposing reform suggestions.

Step 4: In October 2023, summarize the current issues in the professionalization of hospital management personnel.

3.2 Research methods

3.2.1 Literature review method

Literature review refers to the method of searching, collecting, identifying, organizing, and analyzing literature materials to form a scientific understanding of facts. The literature research method can transcend temporal and spatial limitations. By studying and analyzing literature from ancient and modern times, both domestic and foreign, it is possible to study a wide range of social situations (X. L. Du, 2013). Literature research is the cornerstone of academic thesis writing (Dong, 2020).

This study primarily conducts a literature review to understand the current status of professionalization of hospital management personnel and to summarize the theoretical framework of evaluation indicators for professionalization of hospital management personnel. The specific approach is to extensively search and review hospital management and professionalization-related content from libraries of universities such as South China University of Technology and Guangzhou Medical University, as well as from databases such as China National Knowledge Infrastructure (CNKI), Wanfang Data, PubMed, and the Internet.

3.2.2 The Delphi method

The Delphi Method, also known as expert consultation or expert survey, has been widely used in fields such as military, technology, and healthcare. The method follows a systematic procedure and uses anonymous feedback to reach a consensus and generate predictive conclusions (Ouyang et al., 2018).

In this study, the Delphi Method was employed to determine the core elements and evaluation indicators of hospital management professionalization. Based on the theoretical framework of the evaluation indicator system for hospital management professionalization, expert consultation forms were designed: "Expert Consultation Form for Determining the Core Elements of Hospital Management Professionalization (Round 1)" (Annex A), and based on the feedback from the first round of expert consultation, the "Expert Consultation Form for Determining the Core Elements of Hospital Management Professionalization (Round 2)" (Annex B) was formulated and sent to the experts via email. The study aimed to select 18

experts, with the following criteria: 1) engaged in health management or health management research; 2) have more than 5 years of relevant work or research experience; 3) hold senior professional titles or are senior management personnel in hospitals; 4) have an interest in this research topic. Generally, expert consensus is considered reached when the mean ($\bar{x}$) is greater than 3, the maximum score ratio (M) is greater than 0.2, and the coefficient of variation (CV) is less than 0.2. In the actual consultation process, this study achieved consensus after two rounds of expert consultation. In the first round, 18 experts replied, while in the second round, 17 experts replied, and one did not respond.

3.2.3 The expert rating method

In the process of determining the weights of the indicator system, this study employed the expert rating method. Experts assigned scores to each indicator based on its importance. Finally, the weighted average score of the evaluation indicators was calculated, taking into account the scoring results and the authority coefficient of the experts, to determine the weights of the indicators (Ouyang, 2015).

3.2.4 The questionnaire survey method

The questionnaire survey method is a research method that relies on the use of questionnaires to collect data. It involves the distribution or mailing of questionnaires to relevant individuals, requesting them to complete the questions, and then collecting, organizing, analyzing, and studying the collected responses (Zheng, 2014). This method is characterized by standardization of the survey tool, survey process, and survey results (D. L. Liu & Wu, 2018). In this study, the questionnaire survey method was used to investigate the current status of hospital management professionalization in Guangzhou at both the individual and hospital levels. Two sets of questionnaires were designed based on the content of the indicator system: the "Questionnaire on the Current Status of Hospital Management Professionalization (Individual Version)" (Annex C) and the "Questionnaire on the Current Status of Hospital Management Professionalization (Hospital Version)" (Annex D).

Survey participants: A total of 40 hospitals, including central, provincial, municipal, and district hospitals, were selected from the list of pilot hospitals that have established and improved modern hospital management systems in Guangzhou. Both the individual and hospital versions of the questionnaires were distributed to these hospitals. A total of 23 hospital version questionnaires and 848 individual version questionnaires were collected. After

excluding questionnaires with incorrect information and those not belonging to management positions, a total of 790 valid questionnaires were obtained, resulting in an effective response rate of 93.2%.

Questionnaire distribution and collection: The individual and hospital version questionnaires were collected using the "QuestionStar" mini-program for data collection. The researchers sent the "QuestionStar" QR code and questionnaire instructions to the survey participants through WeChat and email. Most of the questions were set as single-choice or multiple-choice questions to ensure the objectivity and completeness of the data for subsequent statistical analysis.

3.2.5 The expert interview method

The expert interview method is a research method that involves planned communication with the interviewees to collect data and information (L. Cao, 2015). Depending on the mode of interview, it can be conducted face-to-face, over the phone, online, or in written form.

During this study, due to the impact of the COVID-19 pandemic, it was not feasible to conduct face-to-face interviews with the participants. Therefore, written interviews were primarily employed. An interview outline (Annex E) was designed to guide the interviews. Seventeen hospital leaders in Guangzhou were selected as the interviewees. Open-ended questions were formulated regarding the current status of hospital management professionalization in Guangzhou, the perspectives of hospital leaders on hospital management professionalization, the challenges encountered, and suggestions for improvement. The interview outlines were sent to the participants via email or WeChat for them to respond to, and the responses were collected in a timely manner (Annex F).

3.3 Data statistics and analysis

In this study, data entry was performed using Excel 2010, and the data were imported into the SPSS 26.0 statistical software package for analysis. Descriptive analysis, including frequency and percentage, was conducted for data that met the analysis requirements. Scores at the individual and hospital levels were calculated using the established indicator weights. The chi-square test was used to explore the main factors influencing hospital management professionalization, with a significance level set at $\alpha = 0.05$.

For the written interviews, questions 1 ("Describe your understanding of hospital management professionalization"), question 2 ("Do you think it is necessary to promote hospital

management professionalization at present? Why?"), question 3 ("In your opinion, what are the main obstacles to promoting hospital management professionalization? What are the existing problems?"), and question 4 ("What suggestions do you have for promoting hospital management professionalization?") were analyzed using NVivo 14 software. This analysis aimed to understand the perspectives of hospital leaders regarding the essence of hospital management professionalization, and to provide references and basis for understanding and summarizing the current issues and providing relevant recommendations for hospital management professionalization.

NVivo software, developed by the Australian company QSR, is a type of qualitative analysis software that can process various data such as audio, web pages, images, and social media content. It also provides powerful coding functions to organize and manage large amounts of textual content, making it suitable for organizing and processing complex policy documents and interview data (M. H. Wang, 2019). Therefore, NVivo 14 software was used in this study to analyze the responses to selected questions in the written interviews.

3.4 Technology roadmap

To facilitate an understanding of the research approach and to provide an overview of the study, a technical roadmap is outlined as Figure 3.1.

The Professionalization Dilemma of Hospital Management Personnel:
A Study of Guangzhou Public Hospitals

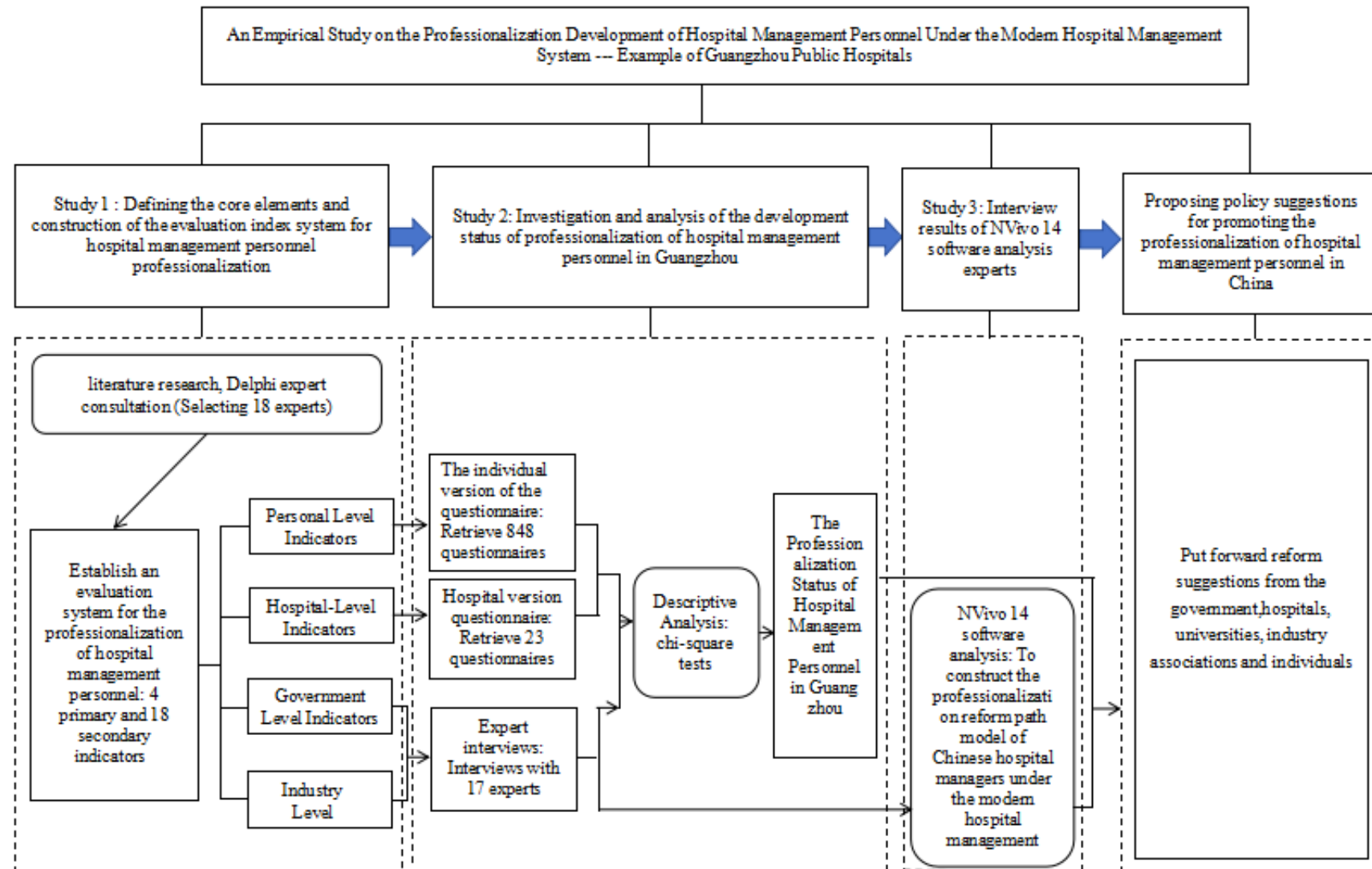


Figure 3.1 Technology Roadmap

Chapter 4: Professionalization of Hospital Management Personnel

4.1 Study 1 The core element and construction of evaluation indicators

4.1.1 The construction of the theoretical framework of evaluation indicators

The core elements of the professionalization of hospital management personnel are essentially the central indicators within the evaluation indicator system. This study employed a combined approach of forward searching, backward searching, and browsing, using keywords such as "hospital director / management personnel / health management personnel / professionalization / education / training" for both individual and combined searches, with a search period from 1990 to the present. The downloaded literature was analyzed, and the theoretical framework of evaluation indicators was deduced through a combination of literature review and summarization. As mentioned in the literature review of this thesis, the most commonly used concept for the professionalization of hospital management personnel in China is that it refers to the necessity for hospital management work to be conducted by individuals who have undergone specialized training in hospital management skills, passed examinations conducted by national statutory authorities, obtained professional qualifications, and are employed as specialized personnel, with hospital management as their primary economic source. The professionalization of hospital management personnel encompasses aspects such as specialization of work, serialization of positions, "T"-shaped knowledge, professional skills, modernization of managerial awareness, and market-oriented management talent. This concept has received recognition from researchers such as Geng et al. (2002), X. X. Cao and Zhao (2004), and Lin and Li (2019), and others. Gao, the director of the Institute of Hospital Management at Fudan University, emphasizes that professionalized hospital management personnel should earn a living based on their management performance, managerial efforts, and time investment. In Western countries, many scholars emphasize the importance of hospital management personnel undergoing professional training. Based on the literature review and expert opinions, a framework of indicators and their connotations is summarized, as shown in Table 4.1.

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Table 4.1 The theoretical framework of evaluation indicators for the professionalization of hospital management personnel

Dimension	Indicator	Connotation
A Personal Level	A-1 Full-time Hospital Management	Engaged in hospital management full-time, not part-time clinical and other work in the hospital.
	A-2 Have Management Background	Graduated from management related majors or received a certain degree of management related training.
	A-3 Corresponding majors and positions	Major meets the job requirements.
	A-4 Have "T" type knowledge structure	Have strong depth and width knowledge. In addition to mastering a large amount of basic theoretical knowledge of medicine and management, it also needs to have knowledge of politics, sociology, economics, law, psychology and other subjects.
	A-5 Have professional skills	In addition to being able to master and use management theories and tools skillfully, also have the ability to deal with various complicated affairs and problems inside and outside the hospital.
	A-6 Follow the professional ethics of hospital administrators	Abide by professional ethics and regulate and restrict behavior by taking professional ethics as the criterion.
	A-7 Hospital management is the main source of personal income	Hospital management is the main source of personal income, not part-time or less part-time.
	A-8 Have "modern management awareness" and professional quality	Take the operation and management of hospitals as real "occupation", apply modern management theory to hospital management, and implement the "modern hospital management system".
B Hospital Level	B-1 The hospital culture of "attaching importance to management" has been formed in the hospital	The hospital attaches importance to management completely, respects management talents, attaches importance to investment in management, and forms a hospital culture of "attaching importance to management".
	B-2 A complete set of hospital administrative departments and institutions	The setting of hospital administrative functional departments conforms to hospital functions and development orientation.
	B-3 Scientifically personnel schedules according to the principle of "people fit their posts"	There is a scientific and reasonable job description for the administrative functional departments. The recruitment and employment are strictly in accordance with the job description.
	B-4 a well-established training and refresher system for hospital management personnel	Pay attention to the training and further study of management personnel, establish rules and regulations and implement them in place.
	B-5 Establish a scientific and reasonable assessment system for hospital management personnel	There are performance assessment plans and professional ethics assessment plans for hospital management personnel and ensure their implementation.
	B-6 special promotion channels	There are special professional title promotion

The Professionalization Dilemma of Hospital Management Personnel:
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Dimension	Indicator	Connotation
C Government Level	for management personnel in the hospital	and job promotion channels for hospital management personnel.
	C-1 Have a modern hospital management system	Improve the hospital's corporate governance structure, promote the "separation of management and management", and promote the "deconstruction".
	C-2 Have sound rules and regulations for hospital administrators	The system of admittance, training, assessment, rewards and punishment for hospital administrators has been established and improved.
	C-3 Establish and set up promotion channels for hospital administrators	At the government level, the title and rank promotion channels of hospital administrators have been opened up and clarified.
	D-1 Have legal societies / associations related to the establishment of hospital management personnel	Through the establishment of community organizations, provides a communication and learning platform for hospital administrators and maintains the interests of group members.
D Industry Level	D-2 Marketization of hospital management talent flow	Hospital management personnel can freely flow in the talent market according to the market rules.
	D-3 High professional recognition of hospital management personnel in the industry	The industry (medical and health industry) recognizes the professionalization of hospital management personnel.

4.1.2 Determination of the content of the indicator system

After establishing the theoretical framework for the indicator system, this study, based on the content of the theoretical framework, employed the Delphi expert consultation method to determine the content of the indicator system.

4.1.2.1 Consultant selection results

According to the criteria for expert selection in Chapter 3, a total of 18 experts were selected. The basic information of the experts is shown in Table 4.2.

Table 4.2 Expert Basic Information

Category	Situation	Number of People	Composition Ratio (%)
Age	31-45	6	33.30
	46-55	8	44.40
	56 and above	4	22.20
Education	Bachelor	4	22.20
	Master	6	33.30
	Doctor	8	44.40
Academic Title	Intermediate and below	4	22.20
	Associate Senior	5	27.80
	Senior	9	50.00
Position	Leading roles of sections	10	55.55
	Leading roles of divisions	8	44.44
Specialty	Medical Management	8	44.44

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Category	Situation	Number of People	Composition Ratio (%)
Years of Service	Medical Management	4	22.22
	Hospital Human Resource Management	2	11.11
	Hospital Financial Management	3	16.66
	Medical Education	1	5.55
	15 Years and below	4	22.20
	16-29 years	7	38.90
	30 Years and above	7	38.90

4.1.2.2 Expert consultation results

(1) Analysis of the First Round of Expert Consultation

During the initial expert consultation round, 18 forms were distributed and received responses from all 18 experts, resulting in a 100% response rate and a 100% validity rate for the collected forms. From the results in Table 4.3, it can be seen that the six factors of A-1, A-3, A-7, C-1, D-1, and D-2 do not meet the criteria of average $\bar{x} > 3$; three factors of A-3, A-7, and D-2 do not meet the criterion of $M > 0.2$ for full marks; except for A-8 and B-2, the remaining factors do not meet the criterion of $CV < 0.2$ for coefficient of variation. However, in terms of the consistency of expert opinions, $W = 0.309$, $P < 0.01$, which means that the opinions of experts are basically consistent.

Table 4.3 the First Round of Expert Consultation Result (n=18)

Elements	No. of Approvals	No. of Denials	No. of Full Score	Average X	Standard Deviations	Coefficient of variation on CV	Full score ratio (%)
A-1 Full-time hospital management	13	5	5	2.94	2.01	0.68	27.78
A-2 With management education background	14	4	7	3.33	1.97	0.59	38.89
A-3 Major meets the job requirements	11	7	1	2.22	1.93	0.87	5.56
A-4 Have a "T"-shaped knowledge structure	17	1	6	3.94	1.21	0.31	33.33
A-5 With specialized skills	16	2	9	4.06	1.55	0.38	50.00
A-6 Follows the professional ethics of the hospital management personnel	17	1	14	4.50	1.25	0.28	77.78
A-7 Hospital management is the main source of personal income	13	5	3	2.67	1.91	0.72	16.67
A-8 With "modern management consciousness" and professional accomplishment	18	0	15	4.78	0.55	0.11	83.33
B-1 Form a hospital culture of "attaching importance to management"	16	2	10	3.94	1.63	0.41	55.56
B-2 With perfect administrative	18	0	12	4.67	0.49	0.10	66.67

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Elements	No. of Appro vals	No. of Denial s	No. of Full Score	Averag e X	Stand ard Deviat ions	Coeffi cient of variati on CV	Full score ratio (%)
departments and institutional settings in the hospital							
B-3 Recruit and position right person according to "right people-right position matching" principle scientifically.	17	1	11	4.28	1.27	0.30	61.11
B-4 Establish a perfect training and further education system for hospital management personnel	16	2	8	3.83	1.62	0.42	44.44
B-5 Establish a scientific and reasonable assessment system for hospital management personnel	17	1	15	4.50	1.29	0.29	83.33
B-6 With special promotion channels for administrators	16	2	14	4.28	1.64	0.38	77.78
C-1 Construction of modern hospital management system	12	6	4	2.67	2.06	0.77	22.22
C-2 With sound rules and regulations for hospital management personnel	16	2	12	4.06	1.66	0.41	66.67
C-3 Establish special promotion channels for hospital management personnel	17	1	14	4.44	1.29	0.29	77.78
D-1 Establish legal community organizations such as institutes / associations related to hospital management personnel	14	4	7	3.00	2.06	0.69	38.89
D-2 hospital management personnel's ability to change employment within different hospitals	11	7	2	2.28	1.99	0.88	11.11
D-3 With a high degree of professional recognition of hospital management personnel in the industry	14	4	6	3.22	1.93	0.60	33.33

(2) Analysis of the First Round Expert Feedback

Based on the opinions of the 18 experts, 15 experts (83.33%) proposed 57 deletions for 18 elements. Two elements were agreed upon by all experts to be included, which are A-8 and B-2. The elements with the most deletion proposals were A-3 and D-2, with 7 experts each, while C-1 also had 6 experts proposing deletions. Three experts proposed the addition of elements, suggesting including "*personal traits and interests*", "*the ability to keenly interpret medical and health policies*", "*establishment of assessment and incentives for modern hospital management construction*", and "*medical training for non-medical background management personnel*".

1) Element deletion comments

In the first round of expert consultation, besides elements A-8 "modern management awareness and professional literacy" and B-2 "well-established hospital administrative departments and institutions", all experts agreed to be included. The rest of the elements have been deleted (or not selected) by some experts. Among them, the number of experts who proposed to delete elements A-1 "full-time hospital management work", A-3 "professional education matches the position", A-7 "hospital management work is the main source of personal economy", C-1 "construction of modern hospital management system", and D-2 "hospital management talent market-oriented" is relatively large, with 5-7 people.

At present, "double-tasking" of public hospital management personnel in China is relatively common, and it is difficult to achieve full-time management or "departmentalization" in a short period of time. However, combined with existing research and the development trend of international hospital management, full-time management, and management talent market-oriented are indeed the two main characteristics of management personnel professionalization. This study attempts to construct the ideal or reasonable state of professionalization of hospital management personnel, and some experts score the above elements highly. Based on the opinions of experts, expert evaluation and research needs, the author continues to retain elements A-1 "full-time hospital management work", A-3 "professional education matches the position", C-1 "construction of modern hospital management system", and D-2 "hospital management talent market-oriented" for further judgment by experts, but modified the specific connotations of elements A-1 and C-1. The main reason for deleting element C-1 was "departmentalization", which was proposed by experts, so "departmentalization" was deleted and replaced with industry-promoted recognition and add "promoting the realization of de-organization" into the specific connotation of element D-2 "marketization of hospital management talent flow". Element A-7 "hospital management is the main source of personal income" has been implied in element A-1 "full-time engaged in hospital management", which is deleted in combination with expert opinions.

2) Element supplement comments

A specialist has proposed adding new elements to the list, including "*personal traits and interests*", "the ability to keenly interpret medical and health policies", "mechanisms in the hospital to promote and motivate the professional development of managers", and "establishing a modern hospital management evaluation and incentives mechanism". After discussion, the author recognizes that these 4 elements and their connotations are already included in the existing elements and were simply not recognized as separate elements. Taking into account the expert opinions and research needs, this round will not add new elements.

3) Other comments

Experts have suggested the issue of medical training for non-medical background managers. The existing factor A-4, "Having a T-shaped knowledge structure", mentions that hospital managers should also have medical knowledge. Meanwhile, factor B-4, "Establishing a perfect system of hospital management personnel training and improvement", contains training content, including medical knowledge. After comprehensive consideration of expert opinions and research needs, the author believes that there is no need to set up a separate element for medical training. Meanwhile, with regards to this factor, experts have suggested that training and improvement is not just important, but also cultivation, establishing an individual career development plan that aligns personal vision with the vision of the hospital. Through discussion, the author believes that the existing factors B-4, B-5, B-6 and others are the specifics of cultivation, so there is no need to establish cultivation as a separate factor. However, the proposal of *"establishing an individual career development plan that aligns personal vision with the vision of the hospital"* is adopted and added to the connotation of factor B-4.

By analyzing the expert modification opinions and the results of data statistics, the second round of core elements of hospital management personnel professionalization expert determination table is formulated, as shown in Table 4.4.

Table 4.4 The Revised Version of the First Round of Expert Consultation Result

Dimension	Indicator	Connotation
A Personal level	A-1 Full-time hospital management	The ultimate goal is to engage in hospital management full-time, not part-time clinical and other work in the hospital. The majority of posts are full-time, and special posts are mainly managed to gradually achieve the final goal.
	A-2 With management education background	Graduated from management related majors or received a certain degree of management related training.
	A-3 Major meets the job requirements	My major meets the job requirements.
	A-4 Have a "T"-shaped knowledge structure	The knowledge mastered has a strong depth and width. In addition to mastering a large number of basic theoretical knowledge of medicine and management, it also needs to have knowledge of politics, sociology, economics, law, psychology.
	A-5 With specialized skills	In addition to being able to master and use management theories and tools skillfully, they also need to have the ability to interpret medical and health policies keenly, and have the ability to deal with various complicated affairs and problems inside and outside the hospital.
	A-6 Follows the professional ethics of the hospital managers	Abide by professional ethics, and regulate and restrict your behavior by taking professional ethics as the criterion.
	A-7 Hospital management is the main source of	Take the operation and management of hospitals as their real "occupation", have personal characteristics and

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Dimension	Indicator	Connotation
B Hospital level	personal income.	interests suitable for management posts, apply modern management theory to hospital management, and implement the "modern hospital management system".
	B-1 Form a hospital culture of "attaching importance to management"	The hospital attaches importance to management from top to bottom, respects management talents, attaches importance to investment in management, and forms a hospital culture of "attaching importance to management".
	B-2 With perfect administrative departments and institutional settings in the hospital	The setting of hospital administrative functional departments conforms to hospital functions and development orientation.
	B-3 Recruit and position right person according to "right people-right position matching" principle scientifically	There is a scientific and reasonable job description for the administrative functional departments, and the recruitment and employment are strictly in accordance with the job description.
	B-4 Establish a perfect training and further education system for hospital management personnel	Pay attention to the training and further study of management personnel, cultivate multi-disciplinary knowledge talents with strong depth and breadth, formulate personal career development plans that match personal vision and hospital vision, establish rules and regulations and implement them in place.
	B-5 Establish a scientific and reasonable assessment system for hospital administrators	There are performance assessment plans and professional ethics assessment plans for hospital management personnel and ensure their implementation.
C Government level	B-6 With special promotion channels for administrators.	There are special professional title promotion and job promotion channels for hospital management personnel. Improve the hospital's corporate governance structure, promote the "separation of management and management", and establish a modern hospital construction management mechanism.
	C-1 Construction of modern hospital management system	
	C-2 With sound rules and regulations for hospital management personnel	The system of admittance, training, assessment, rewards and punishment for hospital management personnel has been established and improved.
D Industry- level	C-3 Establish special promotion channels for administrators	At the government level, the title and rank promotion channels of hospital management personnel have been opened up and clarified.
	D-1 Establish legal community organizations such as institutes / associations related to hospital management personnel.	Through the establishment of community organizations, it provides a communication and learning platform for hospital management personnel and maintains the interests of group members.
	D-2 Hospital management personnel 'ability to change employment within different hospitals	Promote the realization of "de-organization" and promote the free flow of hospital management personnel in the talent market according to market rules.
	D-3 With a high degree of professional recognition of hospital management personnel in the industry	The industry (medical and health industry) has recognized the professionalization of hospital management personnel.

(3) Summary of the second round of expert consultation results

The results of the second round of expert consultation are summarized as follows: 18 consultation forms were distributed, and 17 experts actually replied, collecting 17 consultation forms. The expert response rate was 94.44%, and the number of valid consultation forms was 17, with a validity rate of 100%. The results of the second round of expert consultation are shown in Tables 4.5.

Typically, if the numerical mean $\bar{x}$ of each indicator is greater than 3 and the coefficient of variation (CV) is less than 0.2, and the full score ratio (M) is greater than 0.2, it indicates that the experts are relatively familiar with the indicators. To determine the consistency of the expert opinions, the expert consistency coefficient, the Kendall harmony coefficient, denoted by W, is used. W takes a value between 0 and 1, and the larger the W, the better the coordination of the expert opinions. After analysis, there are 11 indicators in this round of expert consultation that meet the criteria of numerical mean $\bar{x}$ greater than 3, coefficient of variation CV less than 0.2, and full score ratio M greater than 0.2: A-2, A-4, A-5, A-6, A-7, B-1, B-3, B-4, B-5, C-1, and C-3.

A-3 does not meet the requirement of full score ratio M greater than 0.2; A-1, A-3, B-2, B-6, C-2, D-1, D-2, and D-3 do not meet the requirement of coefficient of variation CV less than 0.2. In terms of the consistency of expert opinions, $W = 0.308$, and $P < 0.01$, indicating that the expert opinions are basically consistent.

Table 4.5 Results of the Second Round of Expert Consultation (n=17)

Indicator	No. of Approvals	No. of Denials	Full Score	Hospital management talent market liberalization $\bar{x}$	S	CV	M
A-1 Full-time engagement in hospital management work	15	2	9	4.40	0.91	0.21	52.94
A-2 Possession of management background	15	2	11	4.60	0.83	0.18	64.71
A-3 Relevance of studied major to the occupation	10	7	2	3.50	1.08	0.31	11.76
A-4 Possession of "T"-shaped knowledge structure	17	0	8	4.41	0.62	0.14	47.06
A-5 Possession of specialized skills	17	0	12	4.65	0.61	0.13	70.59
A-6 Adherence to the professional ethics of hospital management personnel	16	1	14	4.88	0.34	0.07	82.35
A-7 Possession of "modern management awareness" and professional conduct	17	0	13	4.76	0.44	0.09	76.47
B-1 Formation of a hospital culture that values management within the	16	1	9	4.44	0.81	0.18	52.94

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Indicator	No. of Approvals	No. of Denials	Full Score	Hospital management talent market liberalization x	S	CV	M
hospital B-2 Establishment of a sound hospital administrative function and organization	16	1	11	4.44	0.96	0.22	64.71
B-3 Scientific recruitment and employment based on the compatibility of person and job	15	2	7	4.33	0.82	0.19	41.18
B-4 Establishment of a complete training and continuing education system for hospital management personnel	16	1	8	4.38	0.72	0.16	47.06
B-5 Establishment of a scientifically and reasonably hospital management personnel evaluation system	16	1	9	4.44	0.73	0.16	52.94
B-6 Establishment of special promotion channels for hospital management personnel within the hospital	17	0	13	4.53	1.01	0.22	76.47
C-1 Establishment of a modern hospital management system	16	1	5	4.13	0.72	0.17	29.41
C-2 Regulations and rules regarding the well-being of hospital management personnel	14	3	5	4.07	0.83	0.2	29.41
C-3 Establishment and setting of promotion channels for hospital management personnel	17	0	12	4.53	0.87	0.19	70.59
D-1 Establishment of relevant associations / societies for hospital management personnel	13	4	4	4.00	0.91	0.23	23.53
D-2 Hospital management talent market liberalization	13	4	6	3.85	1.34	0.35	35.29
D-3 High level of recognition of professionalization for hospital management personnel in the industry	15	2	7	4.13	0.99	0.24	41.18

(4) Analysis of second round expert revision suggestions

From the opinions of 17 experts, 8 experts (47.06%) made 32 suggestions to delete 14 indicators. Five indicators were agreed upon by all experts to be included, namely A-4, A-5, A-7, B-6, and C-3. Among them, the indicator with the most deletion suggestions was A-3, reaching 7 experts. In addition, both D-1 and D-2 have 4 experts making deletion suggestions.

One expert made a suggestion to add an indicator, suggesting the addition of "having ways and funding for managing scientific research".

For "A personal level", 7 experts proposed to delete the index "A3 major studied matches the position", based on the results of the first round of consultation, some experts mentioned that it is difficult to determine the actual situation that the major studied matches the job requirements, and there is overlap between the major studied and the knowledge structure index of "T-type" mastered in the medical and management theory knowledge of indicator A4. The research group decided unanimously to delete this indicator.

For "B hospital level", one expert proposed to modify the index "B4 has established a complete hospital management personnel training and in-service education system", by suggesting that job rotation is also important. The author believes that hospital management personnel training includes job rotation training, and modification is not significant, so the suggestion was not adopted.

For "C government level", one expert proposed a modification, suggesting that the related systems established by the government level for hospital management personnel would interfere too much with the management at the hospital level. The author believes that the relevant systems intervened by the government level are macro-management and will not interfere too much with the specific management work at the hospital level, so no modification was made to the indicators of the government level dimension.

For "D industry level", five experts proposed to delete the indicators, but did not explain the reason. The author believed that there was no need to modify the indicators of the "D industry level".

One expert suggested adding the indicator "Approaches and funding for research management", but the author believed that Indicator A-1 "Engaged in hospital management work full-time" already encompasses research management work. Indicator A-4 "Possesses specialized skills" also covers research management skills, while Indicator B-2 "Has well-established administrative departments and institutional settings in hospitals" includes research management departmental arrangements. The existing indicators implicitly include the content of "research management". During the oral consultations with 17 hospital leaders in the written interview phase, only 3 of them expressed support for including this indicator. However, considering the limited number of experts who proposed its inclusion, it was not adopted in the indicator system.

(5) Content confirmation of professional evaluation indicators system for hospital management personnel (Core elements).

After two rounds of expert consultation, the content of the hospital management personnel professional evaluation index system, i.e. the core elements of hospital management personnel professionalism, has finally been established, as shown in Table 4.6.

Table 4.6 Content of Professional Evaluation Indicators System for Hospital Management Personnel (Core Elements)

	Indicator	Connotation
A Personal Level	A-1 Full-time hospital management	The ultimate goal is to engage in hospital management full-time, not part-time clinical and other work in the hospital. The majority of posts are full-time, and special posts are mainly managed to gradually achieve the final goal.
	A-2 With management education background	Graduated from management related majors or received a certain degree of management related training.
	A-3 Have a "T"-shaped knowledge structure	The knowledge mastered has a strong depth and width. In addition to mastering a large number of basic theoretical knowledge of medicine and management, it also needs to have knowledge of politics, sociology, economics, law, psychology and other subjects.
	A-4 With specialized skills	In addition to being able to master and use management theories and tools skillfully, they also need to have the ability to interpret medical and health policies keenly, and have the ability to deal with various complicated affairs and problems inside and outside the hospital.
	A-5 Follows the professional ethics of the hospital management personnel	Abide by professional ethics, and regulate and restrict behavior by taking professional ethics as the criterion.
	A-6 With "modern management consciousness" and professional accomplishment	The operation and management of the hospital to be a true "occupation", and has the personal characteristics and interests suitable for the management position, applies the modern management theory to the hospital management, and implements the "modern hospital management system".
B Hospital Level	B-1 Form a hospital culture of "attaching importance to management"	Attaches great importance to the management from top to bottom, show respects to managers, attaches great importance to the investment in management, and forms a hospital culture of "attaching importance to management".
	B-2 With perfect administrative departments and institutional settings in the hospital	The setting of hospital administrative departments is in line with the function and development positioning of the hospital.
	B-3 Recruit and position right person according to "right people-right"	With scientific and reasonable job descriptions of administrative

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Indicator			Connotation
C Government Level	position matching" principle	scientifically	departments, recruit and position people in strict accordance with the job descriptions.
	B-4	Establish a perfect training and further education system for hospital management personnel	Pay attention to the training and further study of management personnel, cultivate multi-disciplinary knowledge talents with strong depth and width, formulate personal career development plans that match personal vision and hospital vision, establish rules and regulations and implement them in place.
	B-5	Establish a scientific and reasonable assessment system for hospital management personnel	Ensure the implementation of the performance appraisal scheme and professional ethics appraisal scheme for hospital administrators.
	B-6	With special promotion channels for administrators	Open up special channels for professional title promotion and job promotion for hospital administrators.
	C-1	Construction of modern hospital management system	Improve the hospital's corporate governance structure, promote the "separation of management and management", and establish a modern hospital construction management mechanism.
	C-2	With sound rules and regulations for hospital administrators	Establish and improve the system including hospital management personnel recruitment, training, assessment, rewards and punishments.
	C-3	Establish special promotion channels for administrators	Opened up and defined the promotion channels of hospital administrators' titles and ranks at the government level.
	D-1	Establish legal community organizations such as institutes / associations related to hospital management personnel.	Through the establishment of community organizations to provide hospital administrators with a platform for communication and learning, and safeguard the interests of group members.
	D-2	Marketization of hospital management talent flow	Promote the realization of "de-organization" and the free flow of hospital management personnel in the talent market according to market rules.
	D-3	High level of recognition of professionalization for hospital management personnel in the industry	The industry (medical and health) recognizes the professionalization of hospital administrators.

(6) Establishment of professional evaluation indicator system for hospital management personnel

This study adopted the method of direct expert scoring to determine the weights of indicators. In each round of expert consultation, the importance of each indicator was rated on a Likert scale from 1 to 5 according to its importance, with 5 being the highest and 1 being the lowest. The experts judged the importance of each indicator based on their knowledge and experience. Based on the scores of the 17 experts in the second round of expert consultation

and the authority coefficient C_r of each expert, the weighted average score of each indicator was calculated. After normalization, the weights of each indicator were obtained. The specific calculation is as follows:

If expert J scores indicator x as P_{x-j} (j is the expert number 1-17, x is the indicator code A1, A2...D3), and the authority coefficient of expert J is C_j , then the weighted average score S_x of each indicator is:

$$S_x = \frac{\sum_{j=1}^{17} p_{x-j} \cdot C_j}{\sum_{j=1}^{17} C_j} \dots\dots\dots (4.1)$$

For the calculation of expert authority coefficient C_r , the "Quantitative Table of Judgment Criteria and Their Impact" (Table 4.7) and the "Quantitative Table of Expert Familiarity with Indicators" (Table 4.8) are set in the consultation form. Experts make judgments based on their actual experience and knowledge of the two tables. Table 4.7 can be used to calculate the expert judgment coefficient (the sum of scores for each "judgment criterion"), and Table 4.8 can be used to calculate the expert familiarity coefficient ("quantitative value" corresponding to "familiarity degree"). The authority coefficient C_r is the arithmetic mean of the judgment coefficient and the familiarity coefficient.

