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## A STUDY OF TALENT INCENTIVES IN PUBLIC HOSPITALS BASED ON DEPOSITED CONTRIBUTIONS IN SHANGHAI

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### Abstract

*The medical problem is a major national economic and people's livelihood issue that affects the happiness and health of thousands of families. The uneven distribution of medical resources, the lagging of public, rural and community medical facilities and services, the rising cost of medicines, the difficulty and high cost of medical services, and many other problems have not only seriously affected the harmony of the society and the healthy and orderly development of the economy, but also made the medical reform a hot spot of social concern. As the core capital of public hospitals, high-level medical talents have strong innovation ability and team spirit. They transform their innovation ability into production factors, thus improving the medical service level of the hospital, and finally enhance the comprehensive competitiveness of the hospital. How to establish a reasonable incentive mechanism, establish an effective compensation system and performance appraisal system, effectively motivate high-level medical talents, is the first problem of hospital long-term sustainable development, is a new requirement for the survival and development of hospitals in the era of knowledge economy, and is also an important way for hospitals to improve their medical services and competitiveness. The purpose of the design of the incentive mechanism is to make the hospital competitive in the same industry and attract qualified employees. Secondly, to achieve stability within the organization, retain the necessary staff. Furthermore, the existing employees of the hospital are motivated to achieve high work performance, and the work goals of the employees are unified with the strategic goals of the hospital. And put forward the specific goal of incentive mechanism design. This article reviews the literature on incentives. Based on a large number of literature studies and the management practice of H hospital, the hypothesis and research model between the deposited contribution and job involvement related to the motivation of high-level talents in H hospital were determined. The feasibility of the above hypothesis is discussed by means of sampling survey, based on the questionnaire survey data and statistical analysis results, supported by deposited contribution.*

**Keywords:** Public hospital, Incentive mechanism, High-level talents, Deposited contribution, Job involvement

## INTRODUCTION

### Research Background

The medical problem is a major national economic and people's livelihood issue that affects the happiness and health of thousands of families. The uneven distribution of medical resources, the lagging of public, rural and community medical facilities and services, the increasing cost of medicine, the difficulty of seeing a doctor, and the high cost of seeing a doctor, etc. Reform has become a hotspot generally concerned by society. In recent years, the "Hotspots of the two sessions" show that "medical reform" has always been at the forefront of hot issues (Gao Yanting, Wang Qian, Cao Ying, 2011; Franco LM, Bennett S, Kanfer R, 2012; Franco LM, Bennett S, Kanfer, 2012; Li Hong, Yin Guiying, 2012; Zhao Hongyan, 2012; Li Lebo, Li Sa, Wu Qiang, 2013; Barber SL, Borowitz M, Bekedam H, 2014; Dussault G, 2015; Zhao Ming, 2016; Li Yi, 2016; Tong Ye, 2017; Zhang Qiang, 2017; Hu Anliu, 2018).

As a carrier of medical reform, the hospital has always occupied an extremely important position. The "Opinions on Deepening the Reform of the Medical and Hygiene System" promulgated by the CPC Central Committee and the State Council in 2009 marked the advent of a new round of medical and health system reform in China. The new medical reform emphasizes that public hospitals should return to their nature of public welfare and build a medical and health service system that satisfies patients and medical staff. The requirements for the new medical reform are aimed at highlighting the public welfare of public hospitals at all levels and paying attention to and challenges for improving the motivation of medical staff (Li Qunfang, 2011; Wang Hong, Zhu Binhai, Shen Lizong, et al., 2012; Zhu Haidi, 2013; Zu Yahui, 2013; Shi Xiaolei, 2014; Gong Xiaohua, 2014; He Jie, 2014; He A, 2014; Gao Xiaojun, 2015; Wang Chengli, Zhang Jian, 2015; Zhao Ping, 2015; Xia Mian, Pei Likun, 2016; Wang Hongbin, 2016; Li Wei, Song Liye, Zhang Wei, 2017; Wang Fang, 2018; Li Jianjun, Lei Zhiqin, Miao Yudong, 2018).

In public hospitals, the important role of medical staff as the decision maker and leader of medical services should not be neglected. The motivation of medical staff can also directly affect the operation of public hospitals and the overall development of China's medical industry. The global new coronavirus that broke out in early 2020 once again highlights the society's urgent need for professional medical personnel. The hospital is a typical knowledge-based organization. In terms of the laws of medical knowledge, basic medical theories and laws of disease occurrence and changes are discovered and summarized by health researchers, and hospitals are also operated by people. Therefore, talent is the most basic resource of the hospital. In the

entire process of human resource management in the hospital, the recruitment, retention, cultivation and continuing education of talents at all levels is a long process; The cultivation of talents, the expansion of the talent team and the maintenance of the stability of the hospital talent team determine the future level of hospital medical technology and hospital operation ability (Li Jianhua, Liang Songgen, 2005; Li Rida, Chen Benqi, 2009; Zhang Yong, Sun Jihong, Li Xiaohong, Zhai Xiaohui, Yang Ting, Ma Hong, et al., 2010; Wang Hong, Zhu Binhai, Shen Lizong et al., 2012; Zhang Hua, Wang Chen, Wang Zhong, et al., 2015; Huang Ruxin, 2015; Chen Lanfeng, Kuang Zhanghua, 2016; Zhao Guanghui, 2016; Sun Chunling, 2017; Li Zhen, 2018; Yang Shuangneng, 2018).