Table 4.7 Quantitative Table of Judgment Basis and Impact Degree

Judgment Basis	Degree of Influence on Expert Judgment (Tick "√")			
	Huge	Medium	Little	N / A
Theoretical Analysis	0.3	0.2	0.1	
Practical Experience	0.5	0.4	0.3	
Understanding of Peers at Home and Abroad	0.1	0.1	0.05	
Intuition	0.1	0.1	0.05	

Source: Ouyang (2015)

Table 4.8 Quantitative Table of Experts' Familiarity with Indicators

Familiarity	Very Familiar	Familiar	General	Unfamiliar	Very Unfamiliar
Quantized Value (Tick "√")	1	0.8	0.6	0.4	0.2

Source: Ouyang (2015)

After calculation, the authority of 17 experts is shown in Table 4.9.

Table 4.9 Authority of 17 Experts

Expert No.	Judgment Coefficient	Familiarity Coefficient	Authority Degree
1	0.80	0.8	0.800
2	0.90	0.8	0.850
3	0.95	1.0	0.975
4	0.90	0.8	0.850
5	0.90	0.8	0.850
6	0.80	0.8	0.800
7	0.95	1.0	0.975
8	0.95	0.6	0.775
9	0.85	0.8	0.825
10	0.85	1.0	0.925
11	0.95	0.8	0.875
12	0.85	0.8	0.825

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Expert No.	Judgment Coefficient	Familiarity Coefficient	Authority Degree
13	0.80	0.8	0.800
14	0.90	0.8	0.850
15	0.95	0.8	0.875
16	0.80	0.8	0.800
17	0.85	0.8	0.825

According to the calculation method in formula 1 and combined with the results of the authority calculation, the weight of each indicator is calculated as shown in Table 4.10.

Table 4.10 Weight of Professional Evaluation Indicators for Hospital Management Personnel

Index No	Indicators	Original Weight	Weighted Weight	Normalized Weight (Final Weight)
A-1	Full-time hospital management	4.400	4.398	0.056
A-2	With management education background	4.600	4.610	0.059
A-3	Have a "T"-shaped knowledge structure	4.412	4.406	0.056
A-4	With specialized skills	4.647	4.660	0.059
A-5	Follows the professional ethics of the hospital management personnel	4.875	4.883	0.062
A-6	With "modern management consciousness" and professional accomplishment	4.765	4.772	0.061
B-1	Form a hospital culture of "attaching importance to management"	4.438	4.437	0.056
B-2	With perfect administrative departments and institutional settings in the hospital	4.438	4.442	0.056
B-3	Recruit and position right person according to "right people-right position matching" principle scientifically	4.333	4.324	0.055
B-4	Establish a perfect training and further education system for hospital management personnel	4.375	4.378	0.056
B-5	Establish a scientific and reasonable assessment system for hospital management personnel	4.438	4.439	0.056
B-6	Establishment of special promotion channels for hospital management personnel within the hospital	4.529	4.541	0.058
C-1	Establishment of a modern hospital management system	4.125	4.122	0.052
C-2	With sound rules and regulations for hospital administrators	4.071	4.068	0.052
C-3	Establish special promotion channels for administrators	4.529	4.535	0.058
D-1	Establish legal community organizations such as institutes / associations related to hospital management personnel.	4.000	4.000	0.051
D-2	Marketization of hospital management talent flow	3.846	3.843	0.049

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Index No	Indicators	Original Weight	Weighted Weight	Normalized Weight (Final Weight)
D-3	High level of recognition of professionalization for hospital management personnel in the industry	4.133	4.000	0.051

Combining the contents of the core elements of the hospital management personnel professional evaluation index system (as shown in Table 4.6) and the weights of the hospital management personnel professional evaluation index (as shown in Table 4.10). The professionalization evaluation index system of hospital managers can be determined as shown in Table 4.11.

Table 4.11 Hospital Management Personnel Professional Evaluation Index System

Dimension	Indicator (Weight)	Explanation
A Personal Level	A-1 Full-time hospital management (0.0558)	The ultimate goal is to engage in hospital management full-time, not part-time clinical and other work in the hospital. The majority of posts are full-time, and special posts are mainly managed to gradually achieve the final goal.
	A-2 With management education background (0.0585)	Graduated from management related majors or received a certain degree of management related training.
	A-3 Have a "T"-shaped knowledge structure (0.0559)	The knowledge mastered has a strong depth and width. In addition to mastering a large number of basic theoretical knowledge of medicine and management, it also needs to have knowledge of politics, sociology, economics, law, psychology and other subjects.
	A-4 With specialized skills (0.0591)	In addition to being able to master and use management theories and tools skillfully, they also need to have the ability to interpret medical and health policies keenly, and have the ability to deal with various complicated affairs and problems inside and outside the hospital.
	A-5 Follows the professional ethics of the hospital management personnel (0.0619)	Abide by professional ethics, and regulate and restrict behavior by taking professional ethics as the criterion.
	A-6 With "modern management consciousness" and professional accomplishment (0.0605)	The operation and management of the hospital to be a true "occupation", and has the personal characteristics and interests suitable for the management position, applies the modern management theory to the hospital management, and implements the "modern hospital management system".
B Hospital Level	B-1 Form a hospital culture of "attaching importance to management" (0.0563)	Attaches great importance to the management from top to bottom, show respects to managers, attaches great importance to the investment in management, and forms a hospital culture of

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Dimension	Indicator (Weight)	Explanation
C Government Level	B-2 With perfect administrative departments and institutional settings in the hospital (0.0563)	"attaching importance to management". The setting of hospital administrative departments is in line with the function and development positioning of the hospital.
	B-3 Recruit and position right person according to "right people-right position matching" principle scientifically (0.0548)	With scientific and reasonable job descriptions of administrative departments, recruit and position people in strict accordance with the job descriptions.
	B-4 Establish a perfect training and further education system for hospital management personnel (0.0555)	Pay attention to the training and further study of management personnel, cultivate multi-disciplinary knowledge talents with strong depth and width, formulate personal career development plans that match personal vision and hospital vision, establish rules and regulations and implement them in place.
	B-5 Establish a scientific and reasonable assessment system for hospital management personnel (0.0563)	Ensure the implementation of the performance appraisal scheme and professional ethics appraisal scheme for hospital administrators.
	B-6 Establishment of special promotion channels for hospital management personnel within the hospital (0.0576)	Open up special channels for professional title promotion and job promotion for hospital administrators.
	C-1 Establishment of a modern hospital management system (0.0523)	Improve the hospital's corporate governance structure, promote the "separation of management and management", and establish a modern hospital construction management mechanism.
D Industry Level	C-2 With sound rules and regulations for hospital administrators (0.0516)	Establish and improve the system including hospital management personnel recruitment, training, assessment, rewards and punishments.
	C-3 Establish special promotion channels for administrators (0.0575)	Opened up and defined the promotion channels of hospital administrators' titles and ranks at the government level.
	D-1 establish legal community organizations such as institutes / associations related to hospital management personnel (0.0507)	Through the establishment of community organizations to provide hospital administrators with a platform for communication and learning, and safeguard the interests of group members.
D Industry Level	D-2 Marketization of hospital management talent flow (0.0487)	Promote the realization of "de-organization" and the free flow of hospital management personnel in the talent market according to market rules.
	D-3 High level of recognition of professionalization for hospital management personnel in the industry (0.0507)	The industry (medical and health) recognizes the professionalization of hospital administrators.

4.1.3 Discussion

This study established an indicator system for the professional evaluation of hospital management personnel. The reliability analysis of expert consultations and the significance of Research 1 are outlined as follows:

4.1.3.1 Reliability analysis of expert consultation

Based on the basic information of the 18 experts who participated in the consultation, the average age was 48.05 years old and the average work experience was 23.9 years, indicating that the experts had extensive experience and work experience. 14 of them had graduate degrees (including 8 with doctorates), accounting for 77.77%, and all of them were in hospital management-related fields, indicating that the experts had solid professional and research foundations. 14 of the experts had senior titles, accounting for 77.77%, and all of them were mid-to-high-level management cadres in hospitals, indicating that the experts had strong authority. From the experts' active participation, 18 questionnaires were sent out in the first round of expert consultation, and 18 were actually collected, with a recovery rate of 100%; in the second round, 18 questionnaires were sent out, and 17 were actually collected, with a recovery rate of 94.44%. The recovery rates of both rounds of consultation were above 70%, indicating that the experts had a high level of enthusiasm for participating in this study. From the coefficient of variation of the consultation results, the coefficient of variation in the first round of expert consultation ranged from 0.10 to 0.87, and after modification, the coefficient of variation in the second round of expert consultation ranged from 0.07 to 0.35. Except for the two factors of A3's major not matching their job position and D2's hospital management talent marketization, the coefficient of variation of the other factors was $CV < 0.25$, indicating that the experts recognized most of the indicators. From the Kendall harmony coefficient W , the coordination coefficient $W=0.309$ and $p < 0.01$ for the first round of experts, and the coordination coefficient $W=0.308$ and $P < 0.01$ for the second round of experts, indicating that the experts' opinions were coordinated and the consultation results were reliable. From the experts' authority level, it can be seen from that the authority level of all the experts was greater than 0.7, indicating that the expert consultation results were authoritative and trustworthy.

4.1.3.2 Value and significance of study 1

Study 1 filled the gap in related research fields by using literature research and expert consultation to determine the core elements and evaluation index system of professionalization

for hospital managers with high authority and credibility. It provides a basis for the scientific and unified concept of professionalization for hospital managers, which is conducive to changing the current scattered and inconsistent status of the concept. Moreover, the established evaluation index system for professionalization of hospital managers can provide a reference tool for evaluating the professionalization level and status of hospital managers in a country, region, city, or even a hospital. The research results will be helpful in promoting the professionalization process of hospital managers in Guangzhou.

4.2 Study 2 The professionalization status of hospital management personnel in Guangzhou

The hospital management personnel professionalization evaluation index system developed in Study 1 can serve as a tool to assess the status of the professionalization of hospital management personnel in Guangzhou. To understand the status of the professionalization of hospital management personnel in Guangzhou, this study designed two sets of survey questionnaires (individual version and hospital version) and an interview outline. The individual version of the questionnaire mainly corresponds to the "A. Individual Level" dimension of the "Evaluation Index System for the Professionalization of Hospital Management Personnel", while also including an exploration of other content (including elements from indicator B-1 and indicator D-3). The hospital version of the questionnaire corresponds to the "B. Hospital Level" dimension of the evaluation index system. The interview outline corresponds to the "C. Government Level" and "D. Industry Level" dimensions of the evaluation index system, and it also includes four additional questions for NVivo software analysis. The content of the questionnaire surveys and expert interviews complement each other, providing support for understanding the status of the professionalization of hospital management personnel in Guangzhou and for proposing recommendations to promote the professionalization of management personnel in public hospitals in China.

4.2.1 The design of the questionnaire

The *"Questionnaire for the Current Status of Professionalization of Hospital Management Personnel (Personal Version)"* comprises 10 modules, each corresponding to specific indicators in the indicator system. Module 1, "Basic Information", corresponds to Indicator A-1, "Engaged in Hospital Management Work Full-time". Modules 2 and 3, "Educational Background and

Management Training" and "Professional Matching", respectively, correspond to Indicator A-2, "Possess Management Background". Module 4, "Knowledge Structure", corresponds to Indicator A-3, "Possess T-shaped Knowledge Structure". Module 5, "Management Skills", corresponds to Indicator A-4, "Possess Professional Skills". Module 6, "Professional Ethics", corresponds to Indicator A-5, "Adhere to Professional Ethics for Hospital Management Personnel". Module 7, "Awareness of Modern Management and Professional Competence", corresponds to Indicator A-6, "Possess Awareness of Modern Management and Professional Competence". Module 8, "Emphasis on Management", corresponds to Indicator B-1, "Cultivate a Hospital Culture that Emphasizes Management". Module 9, "Awareness of Professionalization of Hospital Management Personnel", aims to assess the level of understanding among hospital Management Personnel regarding their professionalization; the current necessity of promoting the professionalization of hospital management personnel (corresponding to indicator D-3, "High industry recognition of professionalization of hospital management personnel"); whether there is support for delisting positions from the establishment in hospitals; whether there is support for marketization of the mobility of hospital management talent; and the most suitable career design model for hospital management personnel professionalization. The setup of this module is primarily aimed at providing material and evidence for proposing recommendations to advance the process of professionalization of hospital management personnel.

The *"Questionnaire for the Current Status of Professionalization of Hospital Management Personnel (Hospital Version)"* consists of 8 modules. Module 1, "Basic Information", Module 2, "Full-time Management Work", and Module 3, "Professional Ethics", aim to gather basic information about hospitals. Module 4, "Organization and Structure", corresponds to Indicator B-2, "Well-established Hospital Administrative Departments and Organizational Structure". Module 5, "Promotion and Employment of Management Positions", corresponds to Indicator B-3, "Scientific and Appropriate Promotion and Employment Based on Job Fit". Module 6, "Training and Continuing Education for Management Personnel", corresponds to Indicator B-4, "Established and Improved Training and Continuing Education System for Hospital Managers". Module 7, "Assessment of Management Personnel", corresponds to Indicator B-5, "Scientific and Reasonable Assessment System for Hospital Managers". Module 8, "Promotion Channels for Management Personnel", corresponds to Indicator B-6, "Established Special Promotion Channels for Hospital Managers within the Hospital".

The *"Survey Interview Outline on the Current Status of Hospital Management Personnel Professionalization"* consists of two main sections with ten open-ended questions: the first part

is "Overall Situation Research" (used for NVivo software analysis) and includes 4 questions: 1) Tell us about your understanding of the professionalization of hospital management personnel. This is primarily to understand the experts' definition of the essence of hospital management personnel professionalization, to some extent validating the reasonableness of the core elements of hospital management personnel and the professionalization evaluation index system. 2) Do you think it is necessary to promote the professionalization of hospital management personnel currently? Why? (corresponding to indicator D-3, "High industry recognition of professionalization of hospital management personnel"). 3) What do you think are the obstacles to promoting the professionalization of hospital management personnel? What are the existing problems? 4) What recommendations do you have for promoting the professionalization of hospital management personnel? The second part is "Specific Situation Research" and includes 6 questions: ① How is the construction of modern hospital management systems in your region / hospital? What measures have been taken, what achievements have been made, and what problems are faced? (corresponding to indicator C-1, "Modern hospital management system construction"). ② Does the government have specific systems for the admission, training, assessment, rewards, and penalties of hospital management personnel? (corresponding to indicator C-2, "Sound regulations regarding hospital management personnel"). ③ Has the government set up a career title and rank promotion channel for hospital management personnel? (corresponding to indicator C-3, "Established and set up promotion channels for hospital management personnel"). ④ Is there an association or organization at the local level that provides a platform for communication and learning for hospital management personnel? (corresponding to indicator D-1, "Established legitimate associations / organizations related to hospital management personnel"). ⑤ Do you think it is necessary to delist positions from the establishment in hospitals? If so, why? ⑥ Is the marketization of the mobility of hospital management personnel currently realized? If not, what are the obstacles? (corresponding to indicator D-2, "Marketization of hospital management talent mobility").

4.2.2 Personal questionnaire survey results

This study conducted a personal questionnaire survey with the staff of public hospitals in Guangzhou as the respondents. A total of 790 participants were selected, and the specific results are analyzed as follows:

4.2.2.1 Descriptive analysis of survey results

(1) Hospital level

Among the respondents, there were 438 staff from top three hospital, 140 staff from tertiary hospitals, 206 staff from second-class hospitals and 6 staff from secondary hospitals, respectively; top three hospital staff had the highest proportion in this survey, accounting for 55.4%, followed by second-class hospital staff (26.1%) and third-class hospital staff (17.7%). secondary hospitals staff had the lowest proportion, accounting for 0.8%.

(2) Type of hospital

According to the survey, out of the 790 participants, 455 were from general hospitals, 115 were from traditional Chinese medicine hospitals, and the remaining 220 were from specialized hospitals. The proportion of participants from general hospitals was 57.6%, followed by specialized hospitals with 27.8%, and traditional Chinese medicine hospitals with 14.6%.

(3) Type of post information

In this survey, the 790 respondents were distributed in different job positions. Among them, there are 83 people had dual responsibilities, accounting for 10.5% of the total number of respondents; there were 357 people in management positions, accounting for 45.2%; and 350 people in professional and technical positions, accounting for 44.3%.

(4) Title and position information

① Title information

Among the 790 people surveyed, 583 people had a title in the hospital, accounting for 73.8%, and 207 people did not have a title in the hospital, accounting for 26.2%. In Chinese hospitals, there coexist professional titles and positions. Typically, technical professionals hold professional titles, while administrative personnel are referred to by their positions. If a technical professional ascends to a middle-level managerial role, they may hold both a professional title and a position simultaneously.

② Position situation

Among the surveyed 790 individuals, there are 343 had positions in the hospital, accounting for 43.4%, while 447 had no positions in the hospital, accounting for 56.6%.

③ Age composition

In the surveyed personnel, the oldest age is 60 years, the youngest is 21 years old, and the average age is 39.76 years old. The overall age structure shows that personnel aged 30 years old and below account for 19.6%, and those aged 30.1-50 years old are the backbone of the hospital workforce, with 34.6% in the 30.1-40 age group and 32.5% in the 40.1-50 age group,

while those over 50 years old account for 13.3%.

④ The overall average length of work experience

The overall average length of work experience among the surveyed individuals is 16.54 years. There were 150 people who had been in their current position for less than 5 years, accounting for 19.0% of the total. There were 120 people who had worked between 5 and 10 years (inclusive) and 128 people who had worked between 10 and 15 years (inclusive), accounting for 15.2% and 16.2% respectively. There were 100 people who had worked between 15 and 20 years (inclusive), accounting for 12.7%. There were 93 people who had worked between 20 and 25 years (inclusive), accounting for 11.8%. There were 107 people who had worked between 25 and 30 years (inclusive), accounting for 13.5%. There were 92 people who had worked for more than 30 years, accounting for 11.6%.

(5) Education

The results of this survey show that among the 790 respondents, the highest proportion of education level is bachelor's degree, with 466 people accounting for 59.0%, followed by master's degree with 227 people accounting for 28.7%, and 20 people have a doctoral degree, accounting for 2.5%. There are 77 people with a college degree or below, accounting for 9.8%.

(6) Management training situation

A survey was conducted on the channels through which management personnel acquire management knowledge. The survey was designed as a multiple-choice question, where the number of cases represents the number of people who selected each option, the percentage represents the percentage of times each option was selected out of the total number of selections, and the case percentage represents the percentage of people who selected that option out of the total number of respondents.

A total of 427 people chose to acquire management knowledge through major courses during their university studies, which accounted for 18.5% of the total selections, and 54.1% of the total respondents chose this option. A total of 497 people believed that they acquired management knowledge through attending special training, which accounted for 21.6% of the total selections, and 62.9% of the total respondents chose this option. A total of 152 people chose to study professional courses for management knowledge during their graduate studies, which accounted for 6.6% of the total selections, and 19.2% of the total respondents chose this option. A total of 446 people chose to acquire management knowledge through attending academic lectures, which accounted for 19.3% of the total selections, and 56.5% of the total respondents chose this option. A total of 703 people chose to accumulate management knowledge through work experience, which accounted for 30.5% of the total selections, and

89.0% of the total respondents chose this option. Fewer people chose the options of "other" and "did not acquire management knowledge", with 52 and 29 people selecting these options respectively. These two options accounted for 3.6% of the total selections, and 10.3% of the total respondents chose these options.

(7) Professional relevance

① Relevance of major to current position

Among the 790 respondents, A total of 602 individuals hold the belief that their chosen field of study is pertinent to their current job, accounting for 76.2% of the total, while 188 people believe that their major is not relevant to their current position, accounting for 23.8%.

② Application of professional knowledge learned during university or educational period in work

In this survey, two hundred and nine individuals held the belief that applying the professional knowledge acquired during their university or educational tenure in the workplace exceeded 80%. accounting for 26.5% of the total number of people surveyed. The number of people who believed that the application of professional knowledge learned during their university or educational period in work was between 60% and 80% was 228, accounting for 28.9%. The number of people who believed that the application of professional knowledge was between 40% and 60% was 206, accounting for 26.1%. The number of people who believed that the application of professional knowledge was between 20% and 40% was 102, accounting for 12.9%. The number of people who believed that the application of professional knowledge was less than 20% was 45, accounting for 5.7%.

(8) Conducted on the knowledge structure

A survey was conducted on the knowledge structure of 790 management personnel, asking them if they had mastery or partial mastery of eight subjects, including management, medicine, political science, sociology and others. The survey was designed as a multiple-choice question, with "case number" indicating the number of people who selected each option, "percentage" indicating the percentage of times each option was selected out of the total number of selections, and "case percentage" indicating the percentage of people who chose that option out of the total number of respondents.

From all respondents, there are 620 selected management, which accounted for 23.6% of the total selections, and a total of 78.5% of the respondents indicated that they had mastery or partial mastery of this subject. A total of 538 individuals opted for the field of medicine. which accounted for 20.4% of the total selections, and 68.1% of the respondents indicated that they

had mastery or partial mastery of this subject. 219 people selected political science, which accounted for 8.3% of the total selections, and 27.7% of the respondents indicated that they had mastery or partial mastery of this subject. Political science was chosen by 219 individuals, constituting 8.3% of the total selections. Among the respondents, 27.7% claimed to have mastery or partial mastery of this subject. A total of 288 people selected sociology, which accounted for 10.9% of the total selections, and 36.5% of the respondents indicated that they had mastery or partial mastery of this subject. 291 people selected economics, which accounted for 11.1% of the total selections, and 36.8% of the respondents indicated that they had mastery or partial mastery of this subject. 377 people selected psychology, which accounted for 14.3% of the total selections, and 47.7% of the respondents indicated that they had mastery or partial mastery of this subject. Law was chosen by 235 individuals, making up 8.9% of the overall selections. Additionally, 29.7% of the respondents reported having either full or partial mastery of this subject. Only 64 people selected "other", which accounted for 2.4% of the total selections, and 8.1% of the respondents indicated that they had mastery or partial mastery of this subject.

(9) Management professional skills

① Familiarity or mastery of management theories or tools

A survey was conducted on the management professional skills of 790 managers, asking each respondent whether they were familiar with or had mastery of the following management theories or tools, including project management, total quality management, Deming cycle (PDCA), SWOT analysis, and other 6 kinds of management theories or tools. The survey was designed as a multiple-choice question. The number of cases represents the number of people who chose each option, the percentage represents the percentage of times the option was chosen out of the total number of choices, and the case percentage represents the percentage of people who chose the option out of the total number of respondents.

A total of 142 participants expressed unfamiliarity with or a lack of proficiency in any management theories or tools. This option accounted for 7.6% of the total number of choices and 18.0% of the total number of respondents. There are 391 respondents believed they were familiar with or had mastery of project management. This option accounted for 21.0% of the total number of choices and 49.5% of the total number of respondents. A total of 305 respondents chose total quality management, accounting for 16.4% of the total number of choices and 38.6% of the total number of respondents. A total of 391 respondents chose Deming cycle (PDCA), accounting for 21.0% of the total number of choices and 49.5% of the total number of respondents. A total of 272 respondents chose SWOT analysis, accounting for 14.6% of the total number of choices and 34.4% of the total number of respondents. A total of 179

respondents chose 5W2H method, accounting for 9.6% of the total number of choices and 22.7% of the total number of respondents. A total of 161 respondents chose SMART principle, accounting for 8.7% of the total number of choices and 20.4% of the total number of respondents. Fewer respondents chose other options, totaling 19, which accounted for 1.0% of the total number of choices and 2.4% of the total number of respondents.

② Medical policy interpretation ability

The survey asked 790 respondents to self-evaluate their ability to interpret medical policies. Among them, there are 35 people believed that they had a very strong ability to interpret medical policies, accounting for 4.4% of the total number of respondents; there are 374 people believed that they had a relatively strong ability to interpret medical policies, accounting for 47.3%; there are 335 people believed that their ability was average, accounting for 42.4%; there are 38 people believed that their ability was relatively weak, accounting for 4.8%; and 8 people believed that their ability was very weak, accounting for 1.0%.

③ Ability to handle various complex internal and external affairs and problems within the hospital

Out of the 790 surveyed individuals, a total of 37 people, accounting for 4.7% of the total, believed that they had very strong ability to handle various complex internal and external affairs and problems within the hospital. A total of 395 individuals, accounting for 50.0%, believed that they had a strong ability to handle such affairs and problems, while 333 individuals, accounting for 42.2%, believed that their ability was average. Only 20 individuals, accounting for 2.5%, believed that their ability was weak, and 5 individuals, accounting for 0.6%, believed that their ability was very weak.

(10) Professional ethics

① Professional ethics of hospital management staff

A multiple-choice questionnaire was given to 790 respondents to collect their views on the professional ethics of hospital management staff. The number of cases represents the number of people who chose each option, the percentage indicates the percentage of times each option was chosen out of the total number of selections, and the individual case percentage represents the percentage of people who chose that option out of the total number of respondents. A total of 785 people believed that the professional ethics of hospital management staff should include dedication to their work, which accounted for 20.6% of the total selections and 99.4% of the total respondents; a total of 770 people believed that honesty and trustworthiness should be included, which accounted for 20.2% of the total selections and 97.5% of the total respondents;

a total of 757 people believed that fairness in handling matters should be included, which accounted for 19.9% of the total selections and 95.8% of the total respondents; a total of 770 people believed that serving the public should be included, which accounted for 20.2% of the total selections and 97.5% of the total respondents; a total of 705 people believed that dedication to society should be included, which accounted for 18.5% of the total selections and 89.2% of the total respondents; and 20 people believed that there were other professional ethics that should be included, which accounted for 0.5% of the total selections and 2.5% of the total respondents.

② Aspects of professional ethics that need to be improved.

A total of 790 respondents were surveyed about their views on areas where they needed to improve their professional ethics. A multiple-choice question was used, and the number of cases represents the number of people who selected each option. The percentage represents the proportion of times each option was selected out of the total number of selections, and the case percentage represents the proportion of people who selected that option out of the total number of respondents.

A total of 157 people believed they needed to improve in the area of dedication to their work, which accounted for 11.0% of the total selections and 19.9% of the total number of respondents. A total of 107 people believed they needed to improve in the area of honesty and trustworthiness, which accounted for 7.5% of the total selections and 13.5% of the total number of respondents. A total of 155 people selected fairness and impartiality, which accounted for 10.9% of the total selections and 19.6% of the total number of respondents. A total of 361 people believed they needed to improve in the area of serving the public, which accounted for 25.4% of the total selections and 45.7% of the total number of respondents. A total of 574 people believed they needed to improve in the area of contributing to society, which accounted for 40.3% of the total selections and 72.7% of the total number of respondents. A total of 70 people selected "other" as an area where they needed to improve their professional ethics, which accounted for 4.9% of the total selections and 8.9% of the total number of respondents.

(11) Modern management awareness and professionalism

① Whether to regard hospital management as one's true "profession"

Among the 790 hospital management personnel surveyed, there are 657 people regard hospital management as their true "profession", accounting for 83.2% of the total, while 133 people do not regard hospital management as their true "profession", accounting for 16.8%.

② Understanding of modern management theories

The 790 hospital management personnel surveyed were asked to rate their understanding of modern management theories. A total of 34 people considered themselves to have a very good understanding, accounting for 4.3% of the total number of respondents; there are 262 people thought they had a good understanding, accounting for 33.2%; there are 414 people considered themselves to have a moderate understanding, accounting for 52.4%; and a total of 80 people thought they had little or no understanding of modern management theories, accounting for 10.1%.

③ Whether modern management theory is used to guide one's work

In the questionnaire, the managers who indicated in the previous question that they have little or no understanding of modern management theory skipped this question, resulting in 80 empty responses, accounting for 10.1% of the total. Among the remaining 710 respondents, we can find 609 believe that they use modern management theory to guide their work, accounting for 77.1% of the total, while 101 believe that they do not use modern management theory to guide their work, accounting for 12.8% of the total.

④ Level of understanding of modern management system construction

Through a questionnaire survey, a total of 790 hospital management personnel were asked to rate their level of understanding of modern management system construction. There are 29 people considered themselves to have a very good understanding of modern management theory, accounting for 3.7% of the total number of respondents; there are 299 people considered themselves to have a relatively good understanding of modern management theory, accounting for 37.8%; there are 384 people considered themselves to have a general understanding of modern management theory, accounting for 48.6%; while 78 people considered themselves to have a relatively poor or very poor understanding of modern management theory, accounting for 9.9%.

⑤ Whether have used modern management systems to guide their work

In the questionnaire, the respondents who answered "not very familiar" or "not familiar at all" with modern management systems skipped this question. Therefore, there were 78 unanswered questions, accounting for 9.9% of the total. Among the remaining 712 respondents, it is showed that 621 believed that they have used modern management systems to guide their work, accounting for 78.6%; while 91 people believed that they have not used modern management systems to guide their work, accounting for 11.5%.

(12) Management emphasis

① Whether the hospital attaches importance to management

Among the 790 respondents, we can find 269 hospital managers believed that their hospital attached great importance to management, accounting for 34.1% of all respondents; there are 380 people thought that their hospital attaches some importance to management, accounting for 48.1%; there are 130 people believed that their hospital attaches an average level of importance to management, accounting for 16.5%; there are 11 people believed that their hospital attaches little or no importance to management, accounting for 1.4%.

② Whether the hospital culture of "valuing management" has been formed

The situation of whether the hospital culture of "valuing management" has been formed was investigated among 790 hospital managers. Among the 790 respondents, there are 260 people believed that the hospital culture of "valuing management" had already been formed, accounting for 32.9%; a total of 480 people believed that the hospital culture of "valuing management" was still being formed, accounting for 60.8%; and 50 people believed that the hospital culture of "valuing management" had not been formed, accounting for 6.3%.

(13) Management personnel's awareness of professionalism

① Understanding of professionalism among hospital management personnel

A survey was conducted on the level of understanding of professionalism among 790 hospital management personnel. It is showed that 49 people believed that they had a very good understanding of professionalism among hospital management personnel, accounting for 6.2% of the total respondents; there are 326 people believed that they had a relatively good understanding of professionalism among hospital management personnel, accounting for 41.3%; there are 348 people believed that they had a general understanding of professionalism among hospital management personnel, accounting for 44.1%; 67 people believed that they had a relatively poor or very poor understanding of professionalism among hospital management personnel, accounting for 8.5%

② Investigates the perceived necessity of implementing professionalization among hospital management personnel.

Among the 790 surveyed individuals, 353 believed that it is very necessary to implement professionalization, accounting for 44.7% of the total; a total of 321 people believed it is somewhat necessary, accounting for 40.6%; 108 believed that the importance of implementing professionalization is average, accounting for 13.7%; and a total of 8 individuals believed it is not very necessary or not necessary at all, accounting for 1.1%.

③ Support for "decentralization" in hospitals

A survey was conducted among 790 hospital managers to investigate their support for

"decentralization" in hospitals. Among them, a total of 140 people strongly support the "decentralization" of hospitals, accounting for 17.7% of the total respondents; there are 152 people somewhat support it, accounting for 19.2%; there are 239 people have a neutral stance on the "decentralization" of hospitals, accounting for 30.3%; there are 152 people somewhat oppose it, accounting for 19.2%; and there are 107 people strongly oppose the "decentralization" of hospitals, accounting for 13.5%.

④ Whether to support the marketization of talent flow in hospital management

Among the 790 respondents, we can find that 139 people strongly support the marketization of talent flow in hospital management, accounting for 17.6%; there are 251 people are somewhat supportive, accounting for 31.8%; there are 248 people have a neutral attitude towards the marketization of talent flow, accounting for 31.4%; there are 116 people are somewhat unsupportive, accounting for 14.7%; and 36 people are strongly unsupportive, accounting for 4.6%.

⑤ Opinion on the most appropriate career design pattern for hospital management professionals

In the survey of 790 hospital management professionals, a single-choice question was set to investigate their approval of the career design pattern for hospital management professionals. The respondents were asked to choose the most suitable career design pattern for hospital management professionals from four options: Pattern 1: Medical graduates - Hospital management work, hospital management professional training - Department head - Professionalized hospital president; Pattern 2: Graduates in Health Management - Hospital management work, hospital management professional training - Department head - Professionalized hospital president; Pattern 3: Medical graduates - Professional work - Hospital management work, hospital management professional training - Department head - Professionalized hospital president; Pattern 4: Graduates from other majors - Hospital management work, hospital management professional training - Department head - Professionalized hospital president.

A total of 161 people, accounting for 20.4%, believed that Pattern 1 was the most appropriate; there are 209 people, accounting for 26.5%, chose Pattern 2; there are 356 people, accounting for 45.1%, selected Pattern 3; and there are 64 people, accounting for 8.1%, chose Pattern 4.

4.2.2.2 "Personal Level" indicator scores

In this research, the evaluation indicator system for the professionalization of hospital managers

is divided into four levels. The core elements at the individual level are divided into six items: (A1) full-time engagement in hospital management work, (A2) management education background, (A3) "T"-shaped knowledge structure, (A4) specialized skills, (A5) adherence to the professional ethics of hospital managers, and (A6) possession of "modern management consciousness" and professional qualities. In the analysis of 790 individual questionnaires, the corresponding questions in the questionnaire were selected according to the connotations of each core element for scoring. Each of the A1-A6 indicators has a total score of 1. The weights are re-normalized according to the weights of the A1-A6 elements in Chapter 3, and the scores of each indicator are weighted to obtain the total score at the individual level, with a total score range of 0-1.

(1) Indicator A1 score

Indicator A1 refers to full-time engagement in hospital management work, and the connotation of the explanation is that managers engage in hospital management work full-time, with the ultimate goal of not working part-time in other areas such as clinical work within the hospital. The vast majority of positions are full-time, with management being the main focus, gradually reaching the ultimate goal.

Question 5 in Part 1 of the questionnaire (type of position) is used as the basis for scoring this indicator. Those in management positions are given a score of 1, as it is believed that those in pure management positions regard management work as their full-time job and do not have other roles within the hospital. Those in other positions, such as those with dual roles, professional technical roles, or general service roles, are given a score of 0. In this study, the average score for Indicator A1 in the 790 questionnaires was 0.4519, with a standard deviation of 0.49800 and a variance of 0.248. The overall score is low, indicating that there are relatively few managers who consider pure management as their full-time job.

(2) Indicator A2 score

Indicator A2 refers to possessing a management education background, with the connotation that managers have graduated from a management-related major or have received a certain degree of management-related training.

Question 2 in Part 2 of the questionnaire (the way of obtaining management knowledge) is used as the evaluation standard for this indicator. Choosing any of the four options, including professional courses during college, participation in special training, professional courses during postgraduate studies, and participation in academic lectures, is considered to possess a management education background and earns a score of 1. Those who did not choose any of the options are considered to not possess a management education background and earn a score

of 0. In this study, the average score for Indicator A2 in the 790 questionnaires was 0.8582, with a standard deviation of 0.34904 and a variance of 0.122. The overall score is high, indicating that most hospital managers have a relevant management education background.

(3) Indicator A3 score

Indicator A3 refers to possessing a "T"-shaped knowledge structure, which means that the knowledge mastered has strong depth and breadth. In addition to mastering a large amount of basic theoretical knowledge in medicine and management, it is also necessary to have knowledge of political science, sociology, economics, law, psychology, and other subjects. Based on the fourth part of the questionnaire (knowledge structure), the management personnel are awarded scores for this indicator. After selecting the foundations of medicine and management, Points are incremented by 0.2 for each of the following subjects: political science, sociology, economics, law, and psychology. In the context of this research, the mean score for Indicator A1 was 0.2354 with a standard deviation of 0.34007, and a variance of 0.116, indicating a low overall score. The reason for this may be that management personnel do not have sufficient reserves of basic theoretical knowledge in medicine and management, and are also relatively unfamiliar with political science, sociology, economics, law, psychology, and another knowledge. There are few management personnel who possess "T"-shaped knowledge.

(4) Indicator A4 score

Indicator A4 refers to possessing specialized skills. The content of this indicator is not only to be proficient in mastering and applying management theories and tools but also to have the ability to interpret medical and health policies and to handle various complex affairs and problems both inside and outside of hospitals. According to the questionnaire, the three questions in the fifth part (management professional skills) are included in the scoring criteria for this indicator. The weight of each question is set as 1/3 since no weight is assigned to each part of the indicator. The first question is about whether the respondent is familiar with or has mastered management theory tools, with 1 point awarded for "yes" and 0 points for "no". The second and third questions assess the respondent's ability to interpret medical and health policies and handle various complex affairs and problems in and outside of hospitals, and are quantified based on the respondent's questionnaire. Finally, the scores for each question are weighted by 1/3 to obtain the A4 score. In this study, the mean score for Indicator A1 was 0.6033 with a standard deviation of 0.13202 and a variance of 0.017, indicating a relatively high score. Currently, management personnel possess strong specialized skills, apply management theories and tools more, and have the ability to interpret health policies and solve complex problems.

(5) Indicator A5 score

Indicator A5 refers to following the professional ethics of hospital management personnel, which means abiding by professional ethics and using them as a guide to regulate and restrain one's behavior. For the first question of the sixth part of the individual questionnaire (what aspects are included in the professional ethics of hospital management personnel), management personnel are awarded 0.2 points for each of the five options: dedication to work, honesty and trustworthiness, fair dealing, serving the masses, and contributing to society, with a maximum score of 1 point. In this study, the mean score for Indicator A1 was 0.9592, with a standard deviation of 0.11126 and a variance of 0.012, indicating a very high score. This suggests that most management personnel have the professional ethics of hospital management personnel.

(6) Indicator A6 score

Indicator A6 refers to possessing "modern management consciousness" and professional ethics. This indicator encompasses the idea of considering hospital management as one's true "profession", possessing personal qualities and interests suitable for management positions, applying modern management theories to hospital management work, and implementing the "modern hospital management system".

The corresponding questions for Indicator A6 are the first four questions in Part 7 of the individual questionnaire (related to modern management consciousness and professional ethics). Each question carries an equal weight of 1/4. The first question assesses whether the individual considers hospital management as their true "profession". If the answer is "yes", the individual receives a score of 1, and if the answer is "no", they receive a score of 0. The second and third questions assess the individual's understanding of modern management theories and modern hospital management systems, and are quantified based on the responses in the questionnaire. The fourth question assesses whether the individual applies modern management theories and modern hospital management systems in their work. If the answer is "yes", they receive a score of 1, and if the answer is "no", they receive a score of 0. The final score for A6 is the weighted average of the scores for the four questions, with each question carrying a weight of 1/4. In this study, the average score for Indicator A6 among the 790 hospital management personnel surveyed was 0.7358, with a standard deviation of 0.20446 and a variance of 0.042. This indicates a relatively high level of "modern management consciousness" and professional ethics among the majority of the management personnel, who are capable of applying modern management theories to hospital management work and implementing the "modern hospital management system".

4.2.2.3 Total score at the individual level

(1) Determination of indicator weights

According to Table 4.11 of this study, the weight of the 6 indicators at the personal level in the evaluation system for the professionalization of hospital management personnel can be obtained. The weights of A1-A6 were normalized again, and the final weights of A1-A6 were 15.866%, 16.633%, 15.894%, 16.804%, 17.600%, and 17.202%, respectively.

(2) Total score analysis

By combining the scores and weights of A1-A6, the final score for each of the 790 personal questionnaires was obtained. The score for each questionnaire ranges from 0 to 1, with a higher score indicating a higher degree of professionalization in management. The average score of the 790 questionnaires was 0.6486, with a standard deviation of 0.14381 and a variance of 0.021. The overall score was high, indicating a good level of professionalization among hospital management personnel in Guangzhou. For descriptive statistics, see Table 4.12.

Table 4.12 A1-A6 Descriptive Statistics

	N	Mean Value	Standard Deviation	Variance
A1 score	790	0.452	0.498	0.248
A2 score	790	0.858	0.349	0.122
A3 score	790	0.235	0.340	0.116
A4 score	790	0.603	0.132	0.017
A5 score	790	0.959	0.111	0.012
A6 score	790	0.736	0.204	0.042
Total	790	0.649	0.144	0.021

For the integrated 790 scores, they are divided into three sections based on the mean $\pm$ standard deviation. Scores below the mean - standard deviation are considered low and belong to the low score group, indicating that these surveyed individuals have a lower degree of professionalization in management. Scores within the mean $\pm$ standard deviation are considered average and belong to the middle score group, indicating that the professionalization level of these management personnel is also at an average level. Scores greater than the mean + standard deviation are considered high and belong to the high score group, indicating that these surveyed individuals have a higher degree of professionalization in management. In this study, the low score group comprised 112 respondents, constituting 14.2% of the total; the middle score group included 575 individuals, making up 72.8%; and the high score group consisted of 103 participants, representing 13.0%.

4.2.2.4 Analysis of factors affecting hospital management professionalization at the personal level

The statistical test was performed to determine the correlation between hospital level, hospital

type, job position, professional title, job title, education level, major studied, and the alignment of the current position with the field of study, and the level of management professionalism. Differences in the scores caused by these seven factors were deemed statistically significant if $P < 0.05$.

(1) Hospital level and professionalism of management personnel

Cross-analysis was conducted on the personal management professionalism scores of different hospital levels. Among the respondents from tertiary hospitals, 45 scored in the low range, accounting for 10.3%, 325 scored in the middle range, accounting for 74.2%, and 68 scored in the high range, accounting for 15.5%. Among respondents from secondary hospitals, two individuals scored in the low range, constituting 33.3% of the total, while four individuals scored in the middle range, making up 66.7%. No one scored in the high range. According to the statistical test (Fisher's Exact Test) with a result of $\chi^2 = 24.393$ and $P < 0.001$, there was a significant difference in the level of professionalism among management personnel in different hospital levels, indicating a correlation between hospital level and the level of management professionalism. The proportion of management personnel in tertiary hospitals who scored in the high range was the highest (15.5%), while the proportion who scored in the low range was the lowest (10.3%). Overall, the professionalism score was higher, and the level of professionalism among management personnel in tertiary hospitals was the highest among the four levels of hospitals. From tertiary hospitals to secondary hospitals, the percentage of people in the high score range gradually decreased, while the percentage of people in the low score range gradually increased, indicating a shift towards lower scores and a decrease in the level of management professionalism. Among management personnel in secondary hospitals, the proportion of those with low scores was the highest (33.3%), and there were no respondents who scored in the high range, indicating that the level of professionalism among management personnel in secondary hospitals was the lowest among the four levels of hospitals.

(2) Hospital categories and professionalization of management personnel

Cross-analysis was conducted on the professionalization scores of management personnel in different hospital categories (general hospitals, traditional Chinese medicine hospitals, specialized hospitals). Among the respondents from general hospitals, a total of 67 people scored in the low score range, accounting for 14.7%; there are 327 people scored in the middle score range, accounting for 71.9%; and 61 people scored in the high score range, accounting for 13.4%. Among the respondents from traditional Chinese medicine hospitals, there are 21 people scored in the low score range, accounting for 18.3%; there are 75 people scored in the middle score range, accounting for 65.2%; and there are 19 people scored in the high score

range, accounting for 16.5%. Among the respondents from specialized hospitals, there are 24 people scored in the low score range, accounting for 10.9%; there are 173 people scored in the middle score range, accounting for 78.6%; and there are 23 people scored in the high score range, accounting for 10.5%.

After statistical testing, $\chi^2 = 7.343$, $P = 0.119$, and $P > 0.05$. There is no significant statistical difference between the degree of professionalization of management personnel in different hospital categories (general hospitals, traditional Chinese medicine hospitals, specialized hospitals), and it cannot be considered that there is a correlation between hospital categories and the professionalization level of management personnel.

(3) Position type and professionalization of management

Personnel Cross-analysis was conducted on the personal management professionalization scores of different position types (dual-role, managerial, and professional technical positions). Among the respondents who held dual-role positions, 11 individuals scored in the low range, accounting for 13.3%, there are 72 individuals scored in the middle range, accounting for 86.7%, and none scored in the high range. Among the respondents who held managerial positions, there are 11 individuals scored in the low range, accounting for 3.1%, there are 243 individuals scored in the middle range, accounting for 68.1%, and there are 103 individuals scored in the high range, accounting for 28.9%. Among the respondents who held professional technical positions, there are 90 individuals scored in the low range, accounting for 25.7%, there are 260 individuals scored in the middle range, accounting for 74.3%, and none scored in the high range.

According to statistical analysis, Pearson's chi-square value is 192.264, and $P < 0.001$, indicating that there is a significant statistical difference in the professionalization level of management personnel in different position types (dual-role, managerial, and professional technical positions), and it can be considered that there is a correlation between position type and the professionalization level of management personnel. Overall, the professionalization scores of management personnel in the three position types are mostly concentrated in the middle range, but none of the management personnel in the dual-role and professional technical positions scored in the high range, while 103 (28.9%) of the management personnel in pure managerial positions scored in the high range, and the proportion of individuals who scored in the low range was the lowest among the respondents in pure managerial positions (3.1%). The professionalization level of management personnel in pure managerial positions is the highest among the three position types, followed by management personnel in dual-role positions, and the professionalization level of management personnel in professional technical positions is relatively weak.

(4) Professional title & professionalize the management staff

A cross-analysis was conducted on the professionalization scores of managers with and without professional titles. Among the respondents with professional titles, there are 87 individuals scored in the low range, accounting for 14.9%, there are 425 individuals scored in the medium range, accounting for 72.9%, and there are 71 individuals scored in the high range, accounting for 12.2%. Among the respondents without professional titles, there are 25 individuals scored in the low range, accounting for 12.1%, there are 150 individuals scored in the medium range, accounting for 72.5%, and there are 32 individuals scored in the high range, accounting for 15.5%.

According to statistical analysis, Pearson's chi-squared test yielded a value of 2.137 and $P=0.351$, indicating that there was no significant statistical difference between the presence or absence of professional titles and the level of professionalization among managers. Therefore, it cannot be concluded that professional titles are associated with the level of professionalization among managers.

(5) Position and professionalization of managers

A cross-analysis was conducted on the professionalization scores of managers with and without positions. Among the surveyed managers with positions, a total of 33 people scored in the low range, accounting for 9.6%, a total of 244 people scored in the middle range, accounting for 71.1%, and a total of 66 people scored in the high range, accounting for 19.2%. Among those without positions, a total of 79 people scored in the low range, accounting for 17.7%, a total of 331 people scored in the middle range, accounting for 74.0%, and a total of 37 people scored in the high range, accounting for 8.3%.

According to the statistical test, Pearson's chi-square value is 26.998 and $P<0.001$, indicating that there is a significant statistical difference between having and not having positions and the level of professionalization of managers. It can be concluded that there is a correlation between positions and the level of professionalization of managers. The proportion of managers with positions who scored in the high range is 2.3 times that of managers without positions, and the proportion of managers with positions who scored in the low range is about half of that of managers without positions. Overall, managers with positions have higher scores and a higher level of professionalization.

(6) Education and professionalization of managers

A cross-analysis was conducted on the personal professionalization scores of managers with different levels of education (doctorate, master's, bachelor's, junior college, and below junior college). Among the respondents with a doctorate degree, there are 4 managers scored in

the low range, accounting for 20.0%, there are 12 managers scored in the medium range, accounting for 60.0%, and there are 4 managers scored in the high range, accounting for 20.0%; among those with a master's degree, there are 34 managers scored in the low range, accounting for 15.0%, there are 156 managers scored in the medium range, accounting for 68.7%, and there are 37 managers scored in the high range, accounting for 16.3%; among those with a bachelor's degree, there are 65 managers scored in the low range, accounting for 13.9%, there are 345 managers scored in the medium range, accounting for 74.0%, and 56 managers scored in the high range, accounting for 12.0%; among those with a junior college degree, there are 9 managers scored in the low range, accounting for 13.4%, there are 54 managers scored in the medium range, accounting for 80.6%, and there are 4 managers scored in the high range, accounting for 6.0%; among those with a below junior college degree, no one scored in the low range, there are 8 managers scored in the medium range, accounting for 80.0%, and 2 managers scored in the high range, accounting for 20.0%. According to statistical tests, the Pearson chi-square value is 6.512, and the P value is 0.164, which is greater than 0.05. Therefore, there is no significant statistical difference between different levels of education (doctorate, master's, bachelor's, junior college, and below junior college) and the professionalization level of managers, and it cannot be concluded that education is related to the professionalization level of managers.

(7) Major and job position alignment and professionalism of management personnel

Cross-analysis was performed on the scores of professionalized management personnel with different educational backgrounds (doctorate, master's degree, bachelor's degree, junior college, and below junior college) according to whether their major aligns with their current job position based on the survey results. Among the respondents whose major aligns with their current job position, there are 86 people scored in the low range, accounting for 14.3%, there are 438 people scored in the middle range, accounting for 72.8%, and 78 people scored in the high range, accounting for 13.0%; among the respondents whose major does not align with their current job position, there are 26 people scored in the low range, accounting for 13.8%, there are 137 people scored in the middle range, accounting for 72.9%, and 25 people scored in the high range, accounting for 13.3%.

According to the statistical test, Pearson chi-square = 0.034, $P=0.981$, $P > 0.05$, there is no significant statistical difference between the degree of major alignment with current job position and the level of professionalism of management personnel, and it cannot be considered that the degree of major alignment is related to the level of professionalism of management personnel.

4.2.2.5 Summary of the results from the individual version of the questionnaire

Based on the analysis of the results from the individual version of the questionnaire, the following nine conclusions can be drawn:

(1) Indicator A-1 received a generally low score, indicating that a small number of management personnel are engaged solely in hospital management work.

(2) Indicator A-2 received a relatively high score, indicating that the majority of hospital management personnel have a background in management studies.

(3) Indicator A-3 received a low overall score, suggesting that there are few hospital management personnel with a "T-shaped" knowledge structure.

(4) Indicator A-4 received a relatively high score, indicating that the current management personnel possess strong professional skills. They are well-versed in management theories and tools and can interpret healthcare policies and address complex problems.

(5) Indicator A-5 received a very high score, indicating that the majority of hospital management personnel adhere to professional ethics.

(6) Indicator A-6 received a high score, indicating that most management personnel have a strong sense of "modern management awareness" and professional competence. They are able to apply modern management theories to hospital management and implement "modern hospital management systems".

(7) The overall score for the "individual level" indicators is relatively high, indicating a good level of professionalization among hospital management personnel in Guangzhou.

(8) Hospital level, job position, and position are related to the level of professionalization among management personnel. Higher-ranked hospitals have a higher level of professionalization among management personnel, with the highest level observed in tertiary hospitals. The more dedicated one is to management work, the higher their level of professionalization, with staff in pure management positions having the highest level. Management personnel with positions have a higher level of professionalization than those without positions.

(9) Hospital category, professional title, educational background, and the alignment of current position with the field of study are not related to the level of professionalization among management personnel.

4.2.3 Survey results of the hospital version questionnaire

This study selected public hospitals in Guangzhou for investigation, receiving responses from

23 hospitals. The analysis of the survey results is presented below:

4.2.3.1 Scores of "hospital-level" indicators

In this study, individual data in the hospital questionnaire can be obtained through the hospital administration and science education department. Each hospital only needs the personnel department to fill in an online hospital questionnaire, and a total of 23 hospital questionnaires were collected. Due to the small number of hospital questionnaires, a descriptive analysis of each module of the questionnaire will not be conducted. Instead, the hospital questionnaire will be evaluated comprehensively by scoring according to the individual questionnaire, and the scores of each hospital will be analyzed. In Chapter 3 of this research report, the evaluation index system for the professionalization of hospital management personnel is divided into four levels, and the core elements of the hospital level are divided into six aspects, including the formation of a "management-oriented" hospital culture (B1), a complete hospital administrative functional department and institutional setting (B2), scientific and rational employment of personnel in accordance with the principle of "matching people with positions" (B3), the establishment of a sound training and continuing education system for hospital management personnel (B4), the establishment of a scientific and reasonable assessment system for hospital management personnel (B5), and the existence of a specialized promotion channel for management personnel in the hospital (B6). Due to the fact that Element B1 belongs to the category of ideological and cultural aspects, it was not mentioned in the hospital version questionnaire. Only in the eighth module "Importance of Management" of the personal version questionnaire, there were two questions indirectly assessing whether a "management-oriented" hospital culture is present. These questions were qualitative rather than quantitative in nature. Therefore, in the analysis of scores for the hospital version questionnaire, Element B1 was excluded, and the five factors B2-B6 were selected as the evaluation criteria. Corresponding questions related to the core elements B2-B6 were chosen to score the hospital questionnaire, with a total score of 1 for each indicator. The weights were then normalized according to the weights of elements B2-B6 mentioned in Chapter 3. Finally, the scores for each indicator were weighted to obtain the overall score at the hospital level, with a total score ranging from 0 to 1.

(1) Indicator B1 situation:

As mentioned above, no corresponding question was included for Indicator B1 in the hospital version questionnaire. Its evaluation was primarily derived from the analysis of the personal version questionnaire. Among the 790 respondents, a total of 269 hospital management personnel believed that their hospitals attach great importance to management, accounting for

34.1% of the total respondents. Additionally, a total of 380 respondents believed that their hospitals consider management to be relatively important, accounting for 48.1%. A total of 130 respondents considered their hospitals' emphasis on management to be average, accounting for 16.5%. Only 11 respondents thought that their hospitals either attach little or no importance to management, accounting for 1.4%. The combined percentage of those who believed management was relatively important or very important was 82.2%, which is relatively high. Furthermore, among the 790 respondents, a total of 260 individuals believed that a "management-oriented" culture has already been established in their hospitals, accounting for 32.9%. Additionally, a total of 480 respondents believed that the formation of a "management-oriented" culture in their hospitals is still in progress, accounting for 60.8%. Only 50 respondents believed that a "management-oriented" culture has not yet formed in their hospitals, accounting for a mere 6.3%. Therefore, although the majority of hospitals are still in the process of developing a "management-oriented" culture, the level of importance attached to management is sufficient. This is conducive to the eventual formation of a "management-oriented" culture in hospitals.

(2) Indicator B2 score

Indicator B2 refers to having a sound hospital administrative function department and institutional setup, which means that the hospital's administrative function department setup conforms to the hospital's functions and development positioning. The score for this indicator is based on the second question of Part 4 of the hospital questionnaire, which asks whether the current hospital administrative function department setup conforms to the hospital's functions and positioning. Selecting "yes" earns 1 point, while selecting "no" earns 0 points. In this study, the mean score for Indicator B2 across 23 hospitals was 0.96, with a standard deviation of 0.209 and a variance of 0.043. This high score indicates that the vast majority of hospitals have a sound hospital administrative function department and institutional setup that conforms to their functions and development positioning.

(3) Indicator B3 score

Indicator B3 refers to scientifically hiring and employing people based on job requirements, which means having a scientific and reasonable administrative function department job description and strictly hiring and employing people according to the job description. The score for this indicator is based on the three questions in Part 5 of the questionnaire, with each question given equal weight. The first question asks whether the hospital has a departmental responsibilities description; selecting "yes" earns 1 point, while selecting "no" earns 0 points. The second question asks whether the hospital has a job description; selecting "yes" earns 1

point, while selecting "no" earns 0 points. The third question asks whether the hospital hires and employs people strictly according to the job description; selecting "yes" earns 1 point, while selecting "no" earns 0 points. The final score for Indicator B3 is weighted based on each of the three questions having a weight of 1/3. In this study, the mean score for Indicator B3 across 23 hospitals was 0.8696, with a standard deviation of 0.29711 and a variance of 0.088. This high score indicates that most hospitals have scientific and reasonable administrative function department job descriptions, and hire and employ people strictly based on job requirements.

(4) Indicator B4 score

Indicator B4 refers to whether a hospital has established a sound training and further education system for hospital management personnel. The connotation of this indicator is to value the training and further education of management personnel, cultivate multi-disciplinary knowledge-based talents with strong depth and breadth, formulate personal career development plans that are compatible with the hospital's vision, establish and implement relevant regulations. According to the questionnaire settings, questions 1 and 2 of Part 6 are included in the scoring criteria for this indicator, with no weight assigned to either part. Therefore, each question is weighted at 1/2. For question 1, if the hospital has an annual training and further education plan for management personnel, one point is awarded for "yes" and zero points for "no". For question 2, if the hospital has a training and further education system for management personnel, one point is awarded for "yes" and zero points for "no". Finally, the B4 score is weighted according to the 1/2 weight of each sub-question. In this study, the average B4 score of 23 hospitals was 0.5870, with a standard deviation of 0.38883 and a variance of 0.151. Compared to other indicators, the score is relatively low, indicating that some hospitals have not yet established a sound training and further education system for management personnel, and need to pay more attention to personal career development plans that are compatible with the hospital's vision, and continue to promote training and further education for management personnel.

(5) Indicator B5 score

Indicator B5 refers to whether a hospital has established a scientific and reasonable assessment system for hospital management personnel. The connotation of this indicator is to have performance assessment and professional ethics assessment plans specifically for hospital management personnel, and to ensure their implementation. According to the questionnaire settings, questions 1 of Part 7 and question 2 of Part 3 are included in the scoring criteria for this indicator, with no weight assigned to either part. Therefore, each question is weighted at 1/2. For question 1, if the hospital has an assessment for management personnel, one point is

awarded for "yes" and zero points for "no". For question 2, if the hospital has a professional ethics assessment specifically for management personnel, one point is awarded for "yes" and zero points for "no". Finally, the B5 score is weighted according to the 1/2 weight of each sub-question. In this study, the average B5 score of 23 hospitals was 0.7174, with a standard deviation of 0.36388 and a variance of 0.132. The score is relatively high, indicating that most hospitals have established a scientific and reasonable assessment system for hospital management personnel, and will assess the performance and professional ethics of management personnel.

(6) Indicator B6 score

Indicator B2 refers to the specialized promotion channel for hospital management personnel. Its interpretation means that the hospital has set up a special title promotion and job promotion channel for hospital management personnel. The score of this indicator is based on the eighth part of the hospital questionnaire (whether the hospital has a specialized promotion channel for management personnel). Choosing "Yes" scores 1 point and choosing "No" scores 0. In this study, the average score of 23 B6 indicators is 0.7391, with a standard deviation of 0.44898 and a variance of 0.202. The score is relatively high, indicating that the vast majority of hospitals have set up a special title promotion and job promotion channel for hospital management personnel.

4.2.3.2 Overall score at the hospital level

(1) Establishment of indicator weights

According to this report, the weight of the six hospital-level indicators in the hospital management personnel professional evaluation indicator system can be obtained. The weights of B2-B6 are normalized again, and the final weights of B2-B6 indicators are 20.071%, 19.537%, 19.786%, 20.071%, and 20.535%, respectively.

(2) Total score analysis

By combining the scores and weights of indicators B2-B6, a weighted average score was obtained for the 23 hospital questionnaires. The score range for each questionnaire is 0-1, with higher scores indicating a higher degree of professionalization among the hospital management staff. The average score of the 23 questionnaires was 0.77369, the standard deviation was 0.1869, and the variance was 0.035. The overall score is relatively high, indicating that the level of professionalization among hospital management staff in Guangzhou is good.

(3) Hospital score comparison and ranking

① Hospital level ranking

Among the 23 collected hospital questionnaires, there were a total of 18 tertiary hospitals, 2 secondary hospitals, and 3 primary hospitals. The average scores were calculated and ranked by hospital level, with the highest scores from tertiary hospitals, followed by secondary hospitals, and the lowest scores from primary hospitals, see Table 4.13.

Table 4.13 Total score (by hospital level)

Hospital Level	Mean Value	The number of Case	Standard Deviation
Tertiary hospitals	0.763	18	0.198
Secondary Grade A hospitals	0.884	2	0.164
Secondary hospitals	0.766	3	0.155
Total	0.774	23	0.187

② Ranking of hospital categories

Among the 23 hospitals surveyed, there were 13 general hospitals, 3 traditional Chinese medicine hospitals, and 7 specialized hospitals. The average scores were calculated for each hospital type, and the results showed that specialized hospitals had the highest average scores, followed by general hospitals, and traditional Chinese medicine hospitals had the lowest average scores. This result suggests that the level of professionalization in management is generally highest in specialized hospitals among the three types of hospitals, and that general hospitals and traditional Chinese medicine hospitals need to further improve their attention to professional management, see Table 4.14.

Table 4.14 Total score (by type of hospital)

Hospital Level	Mean Value	The number of Case	Standard Deviation
General Hospital	0.744	13	0.220
TCM Hospital	0.722	3	0.110
Specialized Hospitals	0.852	7	0.128
Total	0.774	23	0.187

4.2.3.3 Summary of hospital version questionnaire survey results

Based on the analysis of the hospital version questionnaire survey results, the following nine conclusions can be drawn:

(1) Indicator B-1: Although the majority of hospitals are still in the process of developing a "management-oriented" culture, the level of importance attached to management is sufficient.

(2) Indicator B-2: Most hospitals have well-established hospital administrative departments and organizational structures that align with the hospital's functions and development positioning.

(3) Indicator B-3: The majority of hospitals have scientifically and reasonably formulated job descriptions for administrative positions and strictly follow them in recruitment and personnel selection based on the principle of "matching the right person to the right position".

(4) Indicator B-4: The score for this indicator is relatively low, indicating that some

hospitals have not yet established a comprehensive training and continuing education system for management personnel. They also do not pay enough attention to developing individual career plans that align with the hospital's vision.

(5) Indicator B-5: Most hospitals have established a scientifically sound performance assessment system for management personnel, which includes assessing their performance and professional ethics.

(6) Indicator B-6: The score for this indicator is relatively high, indicating that the majority of hospitals provide dedicated channels for professional and positional promotion for hospital management personnel.

(7) The total score for the "hospital-level" indicators is relatively high. From the perspective of the "hospital-level" indicators, the level of professionalization among hospital management personnel in Guangzhou is good.

(8) From the "hospital-level" indicators, the level of professionalization in hospitals can be ranked as follows: Tertiary hospitals > Secondary Grade A hospitals > Tertiary Grade A hospitals; Specialized hospitals > General hospitals > Traditional Chinese Medicine hospitals.

4.2.4 Interview results of hospital leaders

To ensure the completeness and reliability of data collection for this study, selected hospital leaders in Guangzhou were interviewed as experts. The specific results are as follows:

4.2.4.1 Basic Information of Hospital Leaders

This study selected a total of 17 hospital leaders from various categories of public hospitals in Guangzhou City as survey subjects. Among them, there were 2 party secretaries, 2 deputy party secretaries, 6 hospital presidents, and 7 vice presidents. Among the participants, there are 14 were from tertiary hospitals. Among them, 1 participant was from a secondary hospital, and another 1 participant was from a primary hospital (community hospital). The basic information of the hospital leaders is shown in the Table 4.15 below.

Table 4.15 Basic Information of Hospital Leaders

Serial Number	Hospital	Position	Hospital Level	Hospital Grade	Number of Beds
1	Sun Yat-sen Memorial Hospital, SYSU	Vice President	Provincial and Ministerial Hospital	Tertiary Hospital	2204
2	The Third Affiliated Hospital, SYSU	Vice President	Provincial and Ministerial Hospital	Tertiary Hospital	2000
3	The Sixth Affiliated Hospital, SYSU	Vice President	Provincial and Ministerial	Tertiary Hospital	1202

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Serial Number	Hospital	Position	Hospital Level	Hospital Grade	Number of Beds
4	Nanfang Hospital, Southern Medical University	Deputy Party Secretary	Hospital Provincial and Ministerial Hospital	Tertiary Hospital	3601
5	Guangdong Second Provincial General Hospital	Deputy Party Secretary	Provincial and Ministerial Hospital	Tertiary Hospital	1730
6	The First Affiliated Hospital, GMU	President	Municipal Hospital	Tertiary Hospital	2850
7	The Brain Hospital, GMU	Party Secretary	Municipal Hospital	Tertiary Hospital	1920
8	The Fifth Affiliated Hospital, GMU	President	Municipal Hospital	Tertiary Hospital	1000
9	Guangzhou Women and Children's Medical Center	Vice President	Municipal Hospital	Tertiary Hospital	2400
10	Guangzhou Women and Children's Medical Center	Vice President	Municipal Hospital	Tertiary Hospital	2400
11	Guangzhou Red Cross Hospital	Party Secretary	Municipal Hospital	Tertiary Hospital	1000
12	Guangzhou Eighth People's Hospital	President	Municipal Hospital	Tertiary Hospital	1264
13	Guangzhou Twelfth People's Hospital	President	Municipal Hospital	Tertiary Hospital	633
14	Guangzhou Twelfth People's Hospital	Vice President	Municipal Hospital	Tertiary Hospital	633
15	Guangzhou First People's Hospital Nansha Hospital	Vice President	Municipal Hospital	Secondary Hospital	980
16	Guangzhou Orthopedic Hospital	President	District Hospital	Secondary Hospital	265
17	Guangzhou Nansha District Third People's Hospital	President	District Hospital	Primary Grade A Hospital	225

4.2.4.2 "Government Level" indicator analysis

In this study, the focus was on Guangzhou city, and there was no comparative research with other cities. Additionally, the survey questions related to the "Government Level" indicators were designed to elicit "yes" or "no" responses. Therefore, a simple descriptive analysis is deemed sufficient for the "Government Level" indicators. By analyzing the responses provided by the hospital leaders and requesting supporting documents or verifying relevant policies, the implementation status of the indicators can be described and confirmed.

(1) Situation of indicator C-1

Regarding Indicator C-1, which focuses on the "construction of modern hospital management systems", the interview question designed were: "What is the current situation of constructing modern hospital management systems in your region / hospital? What measures have been taken? What achievements have been made? What challenges are faced?" The overall

quality of responses to this question was not high, as most hospital leaders did not provide a point-by-point response. However, based on the replies received, it can be inferred that 15 out of the 17 hospital leaders directly or indirectly confirmed that Guangzhou is currently constructing modern hospital management systems. Expert 7 mentioned, "*The modern hospital management system has been advancing under the guidance of the Guangzhou Health Commission*", while Expert 8 stated, "*The construction of the modern hospital management system in Guangzhou is progressing in an orderly manner*". This aligns with the fact that Guangzhou is piloting the construction of such systems.

Additionally, according to feedback from experts, the construction of the modern hospital management system in Guangzhou is facing the following issues: ① **Imbalance in Construction and Development:** There is uneven progress in the construction and development of modern hospital management systems among various hospitals. For instance, according to Expert 13, there is a significant disparity in the intensity of efforts and the effectiveness of measures taken by different hospitals in implementing the construction of modern hospital management systems. ② **Lack of Unified Standards:** There is no unified construction standard for modern hospital management systems, leading to varied interpretations among different hospitals. Expert 5 points out that the biggest issue is the lack of a universally recognized and effective standard for understanding modern hospital management systems. Expert 13 notes that "*different managers have different understandings of modern hospital management systems, resulting in significant differences in the intensity and effectiveness of measures taken in implementing their construction*". ③ **Limited Effectiveness of Institutional Construction:** The modern hospital management system is predominantly focused on institutional construction, with limited observable effectiveness. Expert 10, based on their hospital's situation, believes that substantive effects of modern hospital management systems have not been seen, and most efforts are directed towards institutional construction. Expert 16 mentions that despite the high attention from health administrative authorities and the organization of relevant personnel for specialized training in hospital modern hospital management, limitations related to the system and traditional views make it challenging for hospitals to progress, yielding minimal results. ④ **Lack of Professional Management Personnel:** There is a shortage of professionalized management personnel with an inadequate understanding of modern hospital management system construction. Expert 8 suggests that managers or medical staff lack a deep and thorough understanding of modern hospital management. This shallow understanding may lead to resistance when practical conflicts of interest arise, creating obstacles to the transformation of

hospital management. ⑤ Insufficient Investment in Informationization and Performance Assessment: Further reinforcement is needed in the areas of informationization construction, performance assessment system construction, and resource investment. Expert 7 notes issues such as inadequate space and insufficient funds for the current modern hospital management system construction. Expert 8 points out disparities in the progress of informationization construction and resource investment among different hospitals, making it challenging to fully collect various types of management data in a standardized manner. Expert 12 mentions that current hospital information management application systems and comprehensive performance assessment systems are still under continuous development, providing substantial room for improvement.

(2) Situation of indicator C-2

Indicator C-2 focuses on the "existence of comprehensive regulations regarding hospital management personnel". The interview question designed for this indicator was: "Are there any specific government-level regulations regarding the admission, training, evaluation, rewards, and punishments of hospital management personnel?" Based on the responses from the hospital leaders, 13 out of the 17 leaders acknowledged the existence of related regulations, although they mentioned that they were not comprehensive and specifically tailored for hospital management personnel. Three leaders mentioned the absence of pertinent regulations, while one leader opted not to respond. Upon examining the regulations mentioned by the hospital leaders, it was found that the government has indeed established and implemented certain regulations, such as the *"Regulations on Personnel Management in Public Institutions"* the *"Provisions on the Implementation of the Appointment System for Professional and Technical Positions"* the *"Interim Provisions on Public Recruitment of Personnel in Public Institutions"* the *"Measures for Public Recruitment of Personnel in Guangdong Province's Public Institutions"* the *"Measures for Performance Evaluation of Staff in Public Institutions in Guangdong Province (Trial)"* the *"Interim Measures for the Management of Leading Personnel in Public Hospitals"* and the *"Training Outline for Administrative Leaders in Public Hospitals"*. However, these regulations are not comprehensive, as they do not cover all hospital management personnel, nor are they specifically designed for them. They either target too broadly, addressing all personnel in public institutions, or too narrowly, focusing only on leaders of public hospital institutions. Therefore, there is a lack of scientifically sound government-level regulations in China regarding the admission, training, evaluation, rewards, and punishments of hospital management personnel.

(3) Situation of indicator C-3

Indicator C-3 focuses on the "establishment of promotion channels for hospital management personnel". The interview question designed for this indicator was: "Are there any government-level channels for the promotion of hospital management personnel in terms of professional titles and ranks?" Out of the 17 hospital leaders, there are 14 responded that the government has indeed established promotion channels for hospital management personnel, while only 3 leaders indicated that there were no such channels. Upon reviewing relevant information, it was found that the government has indeed established relevant channels and issued corresponding documents. For example, the State Council issued the *"Provisions on the Appointment System for Professional and Technical Positions"*, and Guangdong Province issued the *"Implementation Plan for the Reform of Professional Titles for Health Professionals in Guangdong Province"*, which clearly specify the establishment of professional titles in the field of health management. Therefore, it can be concluded that Guangzhou has set up dedicated promotion channels for hospital management personnel.

4.2.4.3 "Industry Level" indicator analysis

The analysis of indicators at the government level follows the same principles. By conducting descriptive analysis of the responses provided by hospital leaders, we can obtain information on the implementation status of the indicators. By requesting the provision or verification of relevant documents or systems, we can confirm the accuracy of the leaders' responses.

(1) Situation of indicator D-1

Indicator D-1 focuses on the "establishment of legitimate social organizations such as associations for hospital management personnel". The interview question designed for this indicator was: "Are there any local social organizations established to provide communication and learning platforms for hospital management personnel?" According to the responses, all 17 hospital leaders confirmed the existence of relevant social organizations for hospital management. By referring to the Guangdong Hospital Association, Guangdong Medical Association, Guangdong Health Economics Association, Guangzhou Medical Association, and Guangzhou Hospital Association mentioned by the experts, the author examined the official websites and articles of these organizations, confirming that they all have relevant professional committees or branches.

(2) Situation of indicator D-2

Indicator D-2 focuses on "the marketization of talent mobility for hospital management personnel". Two interview questions were designed for this indicator: 1) "Do you think it is necessary to implement the de-establishment of positions in hospitals, and why?" 2) "Has the

marketization of talent mobility for hospital management personnel been achieved? If not, what are the obstacles?" Regarding the first question, out of the responses, there are 8 experts believed that it is not necessary to de-establish positions, mainly because the establishment of positions is a prerequisite for the stable development and retention of talents in hospitals. They also mentioned that the current environment and supporting measures for de-establishment are not in place. On the other hand, 6 experts believed that de-establishment is necessary, primarily because the number of positions allocated by the government to hospitals does not match the actual human resource needs of the hospitals, which may result in the loss of talents outside the establishment and hinder internal harmony and the marketization of talent mobility. Three experts held a neutral opinion. The proportion of hospital leaders who support de-establishment is 35.29%. Regarding the second question, out of the 17 hospital leaders, 16 of them believed that the marketization of talent mobility for hospital management personnel has not been achieved yet, while 1 leader did not provide a direct response to this question. The main reasons for the lack of marketization of talent mobility were identified as: 1) limitations imposed by the establishment system, 2) the absence of a professional evaluation system for hospital management personnel, 3) differences in the qualifications, management levels, and hospital grades among hospitals, and 4) weak individual awareness and limited market demand. Among these reasons, the first reason was mentioned the most by hospital leaders, with 7 leaders directly or indirectly referring to it. The second reason confirms the necessity of establishing an evaluation system for hospital management personnel, as formulated in this study.

According to the survey results from the individual questionnaire, which aimed to better understand the formation of market-oriented talent mobility in hospital management, the following findings were obtained:

Regarding the question of whether the respondents support "de-jobification" of hospitals, out of the 790 surveyed hospital management personnel, a total of 140 individuals (17.7%) expressed strong support, a total of 152 individuals (19.2%) expressed support, a total of 239 individuals (30.3%) had a neutral stance, a total of 152 individuals (19.2%) were less supportive, and a total of 107 individuals (13.5%) strongly opposed the de-jobification of hospitals. In total, the combined percentage of those who expressed support or strong support was 36.9%, which is generally consistent with the findings from the survey of hospital leaders (35.29%). It is evident that the overall support rate for de-jobification is not high.

Furthermore, among the 790 respondents, regarding the question of whether they support market-oriented talent mobility in hospital management, a total of 139 individuals (17.6%) expressed strong support, a total of 251 individuals (31.8%) expressed support, a total of 248

individuals (31.4%) had a neutral stance, a total of 116 individuals (14.7%) were less supportive, and a total of 36 individuals (4.6%) strongly opposed market-oriented talent mobility. The combined percentage of those who expressed support or strong support was 49.4%, while 19.3% of respondents did not support market-oriented talent mobility. Therefore, it is evident that nearly half of the surveyed individuals are in favor of market-oriented talent mobility in hospital management.

In summary, the formation of market-oriented talent mobility among hospital management personnel has not yet been fully achieved. This is primarily due to the constraints imposed by the existing job system. Moreover, the support rate for de-jobification among hospital management personnel, including leaders, is not high.

(3) Indicator D-3 status

Regarding indicator D-3 "High recognition of professionalism among hospital management personnel in the industry", one question was designed for the interviews with hospital leaders: Do you think it is necessary to promote the professionalization of hospital management personnel? Why? Additionally, one question was included in the personal version of the questionnaire: Do you think it is necessary to promote the professionalization of hospital management personnel? According to the results of the interviews with hospital leaders, out of 17 leaders, 15 clearly expressed the necessity to promote the professionalization of hospital management personnel, accounting for 88.2%. 1 expert mentioned that it should be determined based on different positions, and 1 hospital leader did not provide a definitive opinion on this issue. According to the interview results, we can find that the main reasons for supporting the promotion of professionalization among hospital management personnel are as follows: ① In line with the trend of market-oriented operations in the healthcare industry: Expert 16 believes that with the progress of society, the deepening of the "Three Medical Linkages" reform in national healthcare, medicine, and medical insurance, the transformation of medical models, changes in disease patterns, and the acceleration of the aging process, there has been rapid development in medical science and technology. As the healthcare market environment undergoes significant changes and competition among hospitals intensifies, maintaining an advantage in this competitive landscape places entirely new demands on hospital managers. The professionalization of hospital management personnel is a trend that cannot be ignored. ② A necessity for establishing a sound modern hospital management system: According to Expert 13, for hospitals to achieve high-quality development, the construction of a modern hospital management system is indispensable. Scientific management and the professionalization of

hospital management personnel are crucial guarantees to move away from entirely experiential and extensive management approaches. ③ A requirement for the high-quality development of hospitals: Expert 4 believes that as public hospitals enter a new era of high-quality development, there is an inevitable requirement for hospital managers to pay more attention to internal development. ④ A comprehensive need for external assessment and internal development: Expert 6 suggests that hospitals face external assessments from the government and other entities, leading to a demand for a group of personnel with fixed positions, specialties, and technical characteristics. This requirement facilitates the digitization and service-oriented transformation of various hospital business aspects, thereby promoting a positive cycle of improvement and construction through assessments. ⑤ The current hospital managers are mostly medical experts rather than management experts, and management capabilities need enhancement: According to Expert 11, the majority of current hospital management personnel are medical experts rather than management experts. They lack an understanding of modern hospital management concepts, knowledge, and methods. Strengthening learning and training in this area is deemed necessary.

Furthermore, among the 790 respondents in the personal version of the questionnaire, 353 individuals believed that promoting the professionalization of hospital management personnel is very necessary, accounting for 44.7%. 321 individuals considered it moderately necessary, accounting for 40.6%. The combined percentage of these two categories is 85.3%, which is roughly consistent with the survey results of hospital leaders (88.2%). When considering both results together, the support rate for the promotion of professionalization among hospital management personnel reaches 85.38%. This indicates that there is relatively high support and recognition within the industry for the professionalization of hospital management personnel.

4.2.4.4 Summary of the results of interviews with hospital leaders

Based on the analysis of the interviews with hospital leaders, the following nine conclusions can be drawn:

(1) Indicator C-1: Guangzhou is working towards establishing a modern hospital management system, but there are some areas that require improvement.

(2) Indicator C-2: The government in Guangzhou lacks comprehensive regulations and systems for hospital management personnel, including aspects such as admission, training, assessment, rewards, and penalties.

(3) Indicator C-3: Guangzhou has established dedicated promotion channels for hospital management personnel.

(4) Indicator D-1: There are several legitimate professional organizations, such as associations and societies, for hospital management personnel in Guangzhou.

(5) Indicator D-2: Currently, there is no established marketization of the flow of hospital management personnel in Guangzhou. The main constraint is the system of personnel allocation, and there is low support among hospital management personnel (including leaders) for the depoliticization of personnel.

(6) Indicator D-3: There is a relatively high level of recognition for the professionalization of hospital management personnel within the industry in Guangzhou.

(7) Among the three secondary indicators for both the "Government Level" and the "Industry Level", two indicators have already been achieved, and only indicators C-2 and D-2 require further measures for improvement. From the perspectives of the "Government Level" and the "Industry Level", the professionalization of hospital management personnel in Guangzhou has a certain foundation, but there are still areas that need improvement.

4.2.5 Summary of the current status of the professionalization of hospital management personnel in Guangzhou

Combining the results of the questionnaire survey and expert interviews using the "Evaluation Index System for the Professionalization of Hospital Management Personnel", from both "Individual Level" and "Hospital Level" perspectives, the level of professionalization among hospital management personnel in Guangzhou appears to be relatively good. When considering the "Government Level" and the "Industry Level", Guangzhou has a certain foundation for the professionalization of hospital management personnel, suggesting that it has the necessary prerequisites to implement this professionalization. However, the research also uncovered some issues or areas that need improvement regarding the professionalization of hospital management personnel in Guangzhou: ① Few management personnel have pure management as their full-time role, and there is a need for the government to establish admission standards for hospital management personnel from a systemic perspective. ② There is a shortage of hospital management personnel with "T-shaped" knowledge, necessitating the strengthening of comprehensive skills and qualities among them. ③ Some hospitals have not yet established comprehensive continuing education and training systems for hospital management personnel, and there is insufficient emphasis on developing individual career plans that align with the hospital's vision. Hospitals need to further establish and improve training systems for the professionalization of hospital management personnel. ④ The regulations and systems for

hospital management personnel at the governmental level in Guangzhou are not yet comprehensive, requiring government departments to prioritize and enhance the development of these regulations. ⑤ The marketization of hospital management personnel mobility has not yet been established in Guangzhou, and there is limited support for "delisting positions from the establishment". Therefore, further exploration of delisting strategies is needed from various sectors to eliminate obstacles to the professionalization of hospital management personnel and promote the formation of a market-oriented environment for them.

4.3 Study 3 analysis using NVivo 14 software

On the basis of understanding the current status of professionalization among hospital management personnel in Guangzhou, and aiming to provide better recommendations for advancing the professional development of management personnel in Chinese public hospitals, while also gaining a comprehensive understanding of the perspectives of hospital leadership on the professionalization of management personnel (including conceptual understanding, the necessity of implementation, existing challenges, and suggested strategies), this study incorporated four questions into the interview outline for hospital leadership research based on qualitative study. These four questions were as follows: Question 1: Could you share your understanding of the professionalization of hospital management personnel? Question 2: Do you think it is necessary to implement the professionalization of hospital management personnel at present, and why? Question 3: What do you perceive as the obstacles to implementing the professionalization of hospital management personnel, and what are the existing challenges? Question 4: What suggestions do you have for implementing the professionalization of hospital management personnel? Each of these four questions corresponds to a specific theme: Question 1's theme is 'Core Elements of Professionalization for Hospital Management Personnel,' primarily focused on understanding the interviewees' perspectives on the concept of professionalization for hospital management personnel; Question 2's theme is 'Necessity of Professionalization for Hospital Management Personnel,' aimed at understanding the necessity and reasons for implementing the professionalization of hospital management personnel; Question 3's theme is 'Facilitating the Progress of Professionalization for Hospital Management Personnel', focusing on understanding the obstacles to implementing the professionalization of hospital management personnel; Question 4's theme is 'Measures for Advancing the Professionalization of Hospital Management Personnel', aiming to gather experts' suggestions on implementing the professionalization of

hospital management personnel, providing evidence for formulating recommendations to advance the professionalization of hospital management personnel.

4.3.1 Research tools and operational process

This study utilized NVivo 14 for coding and analysis of interview transcripts (C. X. Zhou, 2023). The specific process includes: ① Open Coding: The researcher interpreted and analyzed the interview content based on the presented states. This is a process of restructuring the data and assigning concepts. The detailed process involves importing the interview data into the NVivo 14 software, analyzing it word by word in the 'Detail View' section, and coding the interview data by creating free nodes. During the process of new coding, constant comparison with previously created free nodes was performed. If the expressed concept was consistent with an existing free node, it was coded under that free node. If not, a new free node was established until all data were coded. ② Axial Coding: This step primarily involved discovering organic connections between free nodes. These connections could be causal relationships, temporal relationships, situational relationships, peer relationships, process relationships. Through organic connections, nodes were classified, categorized, and summarized into a tree-like structure. ③ Selective Coding: The relationships determined through axial coding were further refined to identify core concepts. ④ Theoretical Saturation Check: After completing three levels of coding for the interview content, the coding system was repeatedly revised and supplemented. If no new codes appeared, it indicated coding saturation. In this study, after collecting responses from the 17th interviewed hospital leader, no new coding content emerged. Subsequently, three more hospital leaders were interviewed, and no new indicators were found. This confirmed that coding saturation had been reached, and the 17 respondents were sufficient, eliminating the need to continue adding participants.

In addition, NVivo's data visualization capabilities can assist researchers in presenting data more effectively. When using this feature, data can be visualized in various charts and graphics, such as word clouds and relationship diagrams. In this study, besides the coding analysis, the main aid for analysis was provided by utilizing word cloud graphics and hierarchy diagram.

To facilitate coding and analysis, the textual transcripts of the 17 interviews were divided into different sentences based on semantics. Each sentence was labeled with a code in the format "Tx-Py-Sz", where "Tx" represents the "theme", "x" is a natural number from 1 to 4 (e.g., "T1" for "Theme 1", "T2" for "Theme 2", and so on), "Py" represents the "expert", "y" is a natural number from 1 to 17 (e.g., "P1" for "Expert 1", "P2" for "Expert 2", and so on), and "Sz"

indicates the sentence within each semantic division of the interview expert's record, with "z" as a natural number (e.g., "S1" for the first sentence, "S2" for the second sentence, and so forth). Therefore, the code "Tx-Py-Sz" represents the viewpoint of the "z" and the sentence from expert "y" in theme "x".

4.3.2 Coding and category extraction

In this study, the execution data were subjected to open coding, axial coding, and selective coding following the aforementioned operational procedures.

4.3.2.1 Open coding

Following the process of open coding, this study identified a total of 48 valid coded sentences, forming 48 open codes. Among them, there are 8 open codes for Theme 1, 11 for Theme 2, 12 for Theme 3, and 17 for Theme 4. The results of open coding and some representative original statements are presented in Table 4.16.

Table 4.16 Open Coding Results

Original interview statement ID	Representative original statements	Open coding
T1-P1-S1	T1-P1-S1 The professionalization of hospital management personnel refers to employees who, under the leadership of the hospital's Party committee, take management positions as their profession and are dedicated to the daily operational management of the hospital.	A1 Full-time in hospital administration
T1-P14-S2		
T1-P12-S3		
T1-P16-S4	T1-P12-S3 Once hired, they are responsible for hospital management as their primary source of income.	A2 Hospital management as the main source of income
T1-P7-S1	T1-P11-S2 and even possess corresponding qualifications.	A3 Have the appropriate degree
T1-P11-S2		
T1-P7-S2		
T1-P12-S1	T1-P12-S1 The professionalization of hospital administrators refers to the requirement that hospital management work should undergo specialized training in hospital management skills	A4 With special training
T1-P13-S1		
T1-P16-S1		
T1-P12-S2	T1-P12-S2 and pass assessments by national regulatory authorities to obtain professional qualifications.	A5 Obtain qualifications
T1-P16-S3		
T1-P3-S1		
T1-P4-S1	T1-P3-S1 By providing standardized and professional training for management personnel, systematic hospital management can be carried out.	A6 Have professional quality
T1-P6-S1		
T1-P13-S2		
T1-P17-S1	T1-P10-S1 Hospital management professionalization means having management professionals with specialized knowledge to oversee the operations of the hospital.	A7 Master management skills
T1-P4-S2		
T1-P6-S2		
T1-P8-S1		
T1-P9-S1		
T1-P10-S1		
T1-P11-S1		
T1-P14-S1		
T1-P16-S2		

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Original interview statement		Open coding	
ID	Representative original statements		
T1-P4-S3	T1-P4-S3 Lastly, professional standards, which refers to the behavioral norms that hospital management personnel should uphold in their work. T2-P1-S2 Among the various management positions in hospitals, there are management personnel in areas such as Party affairs, administration, human resources, financial management, medical services, discipline construction, and logistics. Among these positions, roles related to Party affairs, financial management, and logistics are suitable for professionalization, which can contribute to more refined and efficient management in public hospitals.	A8 Follow professional code	
T1-P6-S3			
T2-P1-S2		A9 Only some jobs are suitable for professionalism	
T2-P2-S1		T2-P3-S1 It is necessary to promote the professionalization of hospital management personnel.	A10 It is necessary to promote the professionalization of hospital management personnel
T2-P3-S1			
T2-P4-S1			
T2-P5-S1			
T2-P6-S1			
T2-P7-S1			
T2-P8-S1			
T2-P10-S1			
T2-P11-S1			
T2-P12-S1			
T2-P13-S1	T2-P16-S4 With social progress, the deepening of the "three-linkage" reforms in medical treatment, pharmaceuticals, and medical insurance, the transformation of medical models, changes in disease patterns, and the acceleration of population aging, medical science and technology have developed rapidly, and the healthcare demands of the people continue to rise. The medical market environment has undergone significant changes, and competition among hospitals has intensified. To maintain an advantage in this competitive environment, new requirements are placed on hospital managers. The professionalization of hospital management personnel is a trend that cannot be ignored. T2-P12-S3 In the new situation of continuous deepening of national healthcare system reform and facing market competition, managers not only need to fulfill their functions of planning, organizing, leading, and controlling but also require a systematic way of thinking and the ability to perceive, analyze, and solve problems.	A11 Meet the needs of development in the new era	
T2-P14-S1			
T2-P15-S1			
T2-P16-S1			
T2-P17-S1			
T2-P1-S1			
T2-P3-S2			
T2-P4-S2			
T2-P6-S2			
T2-P10-S2			
T2-P12-S4	A12 Higher requirements for hospital managers		
T2-P13-S2			
T2-P15-S5	A13 Implement superior document requirements		
T2-P16-S4			
T2-P17-S3			
T2-P4-S3	T2-P15-S3 The "Decision of the Central Committee of the Communist Party of China and the State Council on Health Reform and Development" emphasizes the need to attach great importance to the training of healthcare management talents and cultivate a professional management team that is suitable for the development of the industry.	A14 Hospital management is a profession	
T2-P6-S3			
T2-P15-S3			
T2-P5-S2	T2-P16-S2 Medicine itself is a complex field with many unknowns, and hospital management is an extremely practical and complex discipline.		
T2-P12-S2			
T2-P16-S2			

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Original interview statement ID	Representative original statements	Open coding
T2-P6-S4	T2-P17-S2 The level of hospital management directly affects the quality of medical care and patient safety, as well as the operational and developmental status of the hospital.	A15 Related to hospital operation and development
T2-P8-S2	T2-P11-S2 Because the majority of hospital management personnel are medical experts rather than management experts. They lack understanding of modern hospital management concepts, knowledge, and techniques, so it is important to enhance their learning and training in this regard.	A16 Medical experts lack management knowledge
T2-P2-S2 T2-P14-S2	T2-P16-S3 Practice has proven that the current model of "medical expertise leading to administrative positions" has many shortcomings: most of these individuals have excellent professional achievements but lack systematic training in management roles before entering management positions. They also do not prioritize their role as managers and often maintain the mindset of disciplinary leaders. Moreover, they tend to have a prominent official-oriented thinking, prioritize power over responsibility, and are prone to issues related to corruption prevention, safety production, and other areas.	A17 "Medical expertise leading to administrative positions" has many shortcomings
T2-P15-S2	T2-P15-S2 In our country's healthcare system, especially in hospital management, whether it is management concepts, practices, or the development, recruitment, and professionalization of management personnel, we are lagging behind compared to enterprises and the current situation.	A18 Hospital management lags behind enterprise management
T2-P15-S4	T2-P15-S4 China needs to cultivate and establish a professional healthcare management cadre that understands economics, law, and possesses modern management knowledge and skills, in line with the requirements of a socialist market economy. This will improve the knowledge structure and level of healthcare administrative departments at all levels and enhance the quality of the healthcare management workforce.	A19 The ability of hospital management team needs to be improved
T3-P4-S1	T3-P4-S1 In China, the exploration of professionalizing hospital management personnel began relatively late, starting in 1997.	A20 Start late
T3-P4-S2	T3-P4-S2 Overall, there is a lack of well-established laws, regulations, and institutional frameworks, as well as a lack of systematic policy systems and human resources management systems.	A21 The system is not sound
T3-P1-S3 T3-P17-S2	T3-P17-S2 Unsatisfactory level of professionalization among management personnel. Hospital management is complex, and talent requirements involve systematic medical knowledge training and management training.	A22 The level of professional management is insufficient
T3-P11-S1	However, the number of professionals with this combination of skills is far from sufficient.	
T3-P10-S1	T3-P10-S1 Management system: Only by completely or mostly dismantling the current staffing-oriented management system can the incubation and development of the market be promoted.	A24 The limitation of hospital characteristics A25 The constraint of hospital attributes

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Original interview statement ID	Representative original statements	Open coding
T3-P6-S2		
T3-P9-S1	T3-P9-S1 Hospitals are public institutions, and their nature determines this.	
T3-P15-S2		
T3-P1-S1		
T3-P6-S3	T3-P6-S3 Personnel selection: The internal selection and employment model of "those who excel in medicine are chosen for administration" to some extent increases the difficulty of entry for management professionals.	A26 The selection and employment system is unreasonable
T3-P8-S1		
T3-P17-S1		
T3-P13-S2		
T3-P15-S1		
T3-P16-S1		
T3-P1-S2		
T3-P6-S4	T3-P12-S2 Second, there is a lack of authoritative scientific demonstration and training systems.	A27 Training and certification systems have not been established
T3-P12-S2		
T3-P11-S2		
T3-P3-S2		
T3-P12-S4	T3-P14-S2 Also, managerial staff and medical staff snatch title indicators.	A28 The title system is unreasonable
T3-P14-S2		
T3-P14-S1	T3-P14-S1 Medical staff is a very noble profession, but the income is not high, leading to some people part-time to do management to improve income, but do not concentrate on management.	A29 The salary system of medical staff is unreasonable
T3-P1-S4	T3-P1-S4 In addition, some scholars have found that clinical and nursing staff in hospitals have low satisfaction levels with hospital management personnel, and the management personnel themselves have low levels of job satisfaction and identification with their work. From a management perspective, the satisfaction and identification of others and themselves with their work are closely related to the quality of their work, their physical and mental health, and job turnover rates. These factors are also hindrances to the professionalization of hospital management personnel.	
T3-P2-S1		
T3-P3-S3		
T3-P4-S3		
T3-P5-S1		A30 Low recognition of management work
T3-P6-S1		
T3-P12-S1		
T3-P12-S3		
T3-P13-S1		
T3-P3-S1	T3-P3-S1 Firstly, there are not many higher education programs specifically focusing on the professionalization of hospital management.	A31 There are few hospital management specialties in colleges and universities
T4-P3-S2	T4-P12-S1 First, hospital management personnel should strengthen their own professional qualities. They should have a clear sense of social responsibility and historical mission, be passionate and conscientious in their work, and invest sufficient energy and time into learning management knowledge.	A32 Strengthen their own professional literacy
T4-P12-S1		
T4-P3-S1	T4-P13-S1 It is necessary to break away from the inherent belief that "anyone can manage" or that minimal training is sufficient for management roles, and truly value the development of hospital management teams.	A33 Change the stereotype
T4-P13-S1		
T4-P17-S2		
T4-P3-S3	T4-P3-S3 Thirdly, hospital management is a relatively personalized field, and each hospital has its own specific circumstances. This requires us to think pragmatically when implementing management processes, and develop management models and strategies that are most suitable for each individual hospital.	A34 Develop a hospital personality plan
T4-P2-S1	T4-P2-S1 Find a balance between expert-led management and professional management in hospitals.	A35 Find a balance
T4-P17-S4		

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Original interview statement ID	Representative original statements	Open coding
T4-P12-S3	T4-P12-S3 Third, hospitals should enhance human resources planning	A36 Improve human resource planning
T4-P6-S1 T4-P13-S2 T4-P17-S1 T4-P1-S2 T4-P4-S4 T4-P6-S2 T4-P7-S2 T4-P12-S4 T4-P16-S1 T4-P17-S3	T4-P17-S1 Implement strict admission criteria for the selection of hospital management personnel.	A37 Strict access system
T4-P1-S4 T4-P4-S3 T4-P5-S2 T4-P12-S2	T4-P16-S1 Strengthen the professional training of hospital management personnel, and promote the professionalization of hospital management personnel to meet the requirements of modern hospital development.	A38 Improve the training mechanism and strengthen training
T4-P15-S3	T4-P12-S2 Second, establish and improve performance evaluation systems to motivate the hospital management team to excel in their work. Hospitals should establish and improve performance evaluation systems, appropriately increase the performance-based salaries of management personnel, and relax the standards for the assessment of management professional titles to stimulate the learning and enthusiasm of the hospital management team.	A39 Improve the assessment and incentive system
T4-P1-S1	T4-P1-S1 The management team of hospitals should always adhere to the comprehensive leadership of the Party, strengthen Party building, and resolutely implement the work requirements and directives of the Party Central Committee.	A40 Uphold the leadership of the Party
T4-P4-S2 T4-P5-S1 T4-P9-S1	T4-P5-S1 It should be promoted from top to bottom.	A41 Government promotion
T4-P15-S2	T4-P15-S2 Ensuring that the hospital operation mechanisms are suitable for hospital development.	A42 Improve the operation mechanism
T4-P4-S1	T4-P4-S1 Firstly, promoting the professionalization of hospital management teams relies on institutional safeguards. It is necessary to clarify the relationship between the government and medical institutions in order to promote the modernization of the medical governance system and capacity.	A43 Provide institutional guarantee
T4-P1-S3 T4-P6-S4	T4-P6-S4 Establish a management title series corresponding to technical titles, refine promotion standards and evaluation indicators for full-time management personnel, and provide clear career development paths for hospital management personnel.	A44 Reform the professional title system
T4-P14-S2	T4-P8-S1 The professionalization of hospital management personnel is a measure to establish a modern hospital management system and requires a comprehensive approach. It is a long and challenging journey that requires tireless exploration and promotion by the government, hospitals, and various stakeholders at all levels.	A45 Multi-party efforts are needed
T4-P8-S1	T4-P13-S3 Establish clear career paths for hospital management personnel.	A46 Establish a professional path
T4-P13-S3	T4-P6-S3 Explore the establishment of a unified industry training and certification system.	A47 Establish a certification system
T4-P6-S3		A48 Strengthen the training of management

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Original interview statement ID	Representative original statements	Open coding
T4-P7-S1	T4-P14-S1 Start cultivating hospital management talents from undergraduate and graduate levels. If necessary, they should be exclusively dedicated to hospital management work.	personnel in colleges and universities
T4-P12-S5		
T4-P14-S1		

4.3.2.2 Axial coding and selective coding

Following the axial coding process, this study generated a total of 16 axial codes, with 3 for Theme 1, 4 for Theme 2, 4 for Theme 3, and 5 for Theme 4. Selective coding was primarily based on the research objectives and was categorized into four codes corresponding to the four themes: Concept, Attitude, Resistance, and Countermeasures. The coding results are presented in Table 4.17.

Table 4.17 Coding Result

Open coding	Axial coding	Selective coding
A1 Full-time in hospital administration	B1 Nature of work	C1 Concept
A2 Hospital management as the main source of income		
A3 Have the appropriate degree		
A4 With special training	B2 Basic condition	
A5 Obtain qualifications		
A6 Have professional quality		
A7 Master management skills	B3 Ability requirement	
A8 Follow professional code		
A9 Only some jobs are suitable for professionalism		
A10 It is necessary to promote the professionalization of hospital management personnel	B4 Necessity of implementation	
A11 Meet the needs of development in the new era	B5 Historical background	
A12 Higher requirements for hospital managers		
A13 Implement superior document requirements		
A14 Hospital management is a profession	B6 Characteristics of hospital management	
A15 Related to hospital operation and development		
A16 Related to hospital operation and development		
A17 "Medical expertise leading to administrative positions" has many shortcomings	B7 Current situation of hospital management	
A18 Hospital management lags behind enterprise management		
A19 The ability of hospital management team needs to be improved		
A20 Start late	B8 Weak foundation	C3 Resistance
A21 The system is not sound		
A22 The level of professional management is insufficient		
A23 Lack of government resolve	B9 System and mechanism	
A24 The limitation of hospital characteristics		
A25 The constraint of hospital attributes		
A26 The selection and employment system is unreasonable	B10 Personnel system	
A27 Training and certification systems have not been established		
A28 The title system is unreasonable		

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Open coding	Axial coding	Selective coding
A29 The salary system of medical staff is unreasonable		
A30 Low recognition of management work		
A31 There are few hospital management specialties in colleges and universities	B11 Degree of attention	
A32 Strengthen their own professional literacy	B12 Individual level	
A33 Change the stereotype		
A34 Develop a hospital personality plan		
A35 Find a balance		
A36 Improve human resource planning	B13 Hospital level	
A37 Strict access system		
A38 Improve the training mechanism and strengthen training		
A39 Improve the assessment and incentive system		C4
A40 Uphold the leadership of the Party		Countermeasures
A41 Government promotion		
A42 Improve the operation mechanism	B14 Government level	
A43 Provide institutional guarantee		
A44 Reform the professional title system		
A45 Multi-party efforts are needed		
A46 Establish a professional path	B15 Industry level	
A47 Establish a certification system		
A48 Strengthen the training of management personnel in colleges and universities	B16 University level	

After completing the coding, it is necessary to conduct a coding consistency check to ensure the reliability of the results. This study utilized the "Coding Comparison" function in Nvivo 14 to analyze reliability through consistency percentages. Generally, consistency percentages above 70% are considered to indicate high consistency. Two researchers independently coded the interview data, imported it into the Nvivo 14 software, and exported the consistency coding, as shown in Table 4.18. From the table, it can be observed that the consistency percentages for each node range from 94.08% to 99.90%, all exceeding 70%. Therefore, the coding in this study demonstrates high reliability.

Table 4.18 Coding Consistency Percentages

Open coding	Consistency percentage (%)
A1 Full-time in hospital administration	99.52
A2 Hospital management as the main source of income	99.55
A3 Have the appropriate degree	99.71
A4 With special training	99.33
A5 Obtain qualifications	99.82
A6 Have professional quality	97.55
A7 Master management skills	97.60
A8 Follow professional code	98.98
A9 Only some jobs are suitable for professionalism	98.10
A10 It is necessary to promote the professionalization of hospital management personnel	98.59
A11 Meet the needs of development in the new era	94.08
A12 Higher requirements for hospital managers	99.33

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Open coding	Consistency percentage (%)
A13 Implement superior document requirements	97.33
A14 Hospital management is a profession	98.91
A15 Related to hospital operation and development	97.88
A16 Related to hospital operation and development	98.61
A17 "Medical expertise leading to administrative positions" has many shortcomings	98.13
A18 Hospital management lags behind enterprise management	99.53
A19 The ability of hospital management team needs to be improved	99.23
A20 Start late	99.73
A21 The system is not sound	99.76
A22 The level of professional management is insufficient	99.14
A23 Lack of government resolve	99.23
A24 The limitation of hospital characteristics	99.67
A25 The constraint of hospital attributes	99.23
A26 The selection and employment system is unreasonable	96.37
A27 Training and certification systems have not been established	98.26
A28 The title system is unreasonable	99.41
A29 The salary system of medical staff is unreasonable	99.54
A30 Low recognition of management work	97.57
A31 There are few hospital management specialties in colleges and universities	99.78
A32 Strengthen their own professional literacy	98.63
A33 Change the stereotype	98.58
A34 Develop a hospital personality plan	99.35
A35 Find a balance	99.49
A36 Improve human resource planning	99.90
A37 Strict access system	99.11
A38 Improve the training mechanism and strengthen training	96.50
A39 Improve the assessment and incentive system	96.50
A40 Uphold the leadership of the Party	99.63
A41 Government promotion	99.34
A42 Improve the operation mechanism	99.89
A43 Provide institutional guarantee	99.72
A44 Reform the professional title system	98.49
A45 Multi-party efforts are needed	99.49
A46 Establish a professional path	99.83
A47 Establish a certification system	99.87
A48 Strengthen the training of management personnel in colleges and universities	99.32

4.3.3 Results analysis

This study, in line with its research objectives, primarily conducted analysis through the word cloud, hierarchy diagram, and coding system generated by Nvivo14, and finally builds a professionalization reform path model for Chinese hospital managers under the modern hospital management system.

‘System’ is more prevalent in discussions about existing problems and recommendations. Due to the current lack of a scientific institutional system specifically for hospital management personnel, hospital leaders are more concerned about the institutional system aspect of professionalization. ‘Party’ is mentioned mainly in discussions about the concept of professionalization, the necessity of implementation, and related recommendations, emphasizing the need to strengthen Party leadership in the construction of public hospitals in China. ‘Quality’ is mentioned in most interview content, particularly in the context of the background of professionalization, emphasizing the overarching background that China is currently entering a phase of high-quality development. ‘Training’ is mentioned in discussions about the concept, necessity, obstacles, and countermeasures of professionalization, highlighting the importance of management training.

The word cloud suggests that, in the research and promotion of the professionalization of hospital management personnel, we should focus on the following aspects: ① Adhere to Party leadership: The Communist Party of China is the leading core of the socialist cause with Chinese characteristics. The reform of the professionalization of management personnel in public hospitals should be carried out under the leadership of the Party. ② Do not overlook the backdrop of high-quality hospital development: Considering how to promote the high-quality development of hospitals through the professionalization of hospital management personnel within the context of high-quality development is a key issue for consideration. ③ Accelerate the construction of relevant systems for the professionalization of hospital management personnel: Establish a scientific system for the professionalization of hospital management personnel, providing strong support for the reform and promotion of the professionalization of hospital management personnel. ④ Recognize hospital management as a specialized profession: Acknowledge that hospital management is a distinct profession. Strengthen professional training for hospital management personnel to enhance their managerial abilities and levels.

4.3.3.2 Hierarchical structure chart analysis

Utilizing the "Explore" function in NVivo 14, the "Hierarchy Chart" module was employed to generate a hierarchical structure chart. In the "Selected Items", the "Selective Coding" hierarchical structure chart in the "Codes" section was selected (Figure 4.2). This chart primarily provides a visual representation of the hierarchical structure of the coding. The size of each area indicates the difference in the number of reference points, with larger areas corresponding to more extensive coding.

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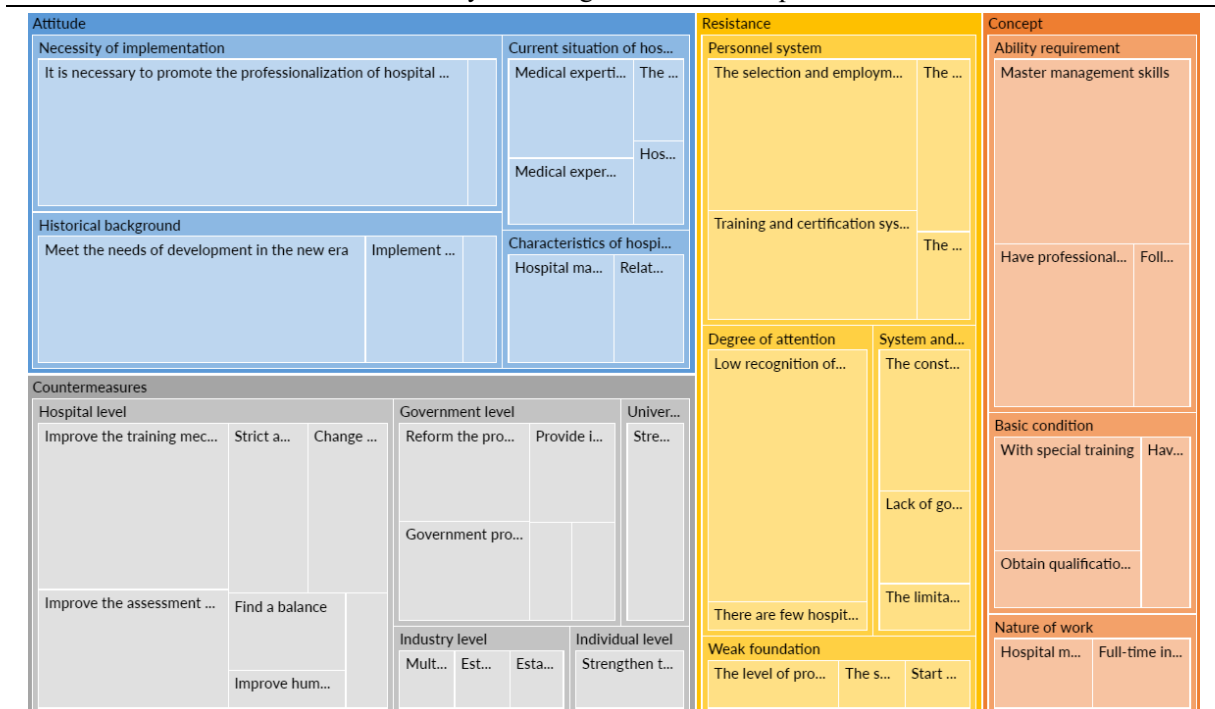


Figure 4.2 Hierarchical Structure Picture

Figure 4.2 visually presents the respondents' views on the professionalization of hospital management personnel. In the "Concepts" aspect, "Competency Requirements" take the lead, aligning with the high-frequency term "Professional" in the word cloud. This reflects the notion that management is a specialized field and inevitably demands specific competencies. In the "Attitude" aspect, the majority of experts believe it is necessary to promote the professionalization of hospital management personnel. The primary reason is to adapt to the new development requirements of the era, corresponding to the high-frequency term "Development" in the word cloud. High-quality development is a crucial contemporary background in China. Looking at "Resistance", the larger area occupied by "Personnel System" indicates that systemic issues, particularly related to the personnel system, pose significant challenges. This corresponds to the high-frequency term "System" in the word cloud, emphasizing the urgent need for the establishment of a comprehensive system, especially in terms of human resources. Examining "Countermeasures", it is evident that there is much for hospitals to address, especially in terms of improving training mechanisms. Strengthening training aligns with the high-frequency term "Training" in the word cloud. It is clear that training is a crucial measure in the current implementation of the professionalization of hospital management personnel.

4.3.3.3 Analysis of the coding system

Following the manual coding process in Nvivo14, the codebook was exported. For the sake of

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convenience in research and analysis, adjustments were made to the format and sequence of the codebook. The modified codebook is presented in Table 4.19 below:

Table 4.19 Codebook

Name	Files	References
C1 Concept	14	27
B1 Nature of work	4	4
A1 Full-time in hospital administration	2	2
A2 Hospital management as the main source of income	2	2
B2 Basic condition	5	8
A3 Have the appropriate degree	2	2
A4 With special training	4	4
A5 Obtain qualifications	2	2
B3 Ability requirement	11	15
A6 Have professional quality	5	5
A7 Master management skills	8	8
A8 Follow professional code	2	2
C2 Attitude	16	42
B4 Necessity of implementation	16	16
A9 Only some jobs are suitable for professionalism	1	1
A10 It is necessary to promote the professionalization of hospital management personnel	15	15
B5 Historical background	10	14
A11 Meet the needs of development in the new era	10	10
A12 Higher requirements for hospital managers	1	1
A13 Implement superior document requirements	3	3
B6 Characteristics of hospital management	5	5
A14 Hospital management is a profession	3	3
A15 Related to hospital operation and development	2	2
B7 Current situation of hospital management	6	7
A16 Medical experts lack management knowledge	2	2
A17 "Medical expertise leading to administrative positions" has many shortcomings	3	3
A18 Hospital management lags behind enterprise management	1	1
A19 The ability of hospital management team needs to be improved	1	1
C3 Resistance	16	35
B8 Weak foundation	3	4
A20 Start late	1	1
A21 The system is not sound	1	1
A22 The level of professional management is insufficient	2	2
B9 System and mechanism	5	6
A23 Lack of government resolve	2	2
A24 The limitation of hospital characteristics	1	1
A25 The constraint of hospital attributes	3	3
B10 Personnel system	11	15
A26 The selection and employment system is unreasonable	7	7
A27 Training and certification systems have not been established	5	5
A28 The title system is unreasonable	2	2
A29 The salary system of medical staff is unreasonable	1	1
B11 Degree of attention	8	10
A30 Low recognition of management work	8	9
A31 There are few hospital management specialties in colleges and universities	1	1
C4 Countermeasures	15	40

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Name	Files	References
B12 Individual level	2	2
A32 Strengthen their own professional literacy	2	2
B13 Hospital level	12	22
A33 Change the stereotype	3	3
A34 Develop a hospital personality plan	1	1
A35 Find a balance	2	2
A36 Improve human resource planning	1	1
A37 Strict access system	3	3
A38 Improve the training mechanism and strengthen training	7	7
A39 Improve the assessment and incentive system	5	5
B14 Government level	7	10
A40 Uphold the leadership of the Party	1	1
A41 Government promotion	3	3
A42 Improve the operation mechanism	1	1
A43 Provide institutional guarantee	2	2
A44 Reform the professional title system	3	3
B15 Industry level	3	3
A45 Multi-party efforts are needed	1	1
A46 Establish a professional path	1	1
A47 Establish a certification system	1	1
B16 University level	3	3
A48 Strengthen the training of management personnel in colleges and universities	3	3

(1) Analysis of selective coding "C1 Concept"

The experts' understanding of the concept of hospital management professionalization can be summarized into three major aspects, namely the core coding of "Nature of Work", "Basic Requirements", and "Competency Requirements". In the core coding of "Nature of Work", four experts mentioned this aspect, with a total of four reference points. Among them, "Engaging in hospital management work full-time" had two reference points, as mentioned by Expert 1, *"Employees take management positions as a profession, dedicated to the daily operation and management of the hospital"*, and Expert 14, who believed that "hospital management work should no longer be part-time". The idea of "Considering hospital management work as the main source of income" received support from two experts, with both Expert 12 and Expert 16 emphasizing that hospital management personnel should consider hospital management as their primary source of income. In the core coding of "Basic Requirements", five experts mentioned this aspect, with a total of eight reference points. Among them, "Possessing relevant qualifications" had two points, "Undergoing specialized training" had four, and "Obtaining professional qualifications" had two. The emphasis on "Undergoing specialized training" was notable, as mentioned by Expert 12, stating that *"Hospital management professionalization means that hospital management work must undergo specialized vocational skills training"*, and Expert 13 emphasizing that *"Hospital management personnel need to receive systematic management training"*. In the core coding of "Competency Requirements", 11 experts

mentioned this aspect, with a total of 15 reference points, including "Mastering management skills" (8 points), "Possessing professional qualities" (5 points), and "Adhering to professional standards" (2 points). "Mastering management skills" received considerable attention from the experts, as mentioned by Expert 11, stating that *"To strengthen the modernization of hospital management, administrative personnel in hospitals should master relevant knowledge and skills in hospital management"*, and Expert 14 emphasizing that *"Hospital management professionalization means that hospital management personnel must be professional, mastering management expertise and skills"*.

From the "Concept" coding system, it can be observed that the understanding of hospital management professionalization by the interviewed experts aligns highly with the core elements and evaluation indicators of hospital management professionalization identified in Research 1, specifically within the "Individual Level" dimension. The open coding "A1 Engaging in hospital management work full-time" corresponds to the indicator "A-1 Devoting oneself full-time to hospital management work". The coding "A2 Considering hospital management work as the main source of income" essentially represents one of the potential meanings of indicator A-1. The coding "A3 Possessing relevant qualifications", and "A5 Obtaining professional qualifications" align with the indicator "A-2 Having a background in management". The coding "A4 Undergoing specialized training" corresponds to the indicator "B-4 Establishing a comprehensive training and further education system for hospital management personnel". The coding "A6 Mastering management skills" corresponds to the indicator "A-4 Possessing specialized skills". The coding "A7 Possessing professional qualities" aligns with the indicator "A-6 Possessing modern management awareness and professional qualities". The coding "A8 Adhering to professional standards" corresponds to the indicator "A-5 Adhering to professional ethics for hospital management personnel".

The experts' understanding of the "Concept" also suggests to researchers that when proposing recommendations and strategies to promote the professionalization of hospital management personnel, it is essential to focus on the nature of hospital management work, the basic requirements for hospital management personnel professionalization, and the skill requirements for professional hospital management personnel.

(2) Analysis of selective coding "C2 Attitude"

In terms of the attitude towards promoting the professionalization of hospital management, 15 experts explicitly expressed the necessity of promoting the professionalization of hospital managers, 1 expert indicated that only some positions are suitable for promotion, and 1 expert did not express a clear opinion. It can be seen that the majority of experts recognize the need

for promoting the professionalization of hospital managers. The main reasons can be summarized in three aspects: "Era Background", "Characteristics of Hospital Management", and "Current Situation of Hospital Management". According to the Nvivo14 coding book, the axial coding of "Era Background" was mentioned by 10 experts, with a total of 14 reference points. Among them, "Adapt to the development of the new era" was mentioned by the most experts, with 10 reference points. For example, Expert 4 mentioned, *"With the promotion of the governance structure of public hospitals and the reform of modern management, the professionalization of hospital managers is an inevitable trend of development"*; Expert 17 mentioned, *"The professionalization of managers can better adapt to the development requirements of the new era, respond to the requirements of a complex social competition situation, and pay more attention to the long-term development of hospitals"*. "Implementing the requirements of superior documents" had 3 reference points, mentioned by Experts 4, 6, and 15; "Increasing requirements for hospital managers" was only mentioned by Expert 12, who believed that *"in the new situation of the continuous deepening of the national medical system reform, facing the competition in the market, managers not only need to fulfill their functions of planning, organizing, leading, and controlling but also need to have a systematic thinking, insight, analysis, and problem-solving abilities"*. The axial coding of "Characteristics of Hospital Management" was mentioned by 5 experts, with a total of 5 reference points. Among them, "Hospital management is a specialized field" had 3 reference points. For example, Expert 12 believed that *"management, like medicine, is a science and a very practical activity"*; "Related to the operation and development of hospitals" was mentioned by 2 experts, such as Expert 17 who believed that *"the level of hospital management is directly related to medical quality and patient safety, and is related to the operating conditions and development level of the hospital"*. The axial coding of the "Current Situation of Hospital Management" was mentioned by 6 experts, with a total of 7 reference points. Among them, "Medical experts lack management knowledge" had 2 reference points. For example, Expert 11 believed that *"in the majority of hospitals, management personnel are medical experts rather than management experts, and they do not understand modern hospital management concepts, knowledge, and methods, so training in this area should be strengthened"*; "There are many shortcomings in the 'Doctors as leaders' model" had 3 reference points, as Expert 16 explicitly stated, *"Practice has proven that the current 'Doctors as leaders' model has many shortcomings"*; "Hospital management lags behind corporate management" had 1 reference point, mentioned by Expert 15, who believed that *"in China's health system, especially in the management of hospitals, whether it is management concepts, practices, or the training, introduction, and*

professionalization process of management personnel, it lags behind enterprises and the situation"; "The capacity of the hospital management team needs to be improved" also had 1 reference point, mentioned by Expert 15, who believed that "China needs to cultivate and establish a professionalized health management cadre that understands economics, understands law, masters modern management knowledge and technology, and meets the requirements of a socialist market economy, improve the knowledge structure and knowledge level of leadership teams at all levels of health administrative departments and health institutions, and enhance the quality of the health management team".

From the "Attitude" coding system, it is evident that the majority of interviewed experts hold a supportive attitude toward the promotion of the professionalization of hospital management personnel. The reasons mentioned by several experts include the need to adapt to the development of the new era, the strong professionalism of hospital management, and the existing shortcomings in the current "Doctors as leaders" model in public hospitals in China.

The understanding of "Attitude" by the interviewed experts also suggests to researchers that when proposing recommendations and strategies to promote the professionalization of hospital management personnel, it is crucial to focus on the new era background of implementing professionalization, the professional nature of hospital management itself, and the drawbacks in the current personnel selection mechanism in Chinese public hospitals.

(3) Analysis of selective coding "C3 Resistance"

Resistance to the professionalization of hospital management personnel is mainly summarized in four aspects: "weak foundation", "system mechanism", "personnel system", and "level of attention". The main axis coding "weak foundation" was mentioned by 3 experts, with a total of 4 reference points. Among them, "late start" has 1 reference point, and expert 4 believes that *"China started exploring the professionalization of hospital management personnel in 1997, and overall, it started relatively late"*. "Incomplete system" has 1 reference point, also mentioned by expert 4, who believes that the professionalization of hospital management personnel *"has not established a sound and perfect legal system and regulations, lacking a systematic policy system"*. "Insufficient professionalization of managerial personnel" has 2 reference points, as expert 1 believes that *"lack of experience in hospital management work, inadequate professionalization, to some extent, will hinder the professionalization of hospital management personnel"*. The main axis coding "system mechanism" was mentioned by 5 experts, with a total of 6 reference points. Among them, "insufficient government determination" has 2 reference points, with expert 10 mentioning *"it is necessary to propose the professionalization of hospital management personnel from the source"*, and expert 11

proposing that the government must determine the implementation of the professionalization of hospital management personnel. "Positional restrictions" has only 1 reference point, mentioned by expert 10, who believes that *"only by completely or mostly breaking the existing position-based management system can the incubation and development of the market be promoted"*. "Hospital attribute restrictions" has 3 reference points, and experts 6, 9, and 15 respectively propose possible resistance from the perspectives of hospital management mode, attributes, and operation mechanisms. The main axis coding "personnel system" was mentioned by 11 experts, with a total of 15 reference points. "Unreasonable personnel selection and employment system" has 7 reference points, as expert 6 mentions *"the internal personnel selection and employment model of 'medical excellence leads to official positions' has increased the difficulty of entering management professionals to some extent"*, and expert 13 believes that *"there is currently a lack of a mechanism for the construction of the management personnel team, and there is still a lack of guarantee for the construction of the hospital management personnel team in terms of system, mechanism, and promotion"*. "Training and certification system not yet established" has 5 reference points, with expert 12 directly stating *"a lack of an authoritative scientific demonstration system and training system"*. "Unreasonable professional title system" has 2 reference points, as expert 14 clearly points out *"competition for professional titles between managerial personnel and medical personnel"*, and "Unreasonable salary system for medical staff" is also proposed by expert 14, who believes that *"medical staff is a very noble profession, but the income is not high, leading to some people taking on management part-time to increase income, but not focusing on management, hoping to balance both ends"*. The main axis coding "level of attention" was mentioned by a total of 8 experts, with 10 reference points. Among them, "low recognition of management work" accounts for 9 reference points, with expert 3 believing that *"the understanding of the professionalization of hospital management personnel is not high enough because the value of hospital management personnel is not as obvious and intuitive as that of doctors and nurses"*, and expert 12 believes that *"in the current development of medical and health care, the number of medical service personnel still occupies the main position, and the low level of attention to management personnel"*. "Few professional settings for hospital management majors in universities" was proposed by expert 3, who directly pointed out *"there are not many higher education majors related to the professionalization of hospital management"*.

From the "Resistance" coding system, most interview experts believe that the current resistance to the professionalization of hospital management personnel is mainly due to insufficient attention, weak foundations, constraints in system mechanisms, and the need for

improvement in personnel systems.

The experts' views on "resistance" also suggest to researchers that when proposing recommendations and strategies to promote the professionalization of hospital management personnel, they should pay special attention to the current obstacles and issues in the professionalization of hospital management personnel. It is important to address specific problems with targeted and effective solutions.

(4) Analysis of the selective coding "C4 Strategies"

The strategies proposed by interview experts can be analyzed from five levels: individual, hospital, government, industry, and universities. At the individual level, there is only one open-ended code: "Strengthening personal professional literacy", with two experts and two references. Expert 3 emphasizes that hospital management personnel must understand medical practices to excel in management, and Expert 12 suggests strengthening personal professional literacy, emphasizing enthusiasm, carefulness, and dedicating sufficient time and effort to learning management knowledge. At the hospital level, there are 12 experts with 22 references. Strategies include changing inherent concepts, developing personalized hospital plans, finding a balance between medical expertise and managerial roles, improving human resources planning, implementing strict admission systems, enhancing training mechanisms, establishing assessment and incentive systems, and focusing on performance appraisal and motivation. On the government level, seven experts provided 10 references. Strategies include emphasizing the leadership of the Communist Party, advocating government promotion, improving operational mechanisms, providing institutional guarantees, and reforming the professional title system. At the industry level, three experts mentioned three points: collective efforts, establishing a professionalization path, and creating a certification system. At the university level, three experts contributed three references, emphasizing the need to strengthen the training of management talents in universities. These strategies reflect a comprehensive approach, covering various dimensions from individual improvement to systemic changes in hospitals, government support, industry collaboration, and academic enhancements.

From the "Strategies" coding system, interview experts primarily proposed measures to promote the professionalization of hospital management personnel at five levels: individual, hospital, government, industry, and universities. At the individual level, the main focus is on enhancing personal professional literacy. At the hospital level, strategies include changing inherent concepts, implementing strict admission systems, improving training mechanisms, enhancing training, and establishing comprehensive assessment and incentive systems. These measures collectively advance the professionalization of hospital management personnel. At

the government level, experts suggest proactive government leadership to drive professionalization reform. This involves consistently adhering to the leadership of the Communist Party, improving operational mechanisms, providing institutional guarantees, and reforming the professional title system. At the industry level, collaborative efforts are emphasized, along with the establishment of professionalization paths and certification systems. At the university level, the primary focus is on ensuring the effective training of talents in hospital management. These strategies indicate a comprehensive approach, addressing various aspects from individual development to systemic changes in hospitals, government support, industry collaboration, and academic enhancements.

4.3.3.4 Model construction

During the coding process described above, selective coding was conducted to conduct in-depth research on the core categories, analyze their internal connections, and systematically organize a coherent narrative that effectively correlates fragmented concepts. Through this selective coding approach, it has been found that the "concept-attitude-resistance-countermeasure" storyline aptly elucidates the path towards achieving professionalization reform among Chinese hospital managers within the modern hospital management system. In addressing the challenging issue of promoting professionalization among hospital managers in China, it is imperative to firstly clarify the concept and fundamental elements of professionalization for these individuals; secondly, analyze attitudes towards implementing such professionalization efforts; subsequently, upon obtaining a positive attitude, identify and comprehend existing difficulties and obstacles hindering progress; finally, propose countermeasures for realizing professionalization reform among Chinese hospital managers within the context of modern hospital management system. Based on these findings and considerations, this study has constructed a comprehensive path model illustrating how professionalization reform can be achieved by Chinese hospital managers under the modern hospital management system (see Figure 4.3).

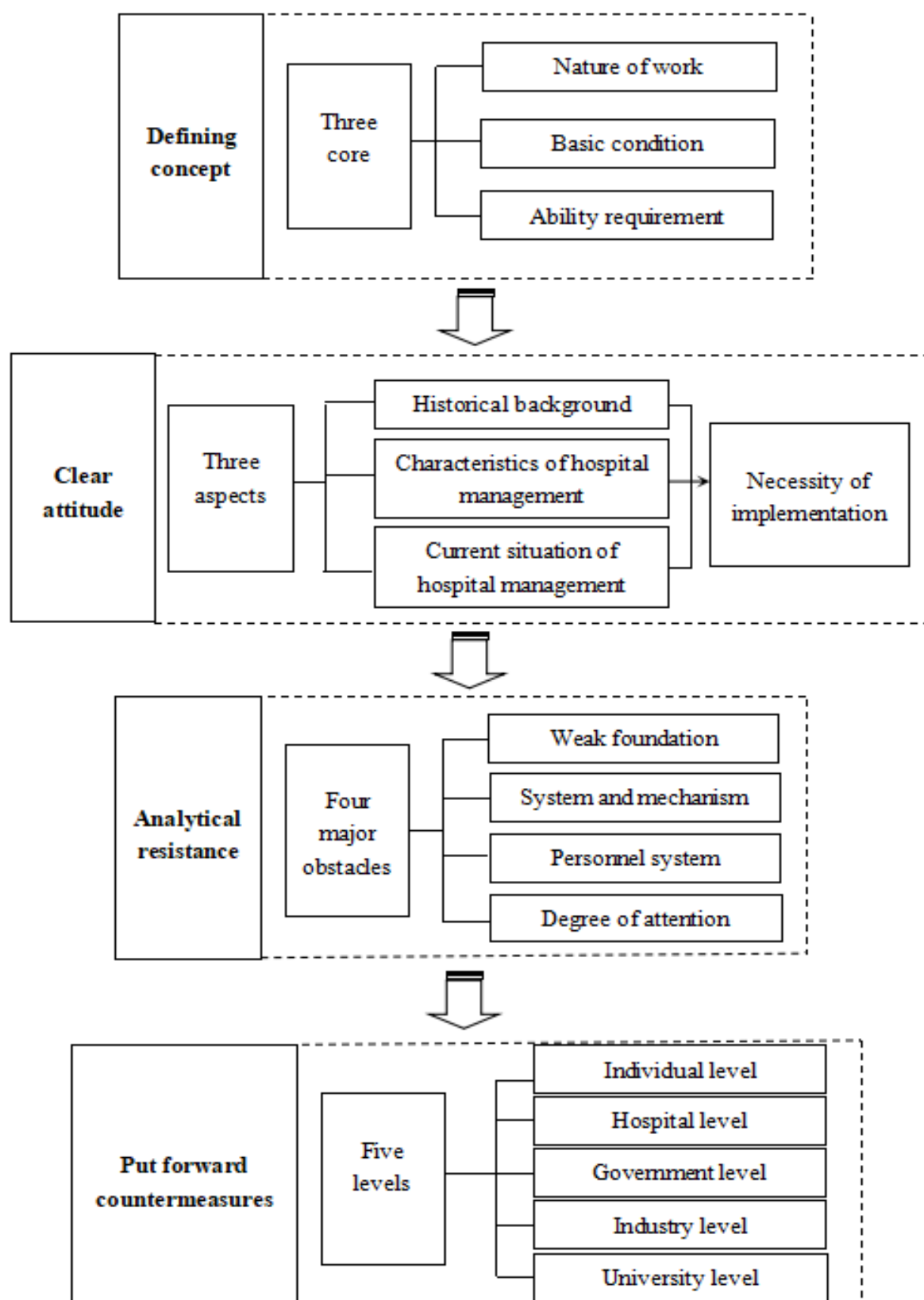


Figure 4.3 Path Model of professionalization reform of Chinese hospital managers under modern hospital management system

4.3.3.5 NVivo 14 software analysis summary

In this study, NVivo 14 software was employed to conduct analyses, including word cloud analysis, hierarchy structure analysis, and coding system analysis. These methodologies provided a comprehensive understanding of the perceptions of hospital leadership regarding the professionalization of management, encompassing their understanding, perceived necessity, identified obstacles, and suggestions for advancing professionalization. Also, the path model of professionalization reform of Chinese hospital managers under the modern hospital management system was summarized. It has laid a solid foundation for finally putting forward proposals to promote the professional development of Chinese public hospital managers.

Chapter 5: Conclusions, Limitations and Prospects

This research, based on the theories of New Public Management, social division of labor, modern enterprise systems and the principal-agent theory, takes into account the ongoing efforts to develop modern hospital management systems in China. It argues that conducting research on the professionalization of hospital management personnel is necessary and urgent. After conducting thorough research and careful analysis, the following conclusions, limitations, and future prospects have been derived.

5.1 Research conclusions

5.1.1 The professionalization of hospital managers has 18 core elements, and evaluation indexes can be constructed according to the core elements

This study defined the core elements of hospital management professionalization through literature review and expert consultation, including A-level personal factors: A-1 being full-time engaged in hospital management work, A-2 having a background in management, A-3 possessing a "T"-shaped knowledge structure, A-4 having specialized skills, A-5 adhering to hospital management professional ethics, A-6 having "modern management consciousness" and professional qualities; B-level hospital factors: B-1 forming a hospital culture that values management, B-2 having a sound hospital administrative functional department and organizational structure, B-3 scientifically adopting the principle of "fitting the right person to the right job" in hiring and job promotion, B-4 establishing a complete hospital management personnel training and continuing education system, B-5 establishing a scientific and reasonable hospital management personnel assessment system, B-6 having a specialized promotion channel for management personnel; C-level government factors: C-1 constructing a modern hospital management system, C-2 having regulations and rules related to hospital management personnel, C-3 establishing and setting up promotion channels for hospital management personnel; and D-level industry factors: D-1 having legitimate associations / organizations related to hospital management personnel, D-2 achieving the marketization of hospital management personnel flow, D-3 having a high degree of recognition for hospital management professionalization within the industry. Based on these core elements, a hospital

management professionalization evaluation index system was developed, which includes 4 primary indicators and 18 secondary indicators. This research fills the gap in related studies and practices and, through its application in pilot hospitals of modern hospital management systems in Guangzhou, validates that the indicator system can objectively assess the current status of professionalization among hospital management personnel. The content of the indicator system also provides valuable insights into how we can advance the professionalization process of management personnel in Chinese public hospitals, particularly emphasizing the importance of various stakeholders in the reform efforts.

5.1.2 The level of professionalization among public hospital managers in Guangzhou is commendable; however, China still encounters numerous challenges in the process of promoting the professional development of hospital managers

Evaluation of the pilot hospitals of the modern hospital management system in Guangzhou using the constructed evaluation indicator system for the professionalization of hospital management personnel revealed high scores in 8 indicators: A-2, A-4, A-5, A-6, B-2, B-3, B-5, and B-6. Three indicators, C-3, D-1, and D-3, were found to be in compliance with the requirements. The total weight of these 11 indicators, according to their respective weights, is 0.6239 (the sum of weights for all indicators in the indicator system is 1). However, three indicators, A-1, A-3, and B-4, had relatively low overall scores, and four indicators, B-1, C-1, C-2, and D-2, were not fully compliant with the requirements of the indicators' content. The total weight of these seven indicators is 0.3761. It can be seen that Guangzhou public hospital managers have a good level of professionalism. In advancing the professionalization of hospital management personnel, the solid foundation in Guangzhou makes it a potential candidate for piloting reforms. Therefore, in the reform process, it is advisable to consider Guangzhou as a key pilot area.

While conducting research on the current situation of professionalization of hospital administrators, we found that China still faces many problems in the process of promoting professionalization of hospital administrators.

5.1.2.1 Government level

In China, as early as 1997, the *"Decision of the Central Committee of the Communist Party of China and the State Council on Health Reform and Development"* linked health management talents with a professional management team. Subsequently, it has been repeatedly mentioned to promote the professionalization of hospital management personnel, but the fact is that the

process of professionalizing hospital management personnel in China is extremely slow. Currently, China is promoting the construction of a modern hospital management system, and many cities including Guangzhou are piloting it, which to some extent has promoted the pace of professionalization of hospital management personnel. The promotion channels for hospital management personnel are slowly being opened up, and the professional title series for hospital management personnel, such as the Health Management Research series, are already being implemented in some provinces and cities. However, there are still the following problems: a) the exploration of the professionalization of management personnel in public hospitals in China started relatively late, and there is insufficient determination for reform from the government. There has not been a systematic initiative for the professionalization reform of hospital management personnel at the government level. This may be related to the traditional institutional mechanism of management system in public hospitals, and relevant reform work cannot be completed overnight; b) the institutional system for the entire career lifecycle of hospital management personnel has not yet been fully established, including the admission, training, assessment, rewards and punishments system for management personnel. The main reason is that the government has not yet listed the relevant institutional system for hospital management personnel separately. At present, the relevant system at the government level cannot cover all hospital management personnel and lacks specificity. c) "Difficulties in depersonalization" are challenging to implement. Although pilot projects for depersonalization have been conducted in some cities such as Shenzhen, the results achieved have been unsatisfactory, and comprehensive implementation has not been achieved. The challenges in implementing depersonalization are related to the national conditions of China. Under the current institutional framework, public hospitals are state-owned institutions, and the existence and retention of positions can greatly ensure the stability of the medical workforce. The stability of the medical workforce is an important prerequisite for safeguarding people's health and safety. This is also a significant reason why depersonalization is difficult to promote.

5.1.2.2 Industry level

According to the survey results, the current industry recognition of the professionalization of hospital management personnel is relatively high. Among the 790 respondents, 353 people believe that it is very necessary to promote the professionalization of hospital management personnel, accounting for 44.7%; 321 people believe that it is somewhat necessary, accounting for 40.6%. The two together account for 85.3%. Among the 8 consulted hospital leaders, 6 explicitly stated that it is very necessary to promote the professionalization of hospital

management personnel. Currently, many hospitals management-related societies / associations have been established in the industry, or sub-committees or professional committees have been established under these societies / associations, and relevant academic activities are also being carried out, which is conducive to the promotion of the professionalization of hospital management personnel. However, there are still significant obstacles in promoting the market-oriented flow of hospital management talents, mainly due to difficulties in breaking through the hospital "establishment" mechanism, uneven hospital development levels, insufficiently large hospital management talent market, and weak willingness of talent mobility. Additionally, at the industry level, there is no widely recognized professionalization path for hospital management personnel. Furthermore, the industry has not assisted the government in establishing industry standards and training and certification criteria for the professionalization of hospital management personnel. This has, to a certain extent, hindered the advancement of professionalization for hospital management personnel.

5.1.2.3 Hospital level

According to the research results in Guangzhou, the current level of professionalization of hospital management personnel is relatively good. Most hospitals have a complete administrative functional department structure that is appropriate for their functional positioning; there are scientifically reasonable administrative functional department job descriptions, and they strictly follow the job descriptions and "matching people to posts" in recruitment and employment; there is a scientifically reasonable performance evaluation system for hospital management personnel, which assesses the performance and professional ethics of management personnel; a special promotion channel for hospital management personnel has been established; and there is a "management-oriented" culture that is forming or has already formed. The main problem is that a complete training and further education system for hospital management personnel has not been established yet. This is related to the fact that most hospitals still focus their training and investment on clinical doctors. The underlying reason for this is the entrenched mindset, where the majority of hospital administrators believe that doctors are the primary productivity drivers in the hospital. As a result, they channel excessive efforts into the training and professional development of doctors, inadvertently overlooking the advancement of hospital management personnel. According to the results of the interviews with hospital leaders, there is a bias among frontline clinical staff towards management personnel, and they do not trust that pure management professionals can effectively handle hospital management work, and the personnel system is irrational. In terms of recruitment and selection,

although there are strict procedures based on job descriptions, some hospital leaders still prefer individuals with a medical background to be involved in hospital management. Therefore, there is a need for improvement in the criteria for selecting and appointing personnel. Additionally, although there are currently assessments for hospital management personnel, they are based on general assessment scales and lack specificity. Thus, the assessment and evaluation system are still not comprehensive.

5.1.2.4 Personal level

From the perspective of the research conducted in Guangzhou, the level of professionalization of hospital management personnel is relatively good, as most hospital managers have a certain background in management studies or knowledge, possess strong professional skills, follow the ethical standards of hospital management, and have modern management awareness and professional qualities. However, there are still some issues, including the following: a) there are relatively few management personnel who specialize in hospital management work, which is related to the prevailing trend in hospitals of "carrying dual responsibilities" and "being a doctor is better than being an official". Some medical staff who engage in management work are still unwilling to give up their identity and professional technical work as doctors; b) most hospital management personnel do not possess a "T-shaped" knowledge structure or have sufficient professional competence in management. From the surveyed subjects 78.5% believed that they had some or partial knowledge of management studies, while 68.1% believed that they had some or partial knowledge of medical knowledge. There is relatively little knowledge in other fields such as political science, law, and economics. This may be due to the fact that hospital management personnel are mainly from medical or management backgrounds, and it also shows that hospital management personnel generally have less exposure to knowledge in disciplines other than medicine and management.

Government Leadership is Needed to Promote the Professionalization of Hospital Management Personnel Through Multi-Party Collaboration, categorization and step-by-step approach. This study believes that the promotion of professionalization of hospital managers in China cannot be achieved solely by the government or any single party. It requires the collaboration of multiple forces to push forward the professionalization process of hospital managers. The government should take the investigation of the current status of professionalization of hospital director as a starting point and pilot reform work. Hospitals should focus on building a training and continuing education system for hospital managers as the core of hospital management culture construction. Universities should reform the health

management major to reshape the talent cultivation system for hospital management. Industry associations should focus on formulating industry standards for the professionalization of hospital managers to help promote the reform process. The academic community should increase research on the professionalization of hospital managers and produce more excellent results. Individuals should fully exert their subjective initiative and consciously improve their management abilities and levels. Only with the collaboration of multiple parties and various measures can the professionalization reform of hospital managers be effectively promoted.

5.1.3 It is necessary for the government, hospitals, universities, industry associations and individuals to work together to promote the professionalization of hospital managers in China

In view of the research dilemma and the above research conclusions, this study puts forward reform suggestions from the government, hospitals, universities, industry associations and individuals based on the research findings and the construction of the professionalization reform path model of Chinese hospital managers under the modern hospital management system.

5.1.3.1 Government level

According to the principal-agent theory, the government can take the professionalization of hospital presidents as the starting point and categorize and implement the reform work in steps. One important reason why it is difficult to promote the professionalization of hospital management personnel is the lack of a reform entry point. Given the vast territory of China and the numerous types and levels of hospitals, it is not possible to achieve the professionalization of hospital management personnel in one go. Therefore, a strategy of categorization and step-by-step implementation should be adopted, with the professionalization of hospital presidents as the starting point for the professionalization reform of hospital management personnel. "Categorization" refers to the initial selection of pilot cities and pilot hospital types. "Step-by-step implementation" means starting with the professionalization of hospital presidents, and then gradually promoting the professionalization of mid-level management cadres and all hospital management personnel.

It is suggested to select the pilot hospitals of the modern hospital management system in Guangzhou City as the pilot cities and pilot hospitals. The main reasons are as follows: 1) this study has already conducted research on some pilot hospitals of the modern hospital management system in Guangzhou, and the results show that the level of professionalization of hospital management personnel in Guangzhou is relatively high, with a good foundation for the

professionalization of hospital management personnel and relevant research. 2) the construction and implementation of the modern hospital management system in Guangzhou City have been well carried out, facilitating the pilot reform work. 3) the research results show that hospital management personnel in Guangzhou have a high degree of recognition of professionalization, and they may have a greater acceptance of reform.

The priority implementation of professionalization for hospital directors is primarily based on the following factors: a) In China, public hospitals operate under the leadership of the Party committee, with the director being responsible for the hospital's administration. The development of public hospitals requires the Party committee to play a crucial role in setting directions, managing overall situations, and ensuring implementation. Under the leadership of the Party committee, the director serves as the specific manager of administrative and operational affairs, and their management philosophy, abilities, and level to some extent determine the hospital's management quality. In the context of high-quality development, the professionalization of hospital directors becomes particularly important. While adhering to the leadership of the Party committee, professionalization of hospital directors can be explored as a possibility; b) from the perspective of literature research, there are relatively more research achievements in the professionalization of hospital directors in China. There are many concepts and measures that can be drawn upon, which is beneficial for the implementation of pilot projects; c) some hospitals in China have already implemented the professionalization of hospital directors, such as the University of Hong Kong Shenzhen Hospital. These cases can provide valuable experiences and reference models for the pilot implementation of professionalization for hospital directors.

Based on the above, this study suggests that the government should take the professionalization of hospital directors as the starting point and categorize and implement the reform of hospital management personnel in steps. The following points need to be considered:

(1) Uphold the leadership position of the Party committee in hospital management without wavering. Strengthen the important role of the Party committee in setting directions, managing overall situations, and ensuring implementation in hospital management. Explore a path for the professionalization reform of hospital management personnel with Chinese characteristics, taking into account the Chinese context.

(2) Promote the transition from specialization to professionalization of hospital directors from the perspective of laws and policy systems. Similar to the ongoing reform of the system of Chief Accountants in public hospitals, the government should introduce relevant systems such as the *"Opinions on Accelerating the Professionalization of Hospital Directors in Public*

Hospitals" to clarify the standards for the appointment, remuneration, and assessment of professionalized hospital directors. It is also worth exploring the linkage between the promotion of hospital directors professionalization in pilot areas and the ongoing implementation of performance assessments for tertiary public hospitals in China. Ensuring the implementation of professionalization reform for hospital directors through top-level design.

(3) Carry out structural reforms in hospital governance. Based on the requirements of professionalized hospital directors and modern hospital management systems, reforms should be carried out in hospital governance structure and mechanisms, adhering to the separation of politics and management. Under the leadership of the hospital's Party committee, allow professionalized hospital directors to fully utilize their management and operational skills and achieve management effectiveness. In this regard, the model of the University of Hong Kong Shenzhen Hospital can be referenced for further exploration.

(4) Establish a comprehensive and lifelong system for professionalized hospital directors. Drawing on advanced experiences from both domestic and international sources and considering the national situation and specific circumstances of pilot cities, establish and improve mechanisms for training, assessment, rewards and punishments, and promotion of professionalized hospital directors. Build a comprehensive and lifelong system for professionalized hospital directors to ensure the smooth implementation of professionalization.

(5) Enforce strict admission standards for professionalized hospital directors. During the pilot process, ensure a smooth transition between old and new systems, establish industry admission standards, and strictly select new hospital directors in pilot hospitals according to the standards of professionalized directors. For current directors, prioritize professionalization training, and they can assume their positions only after meeting the qualifications and standards. Implement strict mechanisms for appointment and removal of professionalized hospital directors through categorized measures.

(6) Pay attention to the groundwork for the comprehensive professionalization reform of hospital management personnel. During the pilot reform of professionalized hospital directors, we must not overlook the preparation for the professionalization reform of middle-level management cadres and ordinary management personnel. The professionalization of hospital directors serves as a "pioneer", and the goal of the reform is to achieve comprehensive professionalization of hospital management personnel. Therefore, it is recommended that government departments simultaneously promote the following work: a) conduct surveys on the status of professionalization of hospital management personnel in pilot areas to understand the situation of professionalization of hospital management personnel in those areas. Encourage

hospitals to conduct management personnel's professionalization level based on evaluation indicators of this research and make targeted improvements. The government and hospitals should work together to lay the foundation for the comprehensive professionalization reform of hospital management personnel; b) to develop top-level design, drawing on advanced experiences both domestically and internationally, and systematically constructing a comprehensive institutional framework covering the professionalization of all hospital management personnel are essential. Simultaneously, delegating the industry association to formulate industry standards, admission criteria, training and assessment certification systems, and professional promotion systems for hospital management personnel will lay the foundation for the subsequent professionalization of mid-level and general management staff in hospitals; c) according to expert opinions, it is suggested to promote reform in personnel establishment by referring to the "Implementation Opinions of the Three-Ming Municipal People's Government Office on Establishing a Modern Hospital Management System", drawing lessons from the practices in Sanming, Fujian Province, China. One approach could be to review and record personnel establishment based on controlled total establishment, ensuring fixed positions while allowing flexibility in personnel appointments through the "record system". Alternatively, it could be considered to implement equal pay for equal work between personnel within and outside the establishment (including benefits during employment and after retirement), gradually weakening the influence of the establishment and laying the foundation for the marketization of talent flow in hospital management.

5.1.3.2 Hospital level

The theory of New Public Management emphasizes professionalized management, and such management is inseparable from the professional training and development of managerial talents. The hospitals should focus on building a hospital management culture centered around the construction of a training and further education system for hospital management personnel. According to the results of the survey on the ways that hospital management personnel in Guangzhou acquire management knowledge, 89.0% of respondents obtained management knowledge through accumulated work experience, 62.9% obtained it through specialized training, and 56.5% obtained it through academic lectures. This shows that training and further education are particularly important for hospital management personnel to acquire management knowledge and improve their management level. Therefore, hospitals should focus on building a hospital management culture centered around the construction of a training and further education system for hospital management personnel: on the one hand, hospitals should

increase investment in the training and further education of hospital management personnel, and establish and improve relevant institutional systems to ensure the implementation of training and further education through funding and institutional safeguards; on the other hand, the survey results indicate that the higher the hospital level, the higher the degree of professionalization of management personnel, and the higher the level of specialization in management work, the higher the level of professionalization of management personnel. Hospitals can invite experts with high levels of professionalization to teach and train through the organization of a "management cadre growth school". Additionally, furthermore, hospitals should find ways to address the bias of clinical personnel towards pure management professionals in managerial roles. One approach is to implement a short-term rotation mechanism for clinical staff in the management department, allowing them to gain an understanding of managerial work. Similarly, management personnel should regularly visit clinical departments to provide guidance and facilitate communication, fostering mutual understanding between clinical and management roles, reducing prejudice, and building trust. Hospitals should also establish a scientific mechanism for personnel selection and recruitment. This mechanism should emphasize the importance of management skills in hospital management positions. Only through a comprehensive assessment of managerial abilities should individuals be appointed to administrative roles within the hospital. Using multiple measures to gradually develop a hospital management culture that emphasizes management from top to bottom, respects management talent, and values investment in management.

5.1.3.3 University level

Universities should focus on reforming the health management major to reshape the talent cultivation system for hospital management, emphasizing the strengthening of managerial talent development in universities. Current research shows that more than half (54.1%) of hospital management personnel acquire their management knowledge through university courses. Of the survey respondents, 76.2% believe that their academic major is directly related to their current job, and 26.5% of respondents believe that the application of their major knowledge in their work exceeds 80%, while 28.9% believe the application is between 60% to 80%. Taken together, 55.4% of respondents believe that professional education at universities is extremely important in cultivating hospital management talent. Currently, most medical schools in China, and even some comprehensive universities, offer health management or hospital management-related majors to train professional health management or hospital management talent. Currently, at the undergraduate level, there are primarily two modes of

education. One is the Bachelor of Management degree, with a 4-year duration, focusing mainly on management courses, with relatively shorter and less in-depth medical specialty studies. The other is the Bachelor of Medicine, with a 5-year duration, emphasizing the study of medical courses. At the postgraduate level, there are two degrees as well, Master of Management and Master of Medicine, usually with a 3-year duration. However, the course curriculum primarily consists of management courses, with minimal or no inclusion of medical courses. Research conducted in Guangzhou shows that the career growth mode for hospital management personnel with the highest approval rate is mode 3, which involves medical graduates working in a medical field, receiving professional hospital management training, becoming department heads, and ultimately becoming professional hospital directors, with a support rate of 45.1%. The second-highest approved mode is mode 2, which involves health management graduates working in a hospital, receiving professional hospital management training, becoming department heads, and ultimately becoming professional hospital directors, with a support rate of 26.5%. As the main department for cultivating and training hospital management personnel, especially in medical schools, universities must cooperate with the professionalization of hospital management reform to reform health management majors. On the one hand, in response to the situation where mode 3 has the highest approval rate and medical majors are relatively emphasized, universities can set up hospital management professional training classes specifically for hospital management personnel, especially for those who are medical graduates, to enhance their skills and level. On the other hand, mode 2 is also approved by some people, but the approval rate is not as high as mode 3. The main reason may be that most people still believe that those who work in hospital management should have a considerable medical background and foundation. For this purpose, it is advisable to conduct a comprehensive analysis and comparison of the two existing healthcare management or hospital management education models in China. Drawing inspiration from international healthcare management talent cultivation models, there should be a reconsideration of the balance between medical and management courses. It is recommended to increase the emphasis on medical specialty studies and practical experience to ensure that graduates in healthcare management or hospital management possess a solid foundation and skillset in the medical field. Strengthening medical expertise before entering hospital management roles can lead to greater recognition and acceptance by medical professionals.

5.1.3.4 Industry association level

Industry associations should appeal for joint efforts from various parties, with a focus on

formulating industry standards for the professionalization of hospital management personnel to facilitate the reform process. With the advancement of modern hospital management systems, industry associations have increasingly recognized the importance of management for hospitals. Some associations have established specialized hospital management associations, and some societies / associations have established management-related committees or branches. Relevant academic activities and exchanges are also gradually being carried out, but the role of societies in promoting the professionalization of hospital management personnel still needs to be further strengthened. To achieve this, industry associations should focus on the following tasks: Firstly, industry associations should assist the government in formulating and issuing professional industry standards for hospital management personnel, establish industry standards and guidelines and use this as the focus to promote the reform process, provide a reference blueprint and standard basis for the professionalization of hospital management personnel, and cooperate with government departments in pilot work for the professionalization of hospital management personnel. Secondly, although some management-related committees or branches have been set up under the current industry associations, they are not yet comprehensive enough, cannot cover all professional fields in hospital management. Therefore, various types of branches should be set up, including human resources branches, medical insurance management branches, scientific research management branches, and teaching management branches, based on the division of responsibilities and functional positioning of hospital management departments, to ensure that all professional management personnel can have corresponding academic and professional technical exchange platforms. Finally, industry associations should assist and cooperate with government departments in establishing and implementing research projects, academic activities, and exchanges specifically focused on the professionalization of hospital management personnel. They should fully leverage the role of associations in academic exchanges and advisory consultations.

5.1.3.5 Personal level

Individuals should fully exert their subjective initiative and consciously improve their management abilities and levels. Based on the previous analysis, the main problems at the individual level currently include the common phenomenon of "double burden" where many management staff with medical backgrounds are unwilling to give up their clinical work, most hospital managers lack a "T-shaped" knowledge structure and the level of professional competence in oneself is not high enough. To address these issues, as hospital management personnel, individuals should first establish a career development concept of professionalism,

aiming to work full-time in hospital management and not engage in other clinical work. They should also plan their own career paths rationally. Secondly, 89% of the survey respondents gained their management knowledge through on-the-job experience, so hospital management personnel should be good at summarizing, rotating positions, and accumulating more management experience. Finally, individuals should fully utilize their subjective initiative, consciously improve their own management abilities and levels, actively participate in various management training and further education, join relevant management associations, and use the platforms provided by these associations to improve their management competence.

5.2 Limitations of the study

There are certain research limitations in this study, as follows:

(1) The number of selected tertiary and secondary hospitals in the survey of the current status of hospital management professionalization in Guangzhou was limited. The conclusions drawn from the statistical analysis regarding the differences between different categories of hospitals need to be further validated through studies with larger sample sizes.

(2) During the empirical study using the indicator system in Guangzhou, the scoring of the indicators was done partially through quantitative assessment and partially through qualitative evaluation. However, detailed guidelines for quantitative scoring of the indicator system have not been developed yet.

(3) During the interview phase with 17 hospital leaders, the original plan was to conduct face-to-face interviews with experts. However, due to various factors, especially the impact of the COVID-19 pandemic, it was difficult to carry out face-to-face interviews. As a result, written interviews were conducted to collect data. Compared to face-to-face interviews, written interviews have certain limitations. Experts could only respond to the questions provided and follow a structured format, which limited the opportunity for follow-up questions and obtaining deeper first-hand information during the interview process. Meanwhile, due to the use of a questionnaire to collect interview opinions, the obtained data is non-natural language, characterized by high generalization and strong logical coherence. This may be the reason for the relatively high percentage of coding consistency.

5.3 Research Prospects

(1) Expand the scope of research to include a larger number of public hospitals in Guangzhou, with particular emphasis on selecting a sufficient number of tertiary and secondary hospitals. This will help further validate the scientific and practical applicability of the indicator system through a broader sample size.

(2) Conduct face-to-face in-depth interviews with the 17 hospital leaders who participated in the research to gather more firsthand information about the professionalization of hospital management personnel. This will facilitate further research and provide valuable insights.

(3) Increase research efforts on "de-bureaucratization" and the marketization of talent mobility in hospital management. This will contribute to addressing the current bottleneck in the professionalization of hospital management personnel and provide better recommendations and strategies.

(4) Further refine the indicator system based on the findings of this study and develop detailed scoring criteria. Seek government support and collaborate with industry associations to establish standards and criteria for the professionalization of hospital management personnel, as well as to develop a training and assessment certification system.

(5) Explore the influencing factors and their relationships concerning the professionalization of hospital management personnel in greater depth. This will provide a more comprehensive understanding of the subject and contribute to future research in the field.

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Annex A: Expert Judge Form for Professionalization Key Factors of Hospital Managerial Personnel (First Round)

Dear Dr. / Mr. / Ms. (Expert):

We are performing research on the professionalization of hospital administrators in order to improve the efficiency of hospitals' management and promote the construction process of modern hospital management system. Through the previous research, we found that the current academic circles could not properly or accurately define the professionalization of hospital administrators. In order to carry out the next level of research successfully, it is important for us to clarify the determination of the professionalization key factors of hospital managerial personnel. The determination of the professionalization key factors of hospital managerial personnel is actually to solve the problem of what is the professionalization of hospital administrators, or what is the general characteristics of the professionalization of hospital administrators. According to the results of literature review, we have summarized 19 possible core elements out of four different levels: individuals, hospitals, governments and industries. In view of your professional reputation and status in the academic circles, we would like to invite you to be our consulting expert of this study, and to identify the core elements with your knowledge and experience. The rules of Identifying Table are as follows:

1. First, you need to judge whether you are selected into the core elements. If you choose "no", you don't need to judge the degree of importance. If you choose "yes", you need to judge the degree of importance. The degree of importance from low to high corresponds to 1-5 points respectively. Please mark "√" in the corresponding score column.

2. If you choose "yes" and think that this element or its content is improperly expressed, you may write down your opinions in the remark column.

3. If you think there are other elements not mentioned in the table, please fill in the "new elements" column and their specific meanings, and identify their importance.

4. Last, please kindly send back to us via email 1240889191@qq.com before September 26th. Contact: Weilun Wu, Tel: 18215632397.

Best Regards

Hospital Administrators Professionalization Researching Team

20th Sep, 2021

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Table A.1 Basic information of consulting specialists

Name	Age	Education
Employment	Position	Professional Title
Address		zip code
Phone Number	E-mail	
Bank Account	Account Number	
Account Name	ID number	
Specialty		Working Years
Date		

Table A.2 Expert Assessment Table of Core Elements for the Professionalization of Hospital Management Personnel (First Round)

Dimension	Elements	Contents	Is it core element?		Degree of core elements ("√")					Remarks
			Yes	No	1 pt	2 pts	3 pts	4 pts	5 pts	
A Individual level	A-1 Full-time hospital management	Full-time hospital management, without other work load such as part-time clinical work.								
	A-2 With management education background	Graduated from a management related major or with a certain degree of management related training.								
	A-3 Major meets the job requirements	Major meets the job requirements.								
	A-4 Have a "T"-shaped knowledge structure	Master the knowledge with a strong depth and breadth, in addition to mastering a large amount of basic theoretical knowledge of medicine and management, you also need to have knowledge of politics, sociology, economics, law, psychology and other subjects.								
	The A-5 With specialized skills	In addition to being able to master and apply management theories and tools skillfully, it is also necessary to have a certain ability to deal with various complicated affairs and problems inside and outside the hospital.								
	The A-6 Follows the professional ethics of the hospital managers	Abide by professional ethics, take professional ethics as the criterion to regulate and restrain your own behavior.								
	A-7 Hospital management is the main source of personal income	Hospital management is the main source of personal income, there is no part-time job or less part-time job.								
	A-8 With "modern management consciousness" and professional accomplishment	Take hospital management as your real "occupation", apply modern management theory to hospital management, and implement "modern hospital management								

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		system".
	B-1, Form a hospital culture of "attaching importance to management"	Attaches great importance to the management from top to bottom, show respects to managers, attaches great importance to the investment in management, and forms a hospital culture of "attaching importance to management".
	B-2 With perfect administrative departments and institutional settings in the hospital	The setting of hospital administrative departments is in line with the function and development positioning of the hospital.
B. Hospital level	B-3 Recruit and position right person according to "right people-right position matching" principle scientifically	With scientific and reasonable job descriptions of administrative departments, recruit and position people in strict accordance with the job descriptions.
	B-4 Establish a perfect training and further education system for hospital managers	Attach importance to the training and further education of management personnel, establish rules and regulations and implement them in place.
	B-5 Establish a scientific and reasonable assessment system for hospital administrators	Ensure the implementation of the performance appraisal scheme and professional ethics appraisal scheme for hospital administrators.
	The B-6 With special promotion channels for administrators	Open up special channels for professional title promotion and job promotion for hospital administrators.
C. Government level	C-1 Construction of modern hospital management system	Improve the hospital corporate governance structure, promote "separation of professional and managerial positions" and "de-officialization".
	C-2 With sound rules and regulations for hospital administrators	Established and improved the system including hospital management personnel recruitment, training, assessment, rewards

		and punishments.
	C-3 Establish special promotion channels for administrators	Opened up and defined the promotion channels of hospital administrators' titles and ranks at the government level.
	D-1 Establish legal community organizations such as institutes / associations related to hospital administrators	Through the establishment of community organizations to provide hospital administrators with a platform for communication and learning, and safeguard the interests of group members.
D. Industry-level	D-2 hospital administrators' ability to change employment within different hospitals	Hospital administrators can seek employment freely based upon their free will and the market demand.
	D-3 With a high degree of professional recognition of hospital administrators in the industry	The industry (medical and health) recognizes the professionalization of hospital administrators.
New elements		

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Based on your assessment of the influence level for the judgment criteria you've filled in Table A.2, please complete Table A.3 by marking "√" in the appropriate options. Additionally, considering your familiarity with the indicators in Table A.2, please complete Table A.4 by marking "√" in the relevant options.

Table A.3 Quantitative Table for Judgment Criteria and Their Impact Levels

Judgment Criteria	Impact Level on Expert Assessment (Mark with "√")			
	Significant	Moderate	Minor	None
Theoretical Analysis				
Practical Experience				
Knowledge of Peers				
Intuition				

Table A. 4 Quantitative Table for Expert Familiarity with Indicators

Familiarity Level		Very Familiar	Familiar	Moderate	Unfamiliar	Very Unfamiliar
Quantitative (Mark with "√")	Value	1	0.8	0.6	0.4	0.2

Annex B: Expert Judge Form for Professionalization Key Factors of Hospital Managerial Personnel (Second Round)

Dear Dr. / Mr. / Ms. (Expert):

First of all, thank you very much for your support and cooperation in our research. With your full support and cooperation, we completed the first round of expert consultation successfully. Now that the research has entered the second round of expert consultation, we need to continue to make the second round of expert judgment with your knowledge and experience. This Expert Judge Form consists of four parts: the first part is the modification of the elements, the second part is the filling rules, the third part is the Expert Judge Form for Professionalization Key Factors of Hospital Managerial Personnel, and the fourth part is the judgment basis and its influence degree, and index familiarity quantitative tables.

Please kindly send back to us via email 1240889191@qq.com before October 18th. Contact: Weilun Wu, Tel: 18215632397.

Best Regards

Hospital Administrators Professionalization Researching Team

11th Oct, 2021

1. Modification of the Elements

1) Comments on Deletion of Elements

In the first round of expert consultation, except for the original elements A-8 "With modern management consciousness and professional accomplishment" and B-2 "With perfect administrative departments and institutional settings in the hospital", all experts agreed to be selected, and the rest elements were proposed to be deleted (or not selected). Among them, A-1 "Full-time hospital management", A-7 "Hospital management is the main source of personal income", C-1 "Construction of modern hospital management system", and D-2 "hospital administrators' ability to change employment within different hospitals" are the four elements, which 5-7 experts proposed to delete (there are 18 experts in this research).

At present, the situation of "double shouldering" of the managerial personnel of public hospitals in China is quite common. It is difficult to achieve full-time management in a short time, and it is also difficult to achieve "authorized strength removal". However, in combination with the existing research and the development trend of international hospital management, full-time management and marketization of management personnel flow are indeed the two most important characteristics in the connotation of the professionalization of management personnel. This study attempts to build an ideal or reasonable state for the professionalization of hospital managerial personnel. In addition, some experts have high scores on the above elements. Based on the expert opinions, expert evaluation and research needs, the researching team continues to retain three elements, including A-1 "Full-time hospital management", C-1 "Construction of modern hospital management system", and D-2 "Marketization of hospital management talent mobility", for the continued judgment of experts. However, the specific connotation of elements A-1 and C-1 has been modified. Among them, the "authorized strength removal" in the connotation of element C-1 is the main reason why experts propose to delete this element, Therefore, delete "authorized strength removal" in the connotation of this element and replace it with "industry promotion cognition", and add "promoting the realization of authorized strength removal" into the specific connotation of element D-2 "Marketization of hospital management talent mobility". Element A-7 "Hospital management is the main source of personal income" has been implicitly included in element A-1 "Full-time hospital management", which is deleted in combination with expert opinions.

2) About the Filling Rules

Some experts proposed to increase elements, including "personal characteristics and interests", "ability to interpret medical and health policies sensitively", "mechanism for promoting and encouraging the personal career development of managers in the hospital", and

"establishment of assessment and incentive mechanism for modern hospital management and construction". After discussion, the researching team believes that these four elements and their connotations have been included in the existing elements, while they have not been summarized into independent elements. Therefore, there will be no new elements added in this round according to expert opinions and research needs.

3) About Other Opinions

Some experts raised the issue of medical training for managers without medical background. The original element A-4 "Have a T-shaped knowledge structure" mentioned that hospital administrators also need to have medical knowledge. At the same time, the original indicator B-4 "has established a complete training and further education system for hospital managerial personnel" includes training contents (including medical knowledge). After synthesized expert opinions and research needs, the research group believes that there is no need to set up additional elements for medical training. At the same time, in view of this element, some experts proposed that it is not only training and further education, but also more important to cultivate and establish a personal career development plan that matches the personal vision and the hospital vision. After discussion, the research group believes that the original elements B-4, B-5, B-6 are the concretization of training, so the training will not be independent element in this round. However, the proposal of "cultivate and establish a personal career development plan that matches the personal vision and the hospital vision" is adopted and added to the connotation of element B-4.

The above modification opinions are for your reference only. We will mark the modified part in Table B.1 in red for your convenience.

2. Filling Rules

1) First, you need to judge whether you are selected into the core elements. If you choose "no", you don't need to judge the degree of importance. If you choose "yes", you need to judge the degree of importance. The degree of importance from low to high corresponds to 1-5 points respectively. Please mark "√" in the corresponding score column.

2) If you think this element or its content is improperly expressed, you may write down your opinions in the remark column.

3) If you think there are other elements not mentioned in the table, please fill in the "new elements" column and their specific meanings, and identify their importance.

3. Expert Judge Form for Professionalization Key Factors of Hospital Managerial Personnel (Second Round)

See Table B.1 for Expert Judge Form for Professionalization Key Factors of Hospital

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Managerial Personnel (Second Round). Please fill in according to the filling rules.

Table B.1 Expert Judge Form for Professionalization Key Factors of Hospital Managerial Personnel (Second Round)

Dimension	Elements	Contents	Is it core element?		Degree of core elements ("√")					Remarks
			Yes	No	1 pt	2 pts	3 pts	4 pts	5 pts	
A Individual Level (Delete the original indicator A-7: hospital management is the main source of personal income)	A-1 Full-time hospital management	The ultimate goal is to be full-time in hospital management and not part-time in hospital clinical work. The majority of posts will be full-time, and special posts will be mainly managed to gradually achieve the ultimate goal.								
	A-2 With management education background	Graduated from a management related major or with a certain degree of management related training.								
	A-3 Major meets the job requirements	Major meets the job requirements.								
	A-4 Have a "T"-shaped knowledge structure	Master the knowledge with a strong depth and breadth, in addition to mastering a large amount of basic theoretical knowledge of medicine and management, you also need to have knowledge of politics, sociology, economics, law, psychology and other subjects.								
	A-5 With specialized skills	In addition to mastering and applying management theories and tools, it is also required to have the ability to interpret medical and health policies sensitively and to deal with various complicated affairs and problems inside and outside the hospital.								
	A-6 Follows the professional ethics of the hospital managers	Abide by professional ethics, take professional ethics as the criterion to regulate and restrain your own behavior.								
	A-7 Have "modern management	Take the operation and management of the hospital as its own real "occupation", have the								

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	consciousness" and professional quality	personal characteristics and interests suitable for the management position, apply the modern management theory to the hospital management, and implement the "modern hospital management system".
	B-1, Form a hospital culture of "attaching importance to management"	Attaches great importance to the management from top to bottom, show respects to managers, attaches great importance to the investment in management, and forms a hospital culture of "attaching importance to management".
	B-2 With perfect administrative departments and institutional settings in the hospital	The setting of hospital administrative departments is in line with the function and development positioning of the hospital.
B Hospital level	B-3 Recruit and position right person according to "right people-right position matching" principle scientifically	With scientific and reasonable job descriptions of administrative departments, recruit and position people in strict accordance with the job descriptions.
	B-4 Establish a perfect training and further education system for managerial personnel	Pay attention to the training and further education of managerial personnel, cultivate more profound and extensive multidisciplinary knowledge-based talents, formulate personal career development plans that match the personal vision and the hospital vision, establish rules and regulations and implement them in place.
	B-5 Establish a scientific and reasonable assessment system	Ensure the implementation of the performance appraisal scheme and professional ethics appraisal scheme for hospital administrators.

	for hospital administrators	
	The B-6 With special promotion channels for administrators	Open up special channels for professional title promotion and job promotion for hospital administrators.
	C-1 Construction of modern hospital management system	Improve the corporate governance structure of the hospital, promote the separation of operation and management, and establish a modern hospital construction and management mechanism.
C. Government level	C-2 With sound rules and regulations for hospital administrators	Established and improved the system including hospital management personnel recruitment, training, assessment, rewards and punishments.
	C-3 Establish special promotion channels for administrators	Opened up and defined the promotion channels of hospital administrators' titles and ranks at the government level.
	D-1 Establish legal community organizations such as institutes / associations related to hospital administrators	Through the establishment of community organizations to provide hospital administrators with a platform for communication and learning, and safeguard the interests of group members.
D Industry level	D-2 Marketization of hospital management talent mobility	Promote the realization of "authorized strength removal" and the free flow of hospital management personnel in the market according to the market rules.
	D-3 high degree of professional recognition of hospital administrators in	The industry (medical and health) recognizes the professionalization of hospital administrators.

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the industry

New
elements

4. Judgment Basis and its Impact Level Assessment Table

Please use the basis provided in Table B.1 to assess the impact level of the judgment basis. Fill in Table B.2 and mark "√" in the corresponding option. At the same time, based on your familiarity with the indicators in Table B.1, fill in Table B.3 and mark "√" in the corresponding option.

Table B.2 Quantification of Judgment Basis and its Impact Level

Judgment Basis	Impact Level on Expert Judgment (Mark "√")			
	Large	Medium	Small	None
Theoretical Analysis				
Practical Experience				
Understanding of Domestic and Foreign Peers				
Intuition				

Table B.3 Quantification of Expert Familiarity with Indicators

Familiarity Level		Familiarity Level	Familiar	Average	Unfamiliar	Very Unfamiliar
Quantification (Mark "√")	Value	1	0.8	0.6	0.4	0.2

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Annex C: Hospital Management Professionalization Status Survey

Questionnaire (Personal Edition)

Respected Leader,

Greetings! We are conducting a survey on the professionalization of hospital management personnel, aiming to understand the current status of professionalization development among hospital management personnel in Guangzhou, clarify the specific connotations of hospital management professionalization, and further explore specific paths to accelerate the promotion of hospital management professionalization. Our goal is to contribute to improving the operational management efficiency of hospitals and promoting the construction of modern hospital management systems.

This survey questionnaire is only for the project research. Thank you for taking the time to fill out the questionnaire amidst your busy schedule. Best wishes for your work!

Hospital Management Professionalization Research Project Team

June 2022

Note: The management personnel referred to in this study are personnel engaged in management work in the hospital administrative functional department, including pure management personnel and professional technical personnel, but excluding service personnel.

1. Basic Information

(1) Name of the hospital you work at:

(2) Level of the hospital you work at: ☐ tertiary hospital ☐ Level 3 hospital ☐ secondary hospital ☐ Level 2 hospital

(3) Type of the hospital you work at: ☐ general hospital ☐ traditional Chinese medicine hospital ☐ specialized hospital

(4) Name of the department you work in: _____ ; Name of the position you hold:

(5) Type of position you hold: ☐ dual-role position ☐ management position ☐ professional

and technical position ☐ general worker position

(6) Professional title: _____; ☐ no professional title

(7) Job position: _____; ☐ No Job position

(8) Years of work experience: ____years; Age: ____years old

2. Educational Background and Management Training

(1) Educational Background: ☐ Doctoral Degree ☐ Master's Degree ☐ Bachelor's Degree
☐ College Degree ☐ Below College

(2) Educational Experience (List in descending order)

1) Doctoral Degree Program: ☐ Full-time ☐ Part-time

Graduation School: ____; Major: ____ ; Degree:

2) Master's Degree Program: ☐ Full-time ☐ Part-time

Graduation School: ____; Major: ____ ; Degree:

3) Bachelor's Degree Program: ☐ Full-time ☐ Part-time

Graduation School: ____; Major: ____ ; Degree:

4) College Degree Program: ☐ Full-time ☐ Part-time

Graduation School: ____; Major: ____ ; Degree:

(3) How did you obtain management knowledge? (Multiple choices allowed):

☐ Professional courses during university study ☐ Participation in specialized training

☐ Participation in specialized training ☐ Attendance at academic lectures

☐ Accumulated work experience ☐: Other _____ ☐ I have not acquired management knowledge.

3. Professional alignment

(1) Is your major related to your current position: ☐ Related ☐ Not Related ☐

(2) The extent to which the knowledge and skills you learned in your major or during your studies have been applied in your work:

☐ >80% ☐ 60%-80% ☐ 40%-60% ☐ 20%-40% ☐ <20%

4. Knowledgeable Structure Situation

You feel that you have mastered or partially mastered the following knowledge (multiple

choices available):

- ☐ Management ☐ Medicine ☐ Political Science ☐ Sociology ☐ Economics
☐ Psychology ☐ Law
☐ Other:

5. Management Professional Skills

(1) Please list several management theories or tools that you are familiar with or proficient in:

- ☐ No; ☐ Yes, including: ☐ Project Management
☐ Total Quality Management ☐ Deming Cycle (PDCA) ☐ SWOT Analysis ☐ 5W2H Method
☐ SMART Principle ☐ Other:

(2) Please rate your personal ability to interpret medical and health policies::

- ☐ Very strong ☐ Strong ☐ Average ☐ Weak ☐ Very weak

(3) Please rate your personal ability to handle various complex affairs and problems inside and outside the hospital:

- ☐ Very strong ☐ Strong ☐ Average ☐ Weak ☐ Very weak

6. Professional Ethics

(1) What do you think are the professional ethics of hospital management personnel? (Multiple choice):

- ☐ Dedication to the job ☐ Dedication to the job ☐ Impartiality in handling affairs ☐ Serving the people ☐ Serving the people
☐ Other:

(2) Which aspects of your professional ethics do you think still need improvement? (Multiple choices):

- ☐ Dedication to the job ☐ Dedication to the job ☐ Impartiality in handling affairs ☐ Serving the people ☐ Serving the people
☐ Other:

7. Modern management awareness and professional qualities

(1) Do you consider hospital management as your true "profession": ☐ Yes ☐ No

(2) How well do you understand modern management theories? (If you checked "less familiar" or "not at all familiar", you do not need to answer question (4) in this section.)

☐Very well ☐Well ☐Average ☐Less familiar ☐Not at all familiar

(3) How well do you understand the construction of modern hospital management systems? (If you checked "less familiar" or "not at all familiar", you do not need to answer question (4) in this section.)

☐Very well ☐Well ☐Average ☐Less familiar ☐Not at all familiar

(4) Do you use modern management theories and modern hospital management systems to guide your work?: ☐Yes ☐No

(5) What qualities do you think are suitable for hospital management work?:

(6) What hobbies do you think are suitable for hospital management work?:

(7) Do you possess the above qualities and hobbies?: ☐No ☐Yes ☐ (partially) Specific qualities hobbies::

8. Management Emphasis

(1) Do you think your hospital values management:

☐ Very much value ☐ Value to some extent ☐ Average ☐ Not value much ☐ Not value much

(2) Do you think the culture of "valuing management" has been formed in the hospital:

☐ Already formed ☐ Forming ☐ Not formed yet

9. Recognition of Professionalization of Hospital Management Personnel

(1) How well do you understand the professionalization of hospital management personnel?:

☐ Very well ☐ well ☐Average ☐Poorly ☐Very poorly

(2) Do you think it is necessary to promote the professionalization of hospital management personnel:

☐ Very necessary ☐ Necessary ☐ Average ☐ Unnecessary ☐ Very unnecessary

(3) Do you support the marketization of hospital management talent flow:

☐ Strongly support ☐ Somewhat support ☐ Neutral ☐ Somewhat oppose ☐ Strongly oppose

(4) Do you support the marketization of talent flow for hospital management:

☐ Strongly support ☐ Somewhat support ☐ Neutral ☐Somewhat oppose ☐ Strongly oppose

(5) Which career design pattern do you think is the most suitable for the professionalization of hospital management personnel:

- ☐ Pattern 1: Medical graduates - hospital management work, hospital management professional training - department head - professionalized hospital president
- ☐ Pattern 2: Health management graduates - hospital management work, hospital management professional training - department head - professionalized hospital president
- ☐ Pattern 3: Medical graduates - clinical work - hospital management work, hospital management professional training - department head - professionalized hospital president
- ☐ Pattern 4: Graduates with other majors - hospital management work, hospital management professional training - department head - professionalized hospital president

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Annex D: Hospital Management Professionalization Survey

Questionnaire (Hospital Version)

Dear Leader,

Greetings! We are conducting a survey on the professionalization of hospital management personnel in order to understand the current development status of hospital management professionalization in Guangzhou, clarify the specific connotations of hospital management professionalization, further explore specific paths to accelerate the promotion of hospital management professionalization, and assist in improving hospital operational management efficiency and promoting the construction of a modern hospital management system.

This survey questionnaire is for research purposes only. Any information related to the unit will be protected. We kindly ask that all units fill in the questionnaire truthfully. Thank you for taking the time to complete the questionnaire amidst your busy schedule. We wish you all the best in your work!

Hospital Management Professionalization Research Project Team
June 2022

Note: The management personnel in this study refer to those who engage in management work in the administrative departments of hospitals, including pure management personnel and professional technical personnel, but excluding workers.

1. Basic Information

(1) Name of Hospital:

(2) Hospital Level: ☐ tertiary hospital ☐ Level 3 hospital ☐ secondary hospital ☐ Level 2 hospital

(3) Hospital Type: ☐ general hospital ☐ traditional Chinese medicine hospital ☐ specialized hospital

(4) Management staff: There are a total of management personnel in the hospital, including with a doctoral degree, with a master's degree, with a bachelor's degree, __with a college degree, and with less than a college degree.

2. Dedicated to Management Work

- (1) Among the management staff, there are __pure management personnel, __professional and technical personnel, and __double-hatted personnel;
- (2) Does the hospital require management personnel to be dedicated to their jobs: ☐Yes ☐No

3. Professional ethics situation

- (1) Does the hospital have specific codes of ethics for management personnel: ☐ No ☐Yes, the name(s) of the relevant document(s) or system(s) is / are:
- (2) Does the hospital have specific ethics assessments for management personnel: ☐ No ☐Yes, the name(s) of the relevant document(s) or system(s) is / are:
- Note: If there are relevant systems, please provide the related documents.
- (3) Have there been any incidents of disciplinary violations or misconduct by management personnel in the past three years? If so, how many incidents were __in total;

4. Organizational Structure

- (1) The hospital's administrative functional departments include: ☐ Hospital Office ☐ Party Office ☐ Medical Affairs ☐ Nursing ☐ Education and Training ☐ Human Resources ☐ Finance ☐ General Affair ☐ Equipment ☐ Discipline Inspection ☐ Audit ☐ Hospital Management Office ☐ Security ☐ Fire Safety ☐ Liaison Department ☐ Other:
- (2) Is the current organization structure of the hospital's administrative functional departments in line with the hospital's function and positioning: ☐ Yes ☐ No. If there are any problems, please specify.:

Note: Please provide the hospital's organizational chart.

5. Management Staffing and Employment Status

- (1) Does the hospital have job duty descriptions for each department: ☐Yes ☐No
- (2) Does the hospital have job position descriptions: ☐Yes ☐No
- (3) Does the hospital have job position descriptions: ☐Yes ☐No

Note: Please provide the hospital's departmental duty and job position descriptions if available.

6. Training and Further Education of Management Personnel

(1) Does the hospital have an annual training and education plan for management personnel:

☐Yes ☐No

(2) Does the hospital have a training and education system for management personnel: ☐No

☐Yes, the name of the relevant document or system is (can provide multiple)::

(3) In the past three years, the hospital has held a total of__training sessions for management personnel, with a total of__participants, and__personnel sent for further education.

Note: Please provide the hospital's training and education plan and system.

7. Performance Evaluation of Management Staff

Does the hospital have a performance evaluation system for management staff: ☐No ☐ Yes, please provide the name(s) of relevant document(s) or regulation(s)::

Note: If there is such a system, please provide relevant documents or regulations.

8. Promotion channels for management staff

Does the hospital have a dedicated promotion channel for management staff: ☐ No ☐ Yes, including (multiple choices allowed):☐①Yes, including (multiple choices allowed) ☐② Professional title appointment ☐③Other

Note: Please provide relevant regulations for the promotion of management staff.

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Annex E: Interview Outline for Investigating the Current Situation of Professionalization of Hospital Management Personnel

Dear Leader,

Hello! We are conducting a survey on the professionalization of hospital management personnel in order to understand the current status of the development of professionalization among hospital management personnel in Guangzhou, clarify the specific connotation of professionalization, and further explore specific paths to accelerate the promotion of professionalization among hospital management personnel. We hope that this research will help improve the efficiency of hospital operation and management, and promote the construction of a modern hospital management system.

This survey questionnaire is only for research purposes, and all information regarding the unit will be protected. Please fill out the questionnaire truthfully according to your actual situation. We appreciate your taking the time to complete the survey. Thank you, and best wishes for your work!

Research Project Team on the Professionalization of Hospital Management Personnel

Dec 2022

1. Basic information

- (1) Name of the hospital you work at:
- (2) Job position:

2. Interview Outline

(1) Overall Situation Research (Used for NVivo Software Analysis)

- 1) What is your understanding of the professionalization of hospital management personnel?
- 2) Do you think it is necessary to promote the professionalization of hospital management personnel at present? Why?
- 3) What do you think are the obstacles to promoting the professionalization of hospital management personnel, and what are the existing problems?
- 4) What suggestions do you have for promoting the professionalization of hospital management personnel?

(2) Detailed Situation Research

- 1) How is the construction of modern hospital management system in your region / hospital? What measures have been taken, what achievements have been made, and what challenges are faced?
- 2) Does the government have a specialized system for the admission, training, assessment, and rewards and punishments of hospital management personnel?
- 3) Has the government established channels for the professional title and promotion of hospital management personnel?
- 4) Are there any associations or organizations established locally to provide exchange and learning platforms for hospital management personnel?
- 5) Do you think it is necessary to streamline the staffing of hospitals? What are the reasons?

6) Has the marketization of hospital management personnel flow been achieved? If not, what are the obstacles?

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Annex F: Results of the Investigation and Interview on the Professionalization Status of Hospital Management Personnel

Interview Results with Expert 1

1. What is your understanding of the professionalization of hospital management personnel?

The professionalization of hospital management personnel refers to employees who, under the leadership of the hospital's Party committee, take management positions as their profession and are dedicated to the daily operational management of the hospital. They implement the various work arrangements of the Party in their work and integrate the Party's leadership into the entire process of hospital operation and management. Their work scope typically does not involve clinical, scientific research, or other professional duties.

2. Do you think it is necessary to promote the professionalization of hospital management personnel at present? Why?

Under the leadership of the Party, the development of public hospitals must firmly implement the work deployment requirements of the Party Central Committee. In the context of the new era, the Party Central Committee has proposed that the operating model of public hospitals should shift from extensive management to refined management. This also places higher demands on hospital management personnel. Among the various management positions in hospitals, there are management personnel in areas such as Party affairs, administration, human resources, financial management, medical services, discipline construction, and logistics. Among these positions, roles related to Party affairs, financial management, and logistics are suitable for professionalization, which can contribute to more refined and efficient management in public hospitals. However, certain positions require a high level of medical expertise from management personnel, such as medical services, research management, and discipline construction. Due to the high threshold of medical knowledge and the rapid pace of technological advancements, individuals who have not undergone systematic medical education or have not been engaged in relevant medical or research work for an extended period may become disconnected from the ever-evolving medical developments and may struggle to fulfill the requirements of such management positions. Therefore, these types of positions are less suitable for professionalization.

3. What do you think are the obstacles to implementing the professionalization of hospital

management personnel, and what are the existing issues?

For some management personnel who come from clinical and research backgrounds, they maintain a high level of passion and dedication to their clinical or research work. Even after transitioning to management positions, they continue to invest a significant amount of time and energy into their original professional and technical roles. This results in a relatively low degree of specialization among management personnel. On the other hand, many hospital management personnel have not received systematic training in management-related knowledge, lack experience in hospital management work, and their level of professionalism is not ideal. This, to some extent, hinders the professionalization of hospital management personnel. In addition, some scholars have found that clinical and nursing staff in hospitals have low satisfaction levels with hospital management personnel, and the management personnel themselves have low levels of job satisfaction and identification with their work. From a management perspective, the satisfaction and identification of others and themselves with their work are closely related to the quality of their work, their physical and mental health, and job turnover rates. These factors are also hindrances to the professionalization of hospital management personnel.

4. What suggestions do you have for promoting the professionalization of hospital management personnel?

1) The management team of hospitals should always adhere to the comprehensive leadership of the Party, strengthen Party building, and resolutely implement the work requirements and directives of the Party Central Committee. Hospital management personnel should deeply study and implement Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, fully understand the "Two Maintenances", enhance their awareness of the "Four Consciousnesses", and internalize the "Four Confidences". They should make efforts to truly comprehend, internalize, and implement these principles. Under the leadership of the hospital's Party committee, all hospitals should strengthen the construction of grassroots party organizations, and party members within the management team should play a leading and exemplary role in carrying out various management tasks. Only by maintaining a firm political stance, enhancing political awareness, and improving ideological and political levels can hospital management personnel consistently align their thoughts and actions with the guidelines and policies of the Party and the country. This will contribute to the precise development of hospitals and the continuous provision of high-quality medical services to the people.

2) Attention should be given to the scientific formulation of a career development path for hospital management personnel, and increased investment should be made in management

education and training. It is essential to adhere to the principle of educating individuals for the Party and cultivating talents for the nation. Relevant departments should create a positive and conducive environment for the professionalization of hospital management personnel through social public opinion and policy guidance, in line with the directives of the Party Central Committee. The direction of training for hospital management personnel in China should be clarified, and a sound educational system should be established. Scientific and operational plans for the cultivation of hospital management talents should be developed based on different levels and job requirements. Implementation of these plans should be promoted within hospitals to meet the demands of hospital management.

3) It is recommended to improve the title system for management cadres. Hospital management personnel have distinct professional characteristics, and it would be beneficial to establish a scientifically sound title system for this group. This system should clearly define the criteria, scope, and benefits associated with various titles. Supporting mechanisms should be established to clarify the professional status of hospital management personnel and enhance their proactiveness in their work.

4) It is recommended to improve the evaluation and reward mechanisms for hospital management personnel. Currently, there are no specific evaluation criteria for the professional management personnel in hospitals in China. The evaluation system used is the "virtue, competence, diligence, performance, and integrity" system, which is applied to assess cadres in public institutions. However, the effectiveness and fairness of this system have been subject to some controversy, which has to some extent affected the development of the hospital management talent pool. In the process of promoting the professionalization of hospital management personnel, it is advisable to establish an evaluation and assessment system that aligns with the development requirements of the Party and the country and is tailored to hospital management personnel. Relevant indicators commonly used in other fields can be considered, and effective evaluations based on specific job responsibilities, capabilities, and performance can be conducted to assess the achievements of hospital management work. In addition, considering the lack of effective quantitative standards for management work, a separate evaluation and reward mechanism for management personnel can be established to incentivize their work enthusiasm, thereby enhancing the efficiency and quality of hospital management.

5. How is the construction of modern hospital management system in your region / hospital? What measures have been taken, what achievements have been made, and what challenges are faced?

Currently, under the leadership of the Party Committee, Sun Yat-sen Memorial Hospital of

Sun Yat-sen University, where I am located, is continuously improving its modern hospital management system. The hospital's Party Committee fully plays its role in providing direction, overseeing the overall situation, making decisions, promoting reforms, and ensuring implementation. Multiple meetings have been held to discuss the construction of the hospital's management system. Based on laws and regulations and in line with the actual situation of the hospital, the Party Committee, together with relevant departments, has developed over a hundred institutional regulations at both the hospital and department levels, forming a compilation of regulations that meet the needs of the hospital's development. At the same time, the hospital is continuously improving its management organizational structure. It standardizes the names of various administrative departments and management positions within the hospital, and clarifies the specific responsibilities and qualifications required for each management department and position. This promotes the standardization, streamlining, and scientific management of the hospital's work processes, ensuring that there are clear guidelines and regulations to follow in daily management work.

6. Does the government have a specialized system for the admission, training, assessment, and rewards and punishments of hospital management personnel?

As far as I know, there are currently no specific government regulations directly targeting the admission, training, assessment, rewards, and disciplinary actions for hospital management personnel. Public hospitals fall within the scope of public institutions, and both the national and Guangdong provincial governments have established relevant regulations regarding the recruitment, training, assessment, salary and benefits, rewards, and disciplinary measures for personnel in public institutions. These include the "Regulations on the Personnel Management of Public Institutions" (State Council Decree No. 652), the "Interim Provisions on the Public Recruitment of Personnel in Public Institutions" (Ministry of Personnel Decree No. 6), the "Measures for the Public Recruitment of Personnel in Guangdong Province's Public Institutions" (Provincial Government Decree [2009] No. 139), and the "Measures for the Assessment of Personnel in Guangdong Province's Public Institutions (Trial Implementation)" (YueRenSheFa [2011] No. 125), among others. The admission, training, assessment, and disciplinary actions for hospital management personnel must comply with the above-mentioned regulations. Sun Yat-sen University also has corresponding regulations regarding the basic qualifications, educational requirements, work experience, and professional skills for career staff in its affiliated hospitals.

7. Has the government established channels for the professional title and promotion of hospital management personnel?

Yes, the professional titles and career advancement channels for management personnel in public hospitals are governed by relevant regulations for public institutions. For example, the "Provisions on the Implementation of the System of Appointing Professional and Technical Positions" issued by the State Council. In the Sun Yat-sen University Memorial Hospital where I am located, the evaluation of professional titles for management personnel generally follows the standards for higher education management and research professional and technical positions. In Beijing, the evaluation of professional and technical positions in healthcare management research has been piloted for the past 10 years. This is one of the most relevant channels for title evaluation in line with hospital management work. In Shandong province, the evaluation of healthcare management titles was also introduced in 2022.

8. Are there any associations or organizations established locally to provide exchange and learning platforms for hospital management personnel?

Yes, there are various professional committees and branches related to hospital management under the Guangdong Hospital Association, such as the Administrative Management Professional Committee, Financial Management Professional Committee, and Information Technology Professional Committee. There are also relevant divisions under the Guangdong Medical Association, such as the Medical Science Popularization and Health Communication Branch and the Medical Research Management Branch. These professional organizations, under the leadership of the Party, serve as a link between the Party, the government, and hospital management professionals. They provide a platform for in-depth discussions, sharing of management experiences, and exchange of ideas among hospital management personnel through annual conferences, academic meetings, training courses, and other activities.

9. Do you think it is necessary to streamline the staffing of hospitals? What are the reasons?

For public hospitals and other institutions, the establishment system is a unified management method and important resource provided by the Party and the state. It determines the authorized staffing scale of hospitals and the benefits and resources attached to the establishment. These benefits and resources are essential factors for maintaining the stability of public hospital establishments, attracting hospital staff, and ensuring the stable development of hospitals. Therefore, the existence of establishment for public hospitals is reasonable and necessary. If the process of de-establishment is implemented in hospitals, corresponding supporting measures such as institutional regulations and financial resources need to be put in place. Attractive conditions and benefits should be provided to hospital employees in order to retain talent, ensure the stable and long-term development of public hospitals, and safeguard

national biosafety and the safety of people's lives.

10. Is the marketization of hospital management personnel mobility currently realized? If not, what are the obstacles?

Currently, the higher authorities have specific regulations regarding the recruitment numbers and admission criteria for hospital management personnel, especially when it comes to the transfer of staff within the official establishment, which is subject to relevant institutional constraints. As a result, the market-driven mobility of hospital management personnel has not been fully realized.

Interview Results with Expert 2

1. What is your understanding of the professionalization of hospital management personnel?

In Hong Kong, hospitals implement a professionalized management approach, where top-level decisions are made by expert or professorial committees, and professionalized hospital management personnel are responsible for the specific implementation.

In domestic hospitals in mainland China, the majority of functional department managers do not have a clinical medical background. They belong to the category of professionalized management personnel, with a relatively low proportion of management personnel coming from a clinical medical background.

2. Do you think it is necessary to promote the professionalization of hospital management personnel at present? Why?

It is necessary to promote the professionalization of hospital management personnel. Clinical frontline staff are often busy with their work, making it difficult for them to devote sufficient time to hospital management. As a result, their management skills may not reach a high level.

3. What do you think are the obstacles to promoting the professionalization of hospital management personnel, and what are the existing problems?

The main obstacle to the professionalization of management personnel at the leadership level comes from the lack of trust from experts and professors.

4. What suggestions do you have for promoting the professionalization of hospital management personnel?

Find a balance between expert-led management and professional management in hospitals.

5. How is the construction of modern hospital management system in your region / hospital? What measures have been taken, what achievements have been made, and what challenges are faced?

According to the requirements of tiered hospitals, the construction of modern hospital systems is being carried out. At the same time, national regulatory authorities have provided clear guidelines and standards for the development of modern hospital management systems. It is necessary to formulate systems in accordance with these guidelines and standards.

Currently, the promotion of performance assessment policies for tertiary public hospitals at the national level has been driving the high-quality development of public hospitals.

6. Does the government have a specialized system for the admission, training, assessment, and rewards and punishments of hospital management personnel?

Government has various job responsibilities corresponding to different categories of

management personnel, and hospitals conduct their own assessments. However, there is no specific assessment system at the government level.

7. Has the government established channels for the professional title and promotion of hospital management personnel?

Yes, there are corresponding channels for the promotion of titles and ranks, but universities handle this independently.

8. Are there any associations or organizations established locally to provide exchange and learning platforms for hospital management personnel?

In general, major cities and provinces establish management associations or societies to provide platforms for communication and learning.

9. Do you think it is necessary to streamline the staffing of hospitals? What are the reasons?

In general, major cities and provinces establish management associations or societies to provide platforms for communication and learning.

10. Has the marketization of hospital management personnel flow been achieved? If not, what are the obstacles?

It has not been fully achieved. The main obstacles are the varying levels of management personnel in different hospitals and the hierarchical differences between hospitals, which affect mobility.

Interview Results with Expert 3

1. What is your understanding of the professionalization of hospital management personnel?

The professionalization of hospital management personnel can be understood as the professionalization and systematization of administrative work in hospitals. It is not simply a dependent profession but can form an independent career direction. By providing standardized and professional training for management personnel, systematic hospital management can be carried out.

2. Do you think it is necessary to promote the professionalization of hospital management personnel at present? Why?

It is necessary to promote the professionalization of hospital management personnel. With the current emphasis on performance assessment in tertiary public hospitals, modern hospital management has become more refined. It is crucial to meet the requirements of national assessments and the development needs of modern hospitals in order to transition from a rough development model to a high-quality and connotative development model. The professionalization of hospital management personnel will play a vital role in this transformation.

3. What do you think are the obstacles to promoting the professionalization of hospital management personnel, and what are the existing problems?

Firstly, there are not many higher education programs specifically focusing on the professionalization of hospital management. Additionally, similar to medical professions, hospital management professionalization requires a combination of theory and practical experience and cannot be separated from the hospital itself. Therefore, the professionalization of hospital management primarily relies on continuous learning and practical experience during the work process. It takes more time to see the results of personnel development towards professionalization. Secondly, there is still insufficient recognition of the importance of professionalization for hospital management personnel. This is because the value of hospital management personnel is not as obvious and tangible as that of doctors and nurses.

4. What suggestions do you have for promoting the professionalization of hospital management personnel?

Firstly, it is important to establish the positioning: To excel in hospital management, there should be a new understanding of the value and definition of hospital management personnel. As mentioned earlier, hospital management needs to transition from a rough development model to a model of high-quality and content-oriented development. The professionalization of hospital management personnel plays a crucial role in this transformation, so it is necessary to

pay more attention to the cultivation of professionalization among hospital management personnel.

Secondly, how to promote the professionalization of hospital management personnel? Due to the unique and specialized nature of hospital management, it is necessary for management personnel to have a good understanding of medical practices in order to effectively manage. Management personnel need to have a deeper understanding of frontline operations and how medical services are delivered before applying that knowledge to their work.

Thirdly, hospital management is a relatively personalized field, and each hospital has its own specific circumstances. This requires us to think pragmatically when implementing management processes, and develop management models and strategies that are most suitable for each individual hospital.

5. How is the construction of modern hospital management system in your region / hospital? What measures have been taken, what achievements have been made, and what challenges are faced?

The modern hospital management system in Guangzhou is relatively well-established. Many well-established large hospitals in Guangzhou have established comprehensive systems for hospital management, quality control, decision-making, financial management, and audit supervision under the guidance of national and provincial health administrative departments. In recent years, there have been further standardization and improvement in terms of party building and the implementation of the system where the hospital president is responsible under the leadership of the Party committee. These aspects are now generally well-regulated and have been smoothly implemented through years of practice.

The modern hospital management system in Guangzhou is relatively well-established. Many well-established large hospitals in Guangzhou have established comprehensive systems for hospital management, quality control, decision-making, financial management, and audit supervision under the guidance of national and provincial health administrative departments. In recent years, there have been further standardization and improvement in terms of party building and the implementation of the system where the hospital president is responsible under the leadership of the Party committee. These aspects are now generally well-regulated and have been smoothly implemented through years of practice. However, there are still areas that need further reform, particularly in terms of salary and personnel systems. Most of the well-established and large hospitals are state-owned institutions, and their salary, personnel, and performance evaluation systems are not as flexible as those of enterprises. As public medical institutions with a significant impact on people's livelihoods, the pace of reform needs to be

cautious and steady.

6. Does the government have a specialized system for the admission, training, assessment, and rewards and punishments of hospital management personnel?

Regarding the management personnel in public hospitals, the government has clear criteria for admission, assessment requirements, and reward and punishment systems. Currently, the training of management personnel is mainly carried out by individual hospitals, and it is not yet well-defined. If we want to promote the professionalization of hospital management personnel, more exploration and research are needed in terms of professional training.

7. Has the government established channels for the professional title and promotion of hospital management personnel?

The government has established job titles and promotion channels for hospital management personnel. The promotion of job titles and ranks is conducted according to the sequence of administrative management personnel. Nowadays, in order to retain talent and stabilize the workforce, individual hospitals also have more flexible and liberal policies and systems, allowing hospital management personnel to balance their management work with personal career planning and development.

8. Are there any associations or organizations established locally to provide exchange and learning platforms for hospital management personnel?

There is already the Chinese Hospital Management Association, which is affiliated with the Medical Administration Bureau of the National Health Commission. Under the Guangdong Hospital Association, there are several dozen professional committees that cover various aspects of hospital management. For example, the Hospital Medical Administration Professional Committee, Hospital Informationization Professional Committee, Hospital Medical Consumables Management Professional Committee, Hospital Administrative Management Professional Committee, Hospital Logistics Management Professional Committee. These professional committees organize or host academic conferences related to their respective fields every year, providing a platform for learning and communication for professionals in the industry.

9. Do you think it is necessary to streamline the staffing of hospitals? What are the reasons?

The issue of "de-bureaucratization" of hospitals has actually been raised for many years. Some places have already taken the lead in this regard. For example, many hospitals in Shenzhen have already implemented appointment-based systems. Although many public hospitals in Guangzhou have not completely eliminated bureaucratic systems, they have been gradually reducing their reliance on such systems. In particular, in the implementation of

internal performance evaluations, de-bureaucratization can better reflect the principle of "more work, more pay" and reward those who perform well. Bureaucracy is no longer the standard and means of assessing an individual's value. Only by doing so can we attract and retain more outstanding talents without being constrained by rigid systems.

10. Has the marketization of hospital management personnel flow been achieved? If not, what are the obstacles?

Currently, the marketization of the mobility of hospital management personnel has not been fully realized. There is still no complete freedom of movement and reasonable optimization allocation between different healthcare systems, and even within the same system, different hospitals. This is mainly because different healthcare systems have different personnel management systems, making it difficult for personnel to directly move between them. Even within the same healthcare system, the development of different hospitals is uneven. If it is fully marketized, advantageous talent resources will tend to be more inclined toward strong hospitals, making it more difficult for weaker hospitals to attract talent and develop.

Interview Results with Expert 4

1. What is your understanding of the professionalization of hospital management personnel?

Hospital management is a complex and specialized field. I believe that the professionalization of hospital management personnel should encompass three aspects. Firstly, professional ethics, which refers to the moral qualities that hospital management personnel should possess. Secondly, professional skills, which refers to the specialized abilities that hospital management personnel should have. Lastly, professional standards, which refers to the behavioral norms that hospital management personnel should uphold in their work. A professionalized hospital management personnel should prioritize service, possess professional expertise, and adhere to high standards.

2. Do you think it is necessary to promote the professionalization of hospital management personnel at present? Why?

I believe it is highly necessary. With the promotion of the governance structure and modernization reforms in public hospitals, the professionalization of hospital management personnel is an inevitable trend. The "Healthy China 2030" Planning Outline proposes the promotion of specialization and professionalization among health management personnel. Additionally, the era of high-quality development for public hospitals necessitates a greater emphasis on the cultivation of competence among hospital managers.

3. What do you think are the obstacles to promoting the professionalization of hospital management personnel, and what are the existing problems?

In China, the exploration of professionalizing hospital management personnel began relatively late, starting in 1997. Overall, there is a lack of well-established laws, regulations, and institutional frameworks, as well as a lack of systematic policy systems and human resources management systems. Additionally, there is insufficient emphasis from institutional managers on the construction of management personnel teams.

4. What suggestions do you have for promoting the professionalization of hospital management personnel?

Firstly, promoting the professionalization of hospital management teams relies on institutional safeguards. It is necessary to clarify the relationship between the government and medical institutions in order to promote the modernization of the medical governance system and capacity. This can be achieved by promoting the transition from specialization to professionalization of hospital management personnel through legal and policy frameworks. Secondly, it is important to establish a comprehensive evaluation system for the professionalization of hospital management personnel. Finally, it is crucial to establish and

improve training and career planning systems for hospital management personnel professionalization.

5. How is the construction of modern hospital management system in your region / hospital? What measures have been taken, what achievements have been made, and what challenges are faced?

Over the years, provincial and municipal governments, as well as medical institutions, have attached great importance to establishing sound modern hospital management systems. They have issued a series of policies to provide institutional guarantees for the work of medical institutions. Taking our hospital as an example, it is well known that the Southern Medical University Nanfang Hospital was established in 1941. Over the past 80 years, it has experienced four relocations, five changes in affiliation, ten name changes, and two transitions from military to civilian status. Nanfang Hospital has always been the vanguard of reform, and its staff has inherited a spirit of innovation and being at the forefront of change. As a pilot hospital for establishing and improving modern hospital management systems in Guangdong Province, our hospital has formulated the "Constitution of Southern Medical University Nanfang Hospital", which has had a leading and exemplary effect in discipline construction, clinical research, the integration of medicine and prevention, and operational management. We have fully implemented the system of hospital presidents under the leadership of the Party Committee, focusing on the "Four Haves" (having ideals and convictions, having a sense of responsibility, having professional ethics, and having a spirit of innovation), and comprehensively enhanced the leading role of hospital party building, promoting the standardization, refinement, and scientific management of the hospital. Nanfang Hospital has consistently ranked among the top 20 in the comprehensive rankings of Fudan Hospital and has received an A+ rating in the national performance assessment of public hospitals for four consecutive years. However, there are still areas where our hospital's systems need further improvement, and the level of professionalization among management personnel is not high.

From an industry perspective, there are still many challenges to the establishment of modern hospital management systems. Issues such as conflicts between personnel status and mobility, the mismatch between the legal status of public institutions and the development of multiple hospital campuses, and the problems associated with multiple management authorities and institutional legal persons continue to hinder the implementation of modern hospital management systems.

6. Does the government have a specialized system for the admission, training, assessment, and rewards and punishments of hospital management personnel?

In 2017, the Central Organization Department and the National Health and Family Planning Commission jointly issued the "Interim Measures for the Management of Leadership Personnel in Public Hospitals", which clarified the orientation of hospital management professionalization and standardized and improved the conditions and qualifications for leadership positions, admission and withdrawal, rewards and punishments, career development and incentives, as well as supervision and constraints.

7. Has the government established channels for the professional title and promotion of hospital management personnel?

The government has established professional titles and promotion channels for hospital management personnel. For example, the "Evaluation Criteria and Conditions for Professional and Technical Personnel Titles in Health Management Research, Clinical Medicine Research, and Health Information in Guangdong Province" provides channels for the professional titles and promotion of health management personnel. However, there are still difficulties in implementing the promotion of management personnel titles, which hinders the development of hospital management professionalization.

8. Are there any associations or organizations established locally to provide exchange and learning platforms for hospital management personnel?

There are various associations and organizations that carry out relevant learning and exchange activities, such as the Guangdong Health Economics Association and the Guangdong Hospital Association. These associations have sub-committees or committees related to human resources. In recent years, the Guangdong Health Economics Association has issued annual notices about organizing training courses for hospital management human resources.

9. Do you think it is necessary to streamline the staffing of hospitals? What are the reasons?

Currently, the establishment positions are a key factor in attracting talent and ensuring stable development in hospitals. In recent years, "removing establishment positions" has become one of the hottest topics in the industry. However, there are still many barriers to removing establishment positions, and it cannot be simply eliminated. The establishment position is just a symbol, and medical personnel value the salary, benefits, and career advancement represented by the establishment. If the government and medical institutions do not restrict the aspects that medical staff are most concerned about by establishment positions and ensure fairness and equality, there will not be many problems. In fact, personally, I believe that having an establishment position in a hospital does not guarantee a "secure job", and not having an establishment position does not mean no development prospects. It is the individual's work capability that serves as a foundation in the organization.

10. Has the marketization of hospital management personnel flow been achieved? If not, what are the obstacles?

Currently, the marketization of hospital management personnel mobility has not been realized, and one of the obstacles is the issue of positions.

Interview Results with Expert 5

1. What is your understanding of the professionalization of hospital management personnel?

Hospital management is not only a position but also a profession. Therefore, hospital management personnel must be professionalized.

2. Do you think it is necessary to promote the professionalization of hospital management personnel at present? Why?

Hospitals are complex industries with diverse operational and managerial activities. Therefore, it is natural that their management personnel need to be professionalized. Just like the petroleum, aviation, and metallurgical industries, which are highly technologically advanced, the level of professionalization among their management personnel is much higher than that in hospitals. These industries have vigorously promoted the professionalization of management personnel since the 1980s and 1990s, and have achieved remarkable results. Currently, the majority of hospital management personnel are selected from positions related to medical care, nursing, and medical technology, with fewer professionals specialized in management. Therefore, it is necessary to increase publicity and policy guidance.

3. What do you think are the obstacles to promoting the professionalization of hospital management personnel, and what are the existing problems?

The lack of clear understanding and the intentional or unintentional disregard and interference from vested interests.

4. What suggestions do you have for promoting the professionalization of hospital management personnel?

It should be promoted from top to bottom. It is recommended that the Organization Department of the Communist Party of China, the Ministry of Human Resources and Social Security, and the National Health Commission jointly issue documents outlining clear requirements and promoting assessment measures. Without such measures, it will be difficult to drive forward the professionalization process.

5. How is the construction of modern hospital management system in your region / hospital? What measures have been taken, what achievements have been made, and what challenges are faced?

Overall, the situation is good, with each hospital showcasing its own characteristics and strengths. For example, our hospital has made good progress in areas such as smart hospitals and performance management, gaining recognition from higher authorities. However, there are also some challenges. The biggest problem is that there is no universally recognized and effective standard for understanding modern hospital management systems.

6. Does the government have a specialized system for the admission, training, assessment, and rewards and punishments of hospital management personnel?

Currently, there are specific requirements for financial management personnel, but not for other management personnel.

7. Has the government established channels for the professional title and promotion of hospital management personnel?

Starting this year, the Guangdong Province has established professional titles for hospital management research and has established promotion channels.

8. Are there any associations or organizations established locally to provide exchange and learning platforms for hospital management personnel?

Yes, there are quite a few.

9. Do you think it is necessary to streamline the staffing of hospitals? What are the reasons?

Years of practical experience, especially in the battle against the COVID-19 pandemic, have fully demonstrated that the position system in hospitals is an important governing resource for the Party and the country. In the current context of unchanged management patterns in public hospitals, the abolition of positions could likely lead hospitals astray. The position system in public hospitals should not only be maintained but also strengthened and increased in quantity.

10. Has the marketization of hospital management personnel flow been achieved? If not, what are the obstacles?

No, it hasn't. The government does not have relevant requirements, so there is no framework for managing the mobility of personnel.

Interview Results with Expert 6

1. What is your understanding of the professionalization of hospital management personnel?

Background of professionalization: The scale of hospitals, specialized division of labor, and management have continuously matured, aiming to improve work efficiency and quality.

Single hospital with multiple branches: In terms of policies, on February 24, 2022, the National Health Commission issued the "Notice on Standardizing the Management of Branches of Public Hospitals" (National Health Commission Medical Development [2022] No. 7), which mentioned "guiding some strong public hospitals to develop multiple branch areas on the basis of controlling individual scale, achieving functional transformation of hospital areas during major outbreaks, and promoting the construction of a hierarchical medical system, expansion of high-quality medical resources, regional balanced layout, and the establishment of a high-quality and efficient medical and health service system". The construction of multiple branch areas has been further standardized.

Performance evaluation of public hospitals is conducted in terms of medical quality, operational efficiency, sustainable development, and satisfaction evaluation. It is a reflection of the hospital's refined operation and management through data. The results of the 2020 "National Assessment" showed that in 20 provinces across the country, the medical deficit was negative. Among the 2,508 tertiary public hospitals evaluated, 43.5% had a negative medical surplus, an increase of 25.89 percentage points from 2019 (no announcement for the 2021 fiscal year). The results of the 2021 "National Assessment" showed that the professionalization ability of hospital management has been continuously strengthened. In 2021, 76% of tertiary public hospitals nationwide established chief accountants, and about 200 hospitals newly established chief accountants in 2021, gradually exerting the professional advantages of chief accountants in the analysis and decision-making of important economic matters in hospitals. Some hospitals have explored and summarized corresponding experiences in department coordination and improving the level of refined management. This highlights the importance of strengthening scientific, professional, and refined operation and management.

Concept of professionalization: It refers to the standardization, regularization, and institutionalization of a work status, which requires individuals to professionally fulfill their job responsibilities assigned by society or organizations to the best of their ability and accurately play their work roles. There are three levels of professionalization: (1) Professional literacy, including professional awareness, professional mentality, and professional ethics and values, which determine the pattern of personal career development and work attitudes and motivations; (2) Professional competence, which refers to an individual's work capacity or potential,

including professional skills and qualifications; (3) Professional behavior, which includes professional image and behavior standards. Professional image can authentically reflect the personal cultivation and taste of professionals, and professional behavior standards are the sum of successful behaviors in completing work activities.

2. Do you think it is necessary to promote the professionalization of hospital management personnel at present? Why?

(1) It aligns with the trend of market-oriented operation in the healthcare industry. The healthcare, medical insurance, and pharmaceutical three-in-one reform, which began in 2000, introduced cost-sharing mechanisms and competition mechanisms. Under the guidance and coordination of the government, the role of the market in the allocation of medical resources has gradually been emphasized. In 2018, the National Healthcare Security Administration was established, further improving the system and mechanisms for the coordinated governance of the three medical sectors.

(2) Professionalization is a necessity for establishing a sound modern hospital management system. The "Guiding Opinions of the State Council General Office on Establishing a Modern Hospital Management System" (State Council General Office [2017] No. 67) requires the establishment of 14 hospital management systems to achieve the modernization of hospital governance and management capabilities. These 14 systems provide a preliminary division of labor for hospital work, and their detailed contents place higher demands on the quantity, quality, and abilities of management personnel. Additionally, professionalization is a key tool for implementing and utilizing the autonomy of public hospitals in personnel management, serving as a guarantee for advancing the construction of a modern hospital management system.

(3) Professionalization is a comprehensive requirement for external assessment and internal development. Evaluation and rating are important tools for supervising hospitals' continuous improvement efforts. Currently, hospitals face government and external assessments that primarily include evaluations of hospital grades, electronic medical records, the maturity of standardized hospital information interconnection, and the evaluation criteria for the hierarchical assessment of hospital intelligent services. These assessments comprehensively reflect the requirements of the country for the development of public hospitals. Throughout the entire process of preparation and on-site assessments, the interpretation of assessment indicators, the standardization and quality of data, and data analysis to support decision-making are equally important. This has resulted in a need for a group of personnel with fixed positions, professional expertise, and technical specialties, enabling hospitals to digitize various business data and provide data-driven services, thereby promoting a virtuous cycle of improvement and

development driven by assessments.

3. What do you think are the obstacles to promoting the professionalization of hospital management personnel, and what are the existing problems?

(1) Concept: Traditional beliefs that emphasize the importance of medical and technical professions over management personnel constrain the development of the professionalization of management.

(2) Hospital management model: Medical, administrative, and logistical management mostly follow a centralized and vertical management model.

(3) Personnel selection: The internal selection and employment model of "those who excel in medicine are chosen for administration" to some extent increases the difficulty of entry for management professionals.

(4) Social recognition: A unified and clear professional training and certification system for management personnel has not yet been established.

4. What suggestions do you have for promoting the professionalization of hospital management personnel?

(1) Strengthen top-level design, improve various admission systems for hospital management personnel, and set standards in terms of expertise, education, and management experience. Improve the selection and appointment system for management personnel and standardize the procedures.

(2) Enhance training for management personnel, emphasize their continuing education, continuously enhance their professional qualities, and expedite the professionalization of management personnel.

(3) Explore the establishment of a unified industry training and certification system, establish a management title series corresponding to technical titles, refine promotion standards and evaluation indicators for full-time management personnel, and provide clear career development paths for hospital management personnel.

5. How is the construction of modern hospital management system in your region / hospital? What measures have been taken, what achievements have been made, and what challenges are faced?

(1) In March 2019, our hospital established the Hospital Charter Organizational Structure and initiated the development of the "Hospital Charter". In January 2021, the Hospital Charter was distributed to the entire hospital. The developed "Hospital Charter" consists of six chapters and 106 clauses, clearly defining the nature of the hospital, its medical mission, functional positioning, management system, funding sources, organizational structure, decision-making

mechanisms, management systems, supervision mechanisms, cultural development, party construction, mass organization construction, as well as the rights and obligations of the operating entity, hospital, and staff. It clarifies the internal governance structure, power operation rules, and the relationship between management and services. Under the guidance of the Charter, the hospital consolidates years of management experience and practices into institutionalized and standardized forms, systematically summarizing core systems such as decision-making mechanisms and democratic management systems, medical quality and safety management systems, talent development systems, and performance evaluation systems. This helps gradually establish a scientific, comprehensive, effective, and efficient institutional framework.

(2) Improvement of medical quality and safety management systems. The hospital has established a Quality and Safety Management Committee and implemented a dual-level management system between the hospital and departments. The hospital president is the first person in charge of hospital-level management, while the department heads are the first persons in charge of quality and safety management in their respective departments. They formulate annual quality control implementation plans, continuous improvement plans, and specific implementation measures for their departments and organize their implementation. To further standardize the management of medical quality and safety in our hospital, and based on the actual work of the hospital, 18 core systems for medical quality and safety were regularly revised. At the end of 2021, 12 medical quality and safety management-related systems were revised.

(3) Improvement of human resources and talent development and training management systems. The hospital adopts a multi-departmental approach to manage the entire process of talent planning, recruitment, utilization, development, and retention. In terms of personnel planning, the hospital proactively reserves personnel for 3 to 5 years based on the hospital's zone, scale, and professional differences. In recruitment, the hospital expands the sources of talent through a combination of universities and society, as well as centralized and decentralized modes. For talent cultivation, it coordinates pre-job training, professional and technical training, and medical education and research-themed training. In terms of selection and assessment, the hospital coordinates quotas and implements unified standards, conducting simultaneous selection and full-cycle assessment.

6. Does the government have a specialized system for the admission, training, assessment, and rewards and punishments of hospital management personnel?

(1) Hospital administrative leaders: In 2017, the "Interim Measures for the Management of

Administrative Leaders in Public Hospitals" were issued, stating that hospital administrative leaders should undergo professional training recognized by the state for the position of hospital president. In June 2018, the Expert Committee for Professional Training of Administrative Leaders in Public Hospitals was established. In 2019, the National Health Commission issued the "Implementation Plan for Professional Training of Administrative Leaders in Public Hospitals" and the "Outline for Professional Training of Administrative Leaders in Public Hospitals", providing specific arrangements for building a professional and specialized talent pool for hospital management. The National Health Commission has been organizing short-term training courses for public hospital managers in various locations to promote professionalization.

(2) Grading hospital evaluation criteria: The evaluation criteria focus on the job responsibilities of hospital staff and the implementation of systems, processes, guidelines, norms, and contingency plans. It involves conducting comprehensive assessments from multiple aspects, perspectives, and dimensions.

(3) In accordance with the policy requirements for hospital ethical conduct and clean practice, the "nine guidelines for ethical conduct and clean practice", the hospital strengthens the "veto power" for medical ethics and conduct, making the evaluation of ethical conduct complaints and the overall situation of medical ethics and conduct an important basis for professional title promotion, awards, and evaluations of excellence. It is also incorporated into the evaluation and disciplinary system for cadre and staff.

7. Has the government established channels for the professional title and promotion of hospital management personnel?

School Level: Notice from Guangzhou Medical University on the Issuance of the Evaluation Measures for Professional Titles (Guangzhou Medical University Document [2020] No. 154)

In the health series, there are five major categories: Medicine, Pharmacy, Nursing, Technology, and Health Management Research.

The evaluation criteria for the title of Researcher in Health Management Research are clearly defined.

The title of Assistant Researcher in Health Management is limited to professional and technical personnel engaged in health management research in affiliated hospitals.

The evaluation criteria for the titles of Researcher and Associate Researcher in Health Management Research apply to professional and technical personnel engaged in 24 research directions of health management research in our university's affiliated hospitals.

8. Are there any associations or organizations established locally to provide exchange and learning platforms for hospital management personnel?

(1) National Level: Hospital management training programs organized by the National Health Commission.

(2) Association Level: Guangdong Hospital Association and its professional committees, annual academic conferences, regular activities, national continuing medical education programs, provincial continuing medical education programs.

(3) Training programs organized by various professional associations.

9. Do you think it is necessary to streamline the staffing of hospitals? What are the reasons?

(1) Staffing: Staffing is a unified management tool and an important resource for public institutions. It determines the authorized staffing size and various benefits attached to the staffing. The staffing of public hospitals is a key element in stabilizing and attracting medical personnel and ensuring the stable development of public hospitals. It is an important institutional guarantee for the state to meet the healthcare service needs of the people. Under the existing staffing system, there are indeed issues of "unequal distribution of benefits" , "inefficiency", and the "problem of inactive staff".

(2) On July 28, 2022, Xu Shuqiang, the Director-General of the Institutional Reform Department of the National Health Commission, revealed during a press conference that they are studying the formulation of relevant staffing standards for public hospitals and how to establish a reasonable dynamic increment mechanism to provide stronger talent support for the high-quality development of the health industry.

(3) "Decentralization of staffing" is a guiding principle aimed at stimulating hospital vitality and accumulating energy for high-quality development through flexible mechanisms for personnel selection, employment, incentives, fair distribution of benefits, and promoting healthy competition. As a resource and tool, staffing should be optimized through reforms and combined with the current internal economic operation and management of hospitals, fully leveraging the advantages of staffing and the scientific nature of operational tools. Drawing on the "Implementation Opinions of the General Office of the People's Government of Sanming Municipality on Establishing Modern Hospital Management Systems", the approach of "determining positions and staffing while not fixing personnel" through redefining and registering staffing within the total control of staffing is a new approach and reference for staffing reform.

10. Has the marketization of hospital management personnel flow been achieved? If not, what are the obstacles?

(1) Nature of Hospitals: In China, the healthcare industry is a social welfare undertaking implemented by the government with certain welfare policies. Public hospitals refer to hospitals operated by the government and included in the fiscal budget management, reflecting the government's public service functions and social welfare responsibilities. They have a fundamental difference from market-oriented management models based on enterprise operations or privately-owned hospitals prevalent in foreign countries.

(2) The establishment of a professional management system has been slow in China.

(3) The current performance evaluation schemes have difficulty in quantifying and measuring management performance, and there is minimal difference in salary levels among management personnel in different institutions within the same region.

Interview Results with Expert 7

1. What is your understanding of the professionalization of hospital management personnel?

Managers have obtained degrees (bachelor's, master's, or doctoral) in hospital management or have undergone professional training.

2. Do you think it is necessary to promote the professionalization of hospital management personnel at present? Why?

There is a certain necessity for the professionalization of hospital management personnel. However, public hospitals are different from private hospitals. They are non-profit and operate within various government frameworks, leaving limited room for professional managers to exert their autonomy.

3. What do you think are the obstacles to promoting the professionalization of hospital management personnel, and what are the existing problems?

Managers who lack understanding of medical specialties and only possess management skills are not competent in hospital management.

4. What suggestions do you have for promoting the professionalization of hospital management personnel?

First, students majoring in hospital management (or health management) should be required to complete clinical internships of more than one year. Second, select some doctors, nurses, or technicians with management potential and willingness to engage in management from medical institutions to undergo university training in hospital management for more than one year.

5. How is the construction of modern hospital management system in your region / hospital? What measures have been taken, what achievements have been made, and what challenges are faced?

The construction of modern hospital management systems has been promoted under the guidance of the Guangzhou Health Commission. It has clarified the responsibility system under the leadership of the Party Committee, adhered to the people's health-centered approach, upheld the public welfare nature of hospitals, encouraged innovation, and implemented a three-year action plan for major specialties and small-scale integration. The challenges faced include limited space and insufficient funding.

6. Does the government have a specialized system for the admission, training, assessment, and rewards and punishments of hospital management personnel?

There are performance evaluation systems, among others.

7. Has the government established channels for the professional title and promotion of hospital management personnel?

Currently, there is no specific system for professional titles and promotion channels for management personnel, which leads to management personnel seeking affiliation with other professional titles.

8. Are there any associations or organizations established locally to provide exchange and learning platforms for hospital management personnel?

Yes, the Hospital Management Association serves as a good platform.

9. Do you think it is necessary to streamline the staffing of hospitals? What are the reasons?

Currently, it is not feasible as it may lead to the loss of high-end talent.

10. Has the marketization of hospital management personnel flow been achieved? If not, what are the obstacles?

I don't understand why the marketization of the flow of hospital management personnel is necessary and what purpose it serves.

Interview Results with Expert 8

1. What is your understanding of the professionalization of hospital management personnel?

The professionalization of hospital management personnel requires individuals in management positions to possess both basic medical professional skills and specialized management skills, making them "dual-competent" professionals who understand both medicine and management.

2. Do you think it is necessary to promote the professionalization of hospital management personnel at present? Why?

Yes, it is necessary. Traditional hospital management primarily relies on doctors, resulting in a "workshop-style" management approach. Management is carried out based on the personal abilities and experiences of individuals who transition from medical positions to management positions. Since each person's abilities and experiences vary, it becomes challenging to achieve uniformity, leading to weak overall execution, lack of coordination among different disciplines, and low management effectiveness within hospitals.

3. What do you think are the obstacles to promoting the professionalization of hospital management personnel, and what are the existing problems?

Currently, the recruitment of management personnel within the established staffing system in hospitals is conducted through a unified recruitment process determined by higher authorities. It is difficult to recruit suitable candidates who are both knowledgeable in medicine and proficient in management. Using external recruitment methods only allows for the hiring of general hospital management personnel and fails to attract professionally-oriented hospital management personnel.

4. What suggestions do you have for promoting the professionalization of hospital management personnel?

The professionalization of hospital management personnel is a measure to establish a modern hospital management system and requires a comprehensive approach. It is a long and challenging journey that requires tireless exploration and promotion by the government, hospitals, and various stakeholders at all levels.

5. How is the construction of modern hospital management system in your region / hospital? What measures have been taken, what achievements have been made, and what challenges are faced?

The construction of modern hospital management systems in Guangzhou is progressing in an orderly manner, particularly in strengthening Party building and carrying out extensive work. Measures such as implementing the system of the Party Committee's leadership with the

president in charge have been taken. Emphasis has been placed on operational management and the promotion of performance management, including the establishment of positions such as Chief Economist.

Modern hospital management is an "intensive" management approach led by managers and relies on big data. However, the progress of information technology development and resource allocation varies among hospitals, making it challenging to uniformly collect various management data according to standardized norms. Additionally, when there is a conflict of interest, managers or medical personnel may exhibit resistance, posing challenges to the transformation of hospital management.

6. Does the government have a specialized system for the admission, training, assessment, and rewards and punishments of hospital management personnel?

There are relevant government-level systems for hospital management personnel.

7. Has the government established channels for the professional title and promotion of hospital management personnel?

Currently, there are relatively few professional titles and promotion channels for hospital management personnel. There is only a professional title for health management research talents, which has high requirements comparable to clinical doctor titles, resulting in difficulties in promotion.

8. Are there any associations or organizations established locally to provide exchange and learning platforms for hospital management personnel?

There are various industry associations in Guangzhou that provide communication and learning platforms for hospital management personnel.

9. Do you think it is necessary to streamline the staffing of hospitals? What are the reasons?

Yes, it is highly necessary. With the development of the medical industry and the increasing demand for medical services from the public, hospitals require a significant amount of manpower to support their operations. Currently, the staffing in hospitals does not match the actual personnel requirements, leading to negative consequences. This mismatch results in the loss of high-level talent due to inadequate positions, which is detrimental to disciplinary development. Additionally, the differences in remuneration between positions within and outside the established staffing system create disharmony within teams and weak overall execution, among other management challenges.

10. Has the marketization of hospital management personnel flow been achieved? If not, what are the obstacles?

The marketization of the flow of hospital management personnel has not been achieved. A

modern hospital management system has not been fully established, and there is a lack of an objective evaluation system that reflects the professional level of hospital management personnel, making it difficult to assess their professional capabilities. Hospital managers are unable to use scientific and objective methods to identify suitable hospital management personnel. Additionally, the established staffing system poses a significant obstacle to the mobility of hospital management personnel. The movement between positions can only occur through mutual agreement in the form of official transfer documents. If one party does not agree, hospital management personnel can only choose to give up their positions before seeking mobility.

Interview Results with Expert 9

1. What is your understanding of the professionalization of hospital management personnel?

Familiar with hospitals and have management experience, including hospital development, talent, funding, and operations.

2. Do you think it is necessary to promote the professionalization of hospital management personnel at present? Why?

It is relatively difficult in China due to relevant regulations in public hospitals.

3. What do you think are the obstacles to promoting the professionalization of hospital management personnel, and what are the existing problems?

Hospitals are public institutions, and their nature determines this.

4. What suggestions do you have for promoting the professionalization of hospital management personnel?

It requires the impetus of the national government. Currently, hospitals do not have the ability and authority to initiate such changes.

5. How is the construction of modern hospital management system in your region / hospital? What measures have been taken, what achievements have been made, and what challenges are faced?

Chinese hospitals are generally similar, but differences may arise in the implementation of policies at the operational level. In our hospital, department directors undergo a 360-degree performance evaluation, and the evaluation indicators can be tailored to the hospital's development needs. There is a relatively strong emphasis on talent recruitment, some measures have been taken for discipline construction, and the hospital information system was developed earlier.

6. Does the government have a specialized system for the admission, training, assessment, and rewards and punishments of hospital management personnel?

There are conditions for admission, and there are systems for training, assessment, and rewards and punishments, but the execution is not satisfactory.

7. Has the government established channels for the professional title and promotion of hospital management personnel?

Yes, there are specific systems at the government level.

8. Are there any associations or organizations established locally to provide exchange and learning platforms for hospital management personnel?

Yes, there have been limited opportunities for learning and exchanges in the past three years.

9. Do you think it is necessary to streamline the staffing of hospitals? What are the reasons?

The depersonalization of public hospitals is not solely a matter for hospitals but is part of a broader national personnel reform plan. If similar institutions and organizations do not depersonalize, there will be few people willing to study medicine. This is a systemic issue rather than one directly related to hospitals; it is a social problem.

10. Has the marketization of hospital management personnel flow been achieved? If not, what are the obstacles?

It is not realistic, and the resistance lies in the personnel system.

Interview Results with Expert 10

1. What is your understanding of the professionalization of hospital management personnel?

Hospital management professionalization means having management professionals with specialized knowledge to oversee the operations of the hospital. These individuals may come from a medical background and transition to management roles through further education, or they may be purely non-medical professionals with knowledge and expertise in management.

2. Do you think it is necessary to promote the professionalization of hospital management personnel at present? Why?

It is necessary, but not urgent. Implementing professionalization of hospital management can enhance the level of hospital management, improve efficiency, and promote the sustainable development of hospitals. However, hospitals are a unique industry where the hospital brand is essentially the core and is built through long-term development and accumulation. The core of a hospital brand is renowned experts, and renowned experts gradually grow in reliance on the hospital brand. It is difficult for professional managers to create a strong hospital brand and an adequate number of renowned experts in a short period of time.

3. What do you think are the obstacles to promoting the professionalization of hospital management personnel, and what are the existing problems?

(1) Management system: Only by completely or mostly dismantling the current staffing-oriented management system can the incubation and development of the market be promoted.

(2) Normative guidance: The professionalization of hospital management personnel should be proposed from the source, and the separation of hospital management from business management should be effectively implemented, with professional managers responsible for hospital operations management and professional technical personnel responsible for medical technology management.

(3) Division of authority and supervision: Potential conflicts of interest make people reluctant to give up their positions, and how to supervise professional managers to achieve effective management without compromising collective interests is also crucial.

4. What suggestions do you have for promoting the professionalization of hospital management personnel?

Proceed with caution. The professionalization of management personnel is already well-established in many countries such as the United States, but whether it can be replicated domestically requires in-depth discussions and is not as simple as it seems.

5. How is the construction of modern hospital management system in your region / hospital?

What measures have been taken, what achievements have been made, and what challenges

are faced?

At the national level, pilot projects for modern hospital management systems have been initiated, and specific requirements have been proposed (which can be found online), but I am not familiar with the actual effectiveness. From the perspective of my own hospital, I haven't seen substantial results; mostly, it has been focused on institutional development. Moreover, the core of the pilot project for modern hospital management systems is not the professionalization of hospital management personnel.

6. Does the government have a specialized system for the admission, training, assessment, and rewards and punishments of hospital management personnel?

Yes, there are regulations based on the principle of "Party management of cadres" and related regulations for selection and appointment, as well as various levels of assessment and reward mechanisms.

7. Has the government established channels for the professional title and promotion of hospital management personnel?

Yes, it is mainly based on the civil servant system.

8. Are there any associations or organizations established locally to provide exchange and learning platforms for hospital management personnel?

Yes, the Hospital Administration Branch of the Guangdong Hospital Association.

9. Do you think it is necessary to streamline the staffing of hospitals? What are the reasons?

It is not necessary and not urgent. The current environment does not have the necessary conditions. Moreover, having staffing positions is advantageous for attracting talents to public medical institutions.

10. Has the marketization of hospital management personnel flow been achieved? If not, what are the obstacles?

No, it has not been implemented. Firstly, the social environment has not been formed. Currently, public hospitals still dominate, and the management personnel in public hospitals are relatively fixed, constrained by staffing and cadre appointment restrictions. Secondly, there is not strong personal willingness. Due to the long-standing social atmosphere and personal development planning, there are not many who truly desire to move within the market. Thirdly, the market is not large enough, and there are limited options to choose from.

Interview Results with Expert 11

1. What is your understanding of the professionalization of hospital management personnel?

To strengthen the modern management of hospitals, administrative management personnel should have relevant knowledge and skills in hospital management, and even possess corresponding qualifications.

2. Do you think it is necessary to promote the professionalization of hospital management personnel at present? Why?

Yes, it is necessary because the majority of hospital management personnel are medical experts rather than management experts. They lack understanding of modern hospital management concepts, knowledge, and techniques, so it is important to enhance their learning and training in this regard.

3. What do you think are the obstacles to promoting the professionalization of hospital management personnel, and what are the existing problems?

Only when the government is determined to implement the professionalization of hospital management personnel and provides enough time and space for current management personnel to learn hospital management knowledge and pass assessments can this be achieved. Afterwards, a gradual transition should be made to the requirement of having dual qualifications in medicine and management in order to be promoted as medical leaders.

4. What suggestions do you have for promoting the professionalization of hospital management personnel?

There is no way to talk about the construction of relevant institutions.

5. How is the construction of modern hospital management system in your region / hospital? What measures have been taken, what achievements have been made, and what challenges are faced?

As mentioned in the second point, most hospitals in the country lack modern hospital management concepts, so there is no basis to discuss system development in this area.

6. Does the government have a specialized system for the admission, training, assessment, and rewards and punishments of hospital management personnel?

Hardly any.

7. Has the government established channels for the professional title and promotion of hospital management personnel?

Hardly any. This has been a long-standing issue confusing hospital administrative staff.

8. Are there any associations or organizations established locally to provide exchange and learning platforms for hospital management personnel?

Yes, such as the various hospital associations in different regions, but there are limited opportunities for communication and learning.

9. Do you think it is necessary to streamline the staffing of hospitals? What are the reasons?

Yes, it is necessary because there is no need to artificially set administrative hierarchies among hospitals, as it is not conducive to the development of hospitals at various levels and the mobility of talent. Hospital classification management based on review and assessment should replace the current administrative hierarchy division.

10. Has the marketization of hospital management personnel flow been achieved? If not, what are the obstacles?

As mentioned in the seventh point, due to reasons such as administrative levels, hospital scale, and regional differences, talent mobility is mostly one-way, mainly moving upward. This is not conducive to the layout of medical resources and relative balance in remote areas.

Interview Results with Expert 12

1. What is your understanding of the professionalization of hospital management personnel?

The professionalization of hospital administrators refers to the requirement that hospital management work should undergo specialized training in hospital management skills and pass assessments by national regulatory authorities to obtain professional qualifications. Once hired, they are responsible for hospital management as their primary source of income. In the current new situation and context of the high-quality development of the healthcare industry, the comprehensive reform of the "three-linkage" system involving medical treatment, pharmaceuticals, and medical insurance is being carried out extensively. Hospital management, whether it is management concepts, practices, or the cultivation, recruitment, and professionalization of management personnel, is facing new significant challenges. The traditional notion of "prioritizing operations over management" will become an undeniable stumbling block in the high-quality development of hospitals. Therefore, the professionalization of hospital administrators is a crucial step in achieving high-quality development in hospitals.

2. Do you think it is necessary to promote the professionalization of hospital management personnel at present? Why?

Indeed, it is necessary. Like medicine, management science is a scientific discipline that involves highly practical activities. In the new situation of continuous deepening of national healthcare system reform and facing market competition, managers not only need to fulfill their functions of planning, organizing, leading, and controlling but also require a systematic way of thinking and the ability to perceive, analyze, and solve problems. The professionalization of the hospital management team is a major trend in the construction of hospital management teams.

3. What do you think are the obstacles to promoting the professionalization of hospital management personnel, and what are the existing problems?

First, there is a lack of the concept of "emphasizing both professional skills and management" within the industry, leading to a lack of initiative in promoting professionalization. Second, there is a lack of authoritative scientific demonstration and training systems. Third, in the current development of the healthcare industry, medical professionals still dominate in terms of quantity, resulting in relatively low attention given to management personnel. Fourth, there is a significant number of medical professionals who hold part-time management positions within hospital management teams, and they are concerned about promotion issues, which prevents them from fully dedicating themselves to hospital management.

4. What suggestions do you have for promoting the professionalization of hospital

management personnel?

First, hospital management personnel should strengthen their own professional qualities. They should have a clear sense of social responsibility and historical mission, be passionate and conscientious in their work, and invest sufficient energy and time into learning management knowledge. Second, establish and improve performance evaluation systems to motivate the hospital management team to excel in their work. Hospitals should establish and improve performance evaluation systems, appropriately increase the performance-based salaries of management personnel, and relax the standards for the assessment of management professional titles to stimulate the learning and enthusiasm of the hospital management team. Third, hospitals should enhance human resources planning and increase investment in management training. Fourth, reform hospital management education and increase the proportion of professional management knowledge in the curriculum.

5. How is the construction of modern hospital management system in your region / hospital? What measures have been taken, what achievements have been made, and what challenges are faced?

Currently, hospitals have made initial progress in several aspects of modern hospital management systems. First, they have established and implemented hospital bylaws, fully implementing a system where the hospital president is responsible under the leadership of the party committee. Second, they have improved the decision-making mechanism by adhering to democratic centralism, combining collective leadership, individual division of labor, and hierarchical management. Third, they have strengthened democratic management systems, promoting a system of transparent hospital affairs and disclosing information to employees regarding the implementation of the "three major publicities and one openness", including hospital management, party integrity and anti-corruption, democratic evaluation of cadres, as well as welfare and performance-based salary distribution schemes that directly affect employees' interests, promotion evaluations, and professional titles. Fourth, they have enhanced the medical quality and safety management system, with the hospital president being the primary person responsible for the legal practice and medical quality and safety, and implementing a system of responsibilities at both the hospital and department levels. They have established a medical quality management and control system that involves the participation of all staff and covers the entire process of clinical diagnosis and treatment services. Fifth, they have improved the human resources management system, establishing and improving systems for personnel recruitment, position management, professional title management, management of licensed physicians, nursing staff management, and income distribution management. Sixth,

they have established a comprehensive financial and asset management system, ensuring that financial revenues and expenditures, budgeting and final accounts, accounting, cost management, price management, and asset management are unified under the hospital's financial department. They have established and improved mechanisms for comprehensive budget management, cost management, financial reporting, third-party audits, and information disclosure to ensure the legality and compliance of economic activities and enhance the efficiency of fund and asset utilization. Seventh, they have improved the research and innovation management system, strengthening cooperation, focusing on cutting-edge technologies both domestically and internationally, conducting basic research, clinical research, translational medical research, and technology transfer. Eighth, they have emphasized hospital culture construction, establishing the correct concept of hospital operation and promoting the professional spirit of "respecting life, saving the dying, helping the injured, and selfless dedication with boundless love".

Currently, the application of information management systems in hospitals and comprehensive performance evaluation systems are still being continuously promoted, with significant room for improvement.

6. Does the government have a specialized system for the admission, training, assessment, and rewards and punishments of hospital management personnel?

Currently, there are no specific government-level systems in place.

7. Has the government established channels for the professional title and promotion of hospital management personnel?

There are relevant channels available.

8. Are there any associations or organizations established locally to provide exchange and learning platforms for hospital management personnel?

There are relevant platforms, such as the Guangzhou Hospital Association.

9. Do you think it is necessary to streamline the staffing of hospitals? What are the reasons?

No, de-bureaucratization should not be implemented. The establishment of positions in public hospitals is a key factor in ensuring stability, attracting medical personnel, and guaranteeing the stable development of public hospitals. It is an important institutional guarantee for the state to meet the healthcare service needs of the people and reflects the fundamental guarantee of the public welfare nature of public hospitals. Public hospitals are a significant part of the concentration of medical resources in China's healthcare system. Instead of weakening the establishment of public hospitals, it should be further expanded and strengthened with additional measures to ensure its stability.

10. Has the marketization of hospital management personnel flow been achieved? If not, what are the obstacles?

It has not been achieved yet. Due to the influence of the nature of the units, administrative appointments are still the main form of employment in public hospitals. At the same time, a scientific evaluation system for the marketization of management personnel has not been established.

Interview Results with Expert 13

1. What is your understanding of the professionalization of hospital management personnel?

Hospital management personnel receive systematic management training, acquire knowledge of management theories, possess management thinking and qualities, and are able to apply management theories and tools in their work, making them true managers in the real sense.

2. Do you think it is necessary to promote the professionalization of hospital management personnel at present? Why?

It is necessary. For hospitals to achieve high-quality development, it is essential to establish modern hospital management systems and implement scientific management. The professionalization of hospital management personnel is one of the important guarantees for achieving these goals, moving away from purely experiential and extensive management approaches.

3. What do you think are the obstacles to promoting the professionalization of hospital management personnel, and what are the existing problems?

One obstacle is the solidification of certain perspectives. As mentioned earlier, there is still a prevalent belief that "anyone can manage" or that minimal training is sufficient for management roles. Another obstacle is the lack of mechanisms for building a management personnel team. There is still a significant lack of safeguards in terms of institutional support, mechanisms, and promotion opportunities for the development of hospital management personnel.

4. What suggestions do you have for promoting the professionalization of hospital management personnel?

(1) It is necessary to break away from the inherent belief that "anyone can manage" or that minimal training is sufficient for management roles, and truly value the development of hospital management teams.

(2) In terms of personnel selection and recruitment, to some extent, professionalization of hospital management personnel should be considered as an admission criterion.

(3) Establish clear career paths for hospital management personnel.

5. How is the construction of modern hospital management system in your region / hospital? What measures have been taken, what achievements have been made, and what challenges are faced?

Currently, most hospitals attach importance to the construction of modern hospital management systems and have introduced relevant management theories and tools in various

aspects such as medical services, operations, performance, and logistics, establishing corresponding management systems. However, the progress in these areas varies among different hospitals, and different managers have different understandings of modern hospital management systems. There are significant differences in the effectiveness and implementation of measures taken to implement modern hospital management system construction. These aspects also reflect the overall competence of hospital management personnel. The issues mainly lie in two areas: first, the level of understanding among management personnel regarding modern hospital management systems, and second, the execution level, that is, whether there are capable management personnel who can promote and implement modern hospital management systems effectively.

6. Does the government have a specialized system for the admission, training, assessment, and rewards and punishments of hospital management personnel?

Yes, there is a provisional regulation called "Interim Measures for the Management of Leadership Personnel in Public Hospitals" issued by the Organization Department of the CPC Central Committee and the National Health Commission. It specifies the requirements for the admission, training, assessment, rewards, and penalties of leadership personnel in public hospitals. However, there are no corresponding systems for other management personnel.

7. Has the government established channels for the professional title and promotion of hospital management personnel?

Yes. Currently, hospital management personnel are divided into two categories. One category consists of individuals with purely managerial roles who do not hold any professional titles. Their promotion channels are based on the government's prescribed job levels. The other category includes individuals who shoulder both professional and managerial responsibilities. They are appointed with professional and technical titles, and their promotion can be based on professional and technical titles or a combination of professional and technical titles with managerial positions. These professional titles and promotion channels for hospital management personnel have been established at the government level. In recent years, the government has introduced professional and technical titles in the field of health management, which will further facilitate the professional advancement of management personnel.

8. Are there any associations or organizations established locally to provide exchange and learning platforms for hospital management personnel?

Yes. The Guangdong Province and Guangzhou City Hospital Management Associations hold various management academic conferences every year, providing a platform for communication and learning for hospital management personnel.

9. Do you think it is necessary to streamline the staffing of hospitals? What are the reasons?

In terms of the rescue missions undertaken by public hospitals, there is currently no urgent need to transition hospitals away from civil service positions. Public hospitals are currently the main force in disease treatment and public health emergencies. During major public health incidents, they still heavily rely on public hospitals. Implementing "de-bianhua" at this stage could lead to significant personnel mobility in public hospitals, which may not be conducive to maintaining or improving the stability and quality of the talent pool in public hospitals.

However, transitioning management personnel away from civil service positions can facilitate better personnel mobility.

10. Has the marketization of hospital management personnel flow been achieved? If not, what are the obstacles?

No, it has not been achieved. On one hand, there are restrictions imposed by civil service positions. Many individuals consider whether they can transfer their civil service positions when moving from one organization to another as a primary concern. On the other hand, there has not been a significant market demand for such mobility. Most hospitals still have not reached a high level of importance regarding the marketization of management personnel. The prevailing notion is still that "anyone can manage" or that management can be achieved with minimal training. Consequently, the recruitment of management personnel has not received the same attention as the recruitment of specialized technical personnel.

Interview Results with Expert 14

1. What is your understanding of the professionalization of hospital management personnel?

Professionalization of hospital management personnel refers to the requirement for them to specialize, acquire management expertise and skills, and no longer treat hospital management as a part-time job.

2. Do you think it is necessary to promote the professionalization of hospital management personnel at present? Why?

Yes, it is necessary. Most medical professionals are reluctant to engage in management as it may hinder their advancement in medical professional titles. Human energy is limited, and medical professionals have limited knowledge and skills in management. Part-time management roles may not receive their full dedication and effort.

3. What do you think are the obstacles to promoting the professionalization of hospital management personnel, and what are the existing problems?

Medical staff is a very noble profession, but the income is not high, leading to some people part-time to do management to improve income, but do not concentrate on management. Also, managerial staff and medical staff snatch title indicators.

4. What suggestions do you have for promoting the professionalization of hospital management personnel?

Start cultivating hospital management talents from undergraduate and graduate levels. If necessary, they should be exclusively dedicated to hospital management work, and the promotion of professional titles should be completely separate from the promotion of medical professionals.

5. How is the construction of modern hospital management system in your region / hospital? What measures have been taken, what achievements have been made, and what challenges are faced?

There have been improvements, such as the promotion of healthcare research titles for management personnel. However, many initiatives remain only in verbal discussions. For example, having non-accounting professionals as Chief Accountants has a minimal impact on financial management. Hospitals are essential for people's livelihoods, but they face financial challenges and competition, requiring cost-saving measures. One person often needs to take on multiple roles.

6. Does the government have a specialized system for the admission, training, assessment, and rewards and punishments of hospital management personnel?

Yes, there are regulations, but they need further improvement.

7. Has the government established channels for the professional title and promotion of hospital management personnel?

Yes, they have.

8. Are there any associations or organizations established locally to provide exchange and learning platforms for hospital management personnel?

Yes, there are professional associations such as the Hospital Management Society and the Quality Control Society.

9. Do you think it is necessary to streamline the staffing of hospitals? What are the reasons?

No, removing civil servant status would be detrimental to hospital management. After removing the civil servant status, hospital leaders would have excessive autonomy, which may lead to uncontrolled expansion and the loss of public welfare.

10. Has the marketization of hospital management personnel flow been achieved? If not, what are the obstacles?

Yes, there are professional associations such as the Hospital Management Society and the Quality Control Society.

Interview Results with Expert 15

1. What is your understanding of the professionalization of hospital management personnel?

In the new era, under the new pattern and new development, economic and social development has shifted from high-speed development to high-quality development. The development model of hospitals needs to keep pace with the times. From development approaches, operational models, resource allocation, to patient services, the development logic of public hospitals is undergoing profound changes. The medical market has become one of the main areas for foreign and domestic private capital investment. At the same time, with the deepening of the national reform in the "three-in-one" linkage of medical treatment, pharmaceuticals, and medical insurance, the improvement in patient expectations for medical quality, the increasing demands for medical care services, and the intensifying competition among hospitals, it is crucial for public medical institutions to maintain their advantages in the competition. The management concepts, techniques, and methods of hospital managers are of vital importance to the development of hospitals. Hospitals need to keep track of the forefront of medical technology, prioritize enhancing patient experience, pursue precision and efficiency in internal management, and ensure employee satisfaction as the foundation of efficiency. By embracing the lean service concept, optimizing service processes, and reshaping hospital culture, there is great potential for improvement in the daily management practices of public hospitals in China. In this context, whether the current hospital managers in China can shoulder their responsibilities and how to accelerate the professionalization process of hospital managers are issues of common concern for the government, hospitals, and patients.

2. Do you think it is necessary to promote the professionalization of hospital management personnel at present? Why?

Yes, it is necessary. In our country's healthcare system, especially in hospital management, whether it is management concepts, practices, or the development, recruitment, and professionalization of management personnel, we are lagging behind compared to enterprises and the current situation. The "Decision of the Central Committee of the Communist Party of China and the State Council on Health Reform and Development" emphasizes the need to attach great importance to the training of healthcare management talents and cultivate a professional management team that is suitable for the development of the industry. China needs to cultivate and establish a professional healthcare management cadre that understands economics, law, and possesses modern management knowledge and skills, in line with the requirements of a socialist market economy. This will improve the knowledge structure and level of healthcare administrative departments at all levels and enhance the quality of the healthcare management

workforce. The professionalization of hospital management is not only a requirement for the scientific development of hospitals but also a future trend in hospital development. It is important to understand and handle the relationship between "professionalization" and "specialization" for hospital administrators.

3. What do you think are the obstacles to promoting the professionalization of hospital management personnel, and what are the existing problems?

First, the professionalization of hospital management personnel is fundamentally a personnel system issue, especially after de-bureaucratization. There needs to be corresponding personnel system policies in terms of the background, tenure, selection process, responsibilities, career development, incentive and restraint mechanisms for hospital directors and management personnel. Second, there is a mismatch between the hospital operation mechanism and the goals at the time of government appointment. Public hospitals in China should emphasize their public welfare nature, but the current operational mechanisms rely on the market. Third, there are unlimited responsibilities related to medical quality and safety, fire safety, environmental protection, and other regulatory tasks.

4. What suggestions do you have for promoting the professionalization of hospital management personnel?

The management level of hospitals is directly related to the quality of medical care, patient safety, and the hospital's operational status and development. With the further deepening of healthcare reform, the direction of hospital development has shifted from single-minded focus on technical quality and service competition to comprehensive brand competition. The professionalization and specialization of hospital management personnel are not only the inevitable requirement of deepening the reform of the medical and healthcare system but also a long-term task of public hospital reform and an important measure to enhance the quality of medical services. Suggestions include matching personnel systems, ensuring that the hospital operation mechanisms are suitable for hospital development, and establishing sound performance evaluation and incentive mechanisms.

5. How is the construction of modern hospital management system in your region / hospital? What measures have been taken, what achievements have been made, and what challenges are faced?

Hospitals should promote education on socialist core values to create a harmonious and cohesive hospital culture, where employees fully understand that regardless of whether it's "clinical" or "management", and whether it's "specialization" or "professionalization", everyone is just carrying out different roles and responsibilities. This understanding will align the

frontline clinical staff with the administrative departments of the party and government, working together towards common goals. The hospital should establish a comprehensive performance evaluation system that is specific to the hospital itself. This system should recognize the managerial capabilities of the personnel and their contributions to the hospital's development. It should provide more opportunities for management personnel to demonstrate their talents and attract outstanding individuals to management positions. Offering reasonable financial rewards to management personnel will allow them to work with a sense of dignity and security, enhancing their sense of ownership and belonging.

6. Does the government have a specialized system for the admission, training, assessment, and rewards and punishments of hospital management personnel?

Hospital management personnel, especially those in "double roles", should devote themselves wholeheartedly to their management work and focus their main energy on it. However, at the same time, management personnel should not neglect their professional research and development. They should properly balance the relationship between "specialization" and "professionalization" and use opportunities for professional development to strengthen their connection with frontline clinical work, deepen their understanding of frontline clinical operations, learn and study modern management knowledge, and continuously gain experience through daily practice to improve their management skills and decision-making abilities. It is necessary to strengthen the knowledge training of management personnel, attach importance to their continuing education, continuously enhance their professional qualities, and accelerate the growth process of their "specialization" and "professionalization".

7. Has the government established channels for the professional title and promotion of hospital management personnel?

To stabilize the hospital management workforce, it is necessary to utilize the reform of the medical system, allowing hospital management to have more flexible mechanisms and establish a scientific and reasonable incentive system. Currently, there is a promotion channel for professional titles and ranks for hospital management personnel.

8. Are there any associations or organizations established locally to provide exchange and learning platforms for hospital management personnel?

Yes, there are various professional organizations such as the Chinese Medical Association, Chinese Medical Doctor Association, Chinese Hospital Association, and Chinese Preventive Medicine Association, which provide communication and learning platforms for hospital management personnel.

9. Do you think it is necessary to streamline the staffing of hospitals? What are the reasons?

Currently, it is not necessary to remove the establishment of positions in hospitals from the bureaucratic system. The institutional construction is not yet guaranteed.

10. Has the marketization of hospital management personnel flow been achieved? If not, what are the obstacles?

The marketization of personnel mobility for hospital management personnel has not been fully realized. The main obstacles lie in personnel systems and hospital operation mechanisms.

Interview Results with Expert 16

1. What is your understanding of the professionalization of hospital management personnel?

The professionalization of hospital management personnel should involve specialized training in hospital management skills, acquiring relevant management skills and qualifications, and primarily engaging in management roles as specialized personnel who derive their main economic source from hospital management.

2. Do you think it is necessary to promote the professionalization of hospital management personnel at present? Why?

Medicine itself is a complex field with many unknowns, and hospital management is an extremely practical and complex discipline. Practice has proven that the current model of "medical expertise leading to administrative positions" has many shortcomings: most of these individuals have excellent professional achievements but lack systematic training in management roles before entering management positions. They also do not prioritize their role as managers and often maintain the mindset of disciplinary leaders. Moreover, they tend to have a prominent official-oriented thinking, prioritize power over responsibility, and are prone to issues related to corruption prevention, safety production, and other areas. With social progress, the deepening of the "three-linkage" reforms in medical treatment, pharmaceuticals, and medical insurance, the transformation of medical models, changes in disease patterns, and the acceleration of population aging, medical science and technology have developed rapidly, and the healthcare demands of the people continue to rise. The medical market environment has undergone significant changes, and competition among hospitals has intensified. To maintain an advantage in this competitive environment, new requirements are placed on hospital managers. The professionalization of hospital management personnel is a trend that cannot be ignored.

3. What do you think are the obstacles to promoting the professionalization of hospital management personnel, and what are the existing problems?

I believe that the main obstacle is the institutional issue. Hospital management personnel are still administrative leaders appointed through organizational assessment and promotion, making it difficult to promote marketization.

4. What suggestions do you have for promoting the professionalization of hospital management personnel?

In accordance with the requirements of the "Opinions on Strengthening the Party Building Work in Public Hospitals" and the "Interim Measures for the Management of Leaders in Public Hospitals", establish a modern hospital professional management system, strengthen the

professional training of hospital management personnel, and promote the professionalization of hospital management personnel to meet the requirements of modern hospital development.

5. How is the construction of modern hospital management system in your region / hospital? What measures have been taken, what achievements have been made, and what challenges are faced?

With the promulgation of the "Interim Measures for the Management of Leaders in Public Hospitals", there has been a significant progress in the construction of the modern hospital management system. The health administrative authorities attach great importance to related work and organize relevant personnel to participate in specialized training on modern hospital management. However, due to institutional constraints and traditional mindsets, the construction of the modern hospital management system has encountered difficulties and achieved minimal results.

6. Does the government have a specialized system for the admission, training, assessment, and rewards and punishments of hospital management personnel?

Currently, hospital management personnel only have preliminary knowledge of hospital management. Many management skills and abilities need to be experienced and accumulated in daily work. Therefore, continuing education is crucial in hospital management. However, there is still a lack of government-level systems and norms for the admission, training, assessment, rewards, and punishments of hospital management personnel in the administrative area.

7. Has the government established channels for the professional title and promotion of hospital management personnel?

There is currently no professional title and promotion channel for hospital management personnel established by the government in the jurisdiction.

8. Are there any associations or organizations established locally to provide exchange and learning platforms for hospital management personnel?

Various medical professional organizations and associations have set up multiple communication and learning platforms to provide training, exchange, and learning opportunities for hospital management personnel.

9. Do you think it is necessary to streamline the staffing of hospitals? What are the reasons?

I haven't considered the issue of de-bureaucratization in hospitals. However, as time goes on and society develops, various reforms will continue to deepen, and there will always be supporting measures for these reforms. I am not worried about the promotion of de-bureaucratization policies in hospitals.

10. Has the marketization of hospital management personnel flow been achieved? If not, what are the obstacles?

The marketization of hospital management personnel mobility has not been standardized yet. In public hospitals, leadership positions are still administrative in nature and cannot be fully marketized. Some of the management personnel in private medical institutions are retired leaders from public medical institutions. There are still not many cases of true market-oriented two-way choices.

Interview Results with Expert 17

1. What is your understanding of the professionalization of hospital management personnel?

Management personnel are an important part of the talent pool in hospitals and play a crucial role in hospital operations. The professionalization of hospital management personnel refers to the cultivation of professional qualities among hospital administrators, including party building, policy and regulation understanding, strategic planning, discipline development, medical humanities, as well as the management of human, financial, material, and information resources. This enables them to take a comprehensive and coordinated approach to utilize various resources and promote the high-quality development of the hospital.

2. Do you think it is necessary to promote the professionalization of hospital management personnel at present? Why?

Yes, it is necessary. The level of hospital management directly affects the quality of medical care and patient safety, as well as the operational and developmental status of the hospital. Professionalizing management personnel can better adapt to the development needs of hospitals in the new era, cope with the demands of complex social competition, and place more emphasis on the long-term development of the hospital.

3. What do you think are the obstacles to promoting the professionalization of hospital management personnel, and what are the existing problems?

(1) Insufficient specialization of management personnel. In reality, most hospital management personnel come from technical positions.

(2) Unsatisfactory level of professionalization among management personnel. Hospital management is complex, and talent requirements involve systematic medical knowledge training and management training. However, the number of professionals with this combination of skills is far from sufficient.

4. What suggestions do you have for promoting the professionalization of hospital management personnel?

(1) Implement strict admission criteria for the selection of hospital management personnel.

(2) Consider seconding reserve cadres of hospital management personnel to higher-level health administration departments for six months to one year to broaden their horizons and enhance their management capabilities.

(3) Foster the concept of professionalization in management.

(4) Optimize the training mechanism for the professionalization of management personnel, provide comprehensive and systematic training, promote the professionalization process of management personnel, and enhance their practical management skills, thus providing reliable

talent support for improving the level of hospital management.

(5) Emphasize the cooperation between hospital management personnel and clinical medical staff to promote a balance between specialization and professionalization, ensuring effective management.

5. How is the construction of modern hospital management system in your region / hospital? What measures have been taken, what achievements have been made, and what challenges are faced?

(1) The construction of the hospital management system includes three levels: macro, meso, and micro.

(2) Internal measures and achievements of the hospital management system: Promoting and continuously optimizing performance reforms, implementing management of traditional Chinese medicine specialties, and improving incentive mechanisms. Implementing fixed positions and staffing.

(3) Challenges faced: When national policies and regulations, external environments, or internal strategies or work methods undergo changes, there is a lack of timely unification and streamlining of systems that do not conform to objective realities.

6. Does the government have a specialized system for the admission, training, assessment, and rewards and punishments of hospital management personnel?

Yes, there are specialized systems at the government level.

7. Has the government established channels for the professional title and promotion of hospital management personnel?

Yes, the government provides career titles and promotion channels for hospital management personnel.

8. Are there any associations or organizations established locally to provide exchange and learning platforms for hospital management personnel?

Yes, there are professional associations or organizations established locally to provide communication and learning platforms for hospital management personnel.

9. Do you think it is necessary to streamline the staffing of hospitals? What are the reasons?

I believe it is possible to downplay the significance of bureaucratic positions. Hospitals can consider the actual situation and, based on maintaining a stable workforce and stimulating team motivation, de-emphasize the bureaucratic positions within the hospital. The hospital can implement unified personnel policies internally, gradually achieving equal pay for equal work in terms of job selection, professional promotion, and performance distribution for non-bureaucratic staff compared to internal staff.

10. Has the marketization of hospital management personnel flow been achieved? If not, what are the obstacles?

No, it has not been achieved.