For a long time, the health service in China has been a social welfare service that the government implements certain welfare policies. However, with the profound transformation of China's economy and society and the gradual transformation of the medical and health system, the internal and external environment of medical and health work has undergone major changes. Various institutional, structural, and system contradictions have become prominent. In the specific operation, due to the government's vague nature of medical service institutions, the property rights of public hospitals are not clear, the government's competent departments are not accurate, and there is a sharp contradiction between the government's macroscopic determination on the nature of medical institutions and its microscopic requirements.

After the access of WTO, the external environment of China's public hospitals is changing at an unprecedented rate. The ownership form and management mechanism of China's medical service system are diversified. "Foreign hospitals" have injected a lot of money into the Chinese medical market and also brought first-class business management mechanisms; the competition in the medical service market is becoming more and more fair. Through competition and collaboration, hospitals of different ownership and types will gradually identify and adjust the target population and service functions. The current management and operation systems of public hospitals have been impacted, and the role of market mechanism in allocating health resources has become increasingly obvious: With public hospitals as the main body, the co-existence of multiple ownership and operation modes, such as private hospitals and sino-foreign joint venture and cooperative hospitals, further expands the competition in the health service market to the competition in the health resource market. The competition of high-level hospitals for talents will become increasingly fierce, and many hospitals are facing the crisis of diminishing competitiveness due to the loss of core human capital. This shows that the focus of hospital competition has shifted from "product and service competition" to "talent competition." In order to survive and develop, domestic hospitals must compete with foreign hospitals in management.

Hospitals are in a special internal and external environment. With the reform of China's medical and health institutions and the improvement of national health awareness, various types of hospitals are facing new opportunities and challenges. In the past, hospitals were often state-owned. The management of the hospital was

directly appointed by the superior leadership. The survival of the hospital was mainly controlled by the government rather than the market. After the restructuring, the hospital will soon become a hospital in the true sense. Everything in the hospital will be subject to market regulation, and it will be changed from simply managing the hospital to operating the hospital. That is to say, the management mode and business philosophy of the hospital must be adapted to the market regulation, and the operating efficiency is the most important factor that determines the vitality of the hospital (West MA, Guthrie JP, Dawson JF, Borrill CS, Carter, 2006; Zhao Guoxiang, Yang Weifeng, 2012; Huang Xiaoning, 2013; Stilwell B, Diallo K, Zurn P, Vujicic M, Adams O, Poz MD, 2014; Cooke & Bartram, 2015; Zhou Xianhai, 2015; Tian Weichuan, 2015; Li Junzuo, 2015; Wang Xin, 2016; He Changdi. Cao Caiping, 2016; Wang Guochang, Zhang Yujun, Zhang Jiankang, 2016; Xu Xia, Zheng Hui, 2016; Zhang Hua, Zhang Jingbo, Wang Zhong, 2017; Zhang De, 2017).

### **Problem Statement**

The core problem of the reform of public hospitals is the issue of "people". The reform of the incentive mechanism for medical staff in public hospitals has gradually become one of the key issues in medical reform. The progress and success of its reform are directly related to the development of the core components of public hospitals and the progress of the medical industry.

At present, the incentive mechanism has played an important role in the human resource management of hospitals in China. It not only arouses the enthusiasm of the staff, but also promotes the hospital's medical service ability to improve faster and occupies a commanding position in the fierce market competition. However, there are still many problems in the incentive mechanism of human resource management in hospitals in China. How to effectively solve these problems is the key issue facing hospitals.

### **Weak incentives in the salary distribution system**

At present, the salary distribution of hospital employees is composed of wages, bonuses, post allowances and overtime pay. There are job allowances and communication allowances for middle-level employees and above. Nursing staff have age allowances. Among them, bonuses account for the highest proportion. Salary standard is decided uniformly by local finance, human resources department according to national policy. The salary of management and logistics personnel is determined according to the individual's administrative position and rank. Doctors, medical technician and nurses are paid according to their professional titles. Employees of the same title or rank are subject to the same salary standard, and there will be a small and slow increase with the extension of working years. The promotion time of hospital staff's post salary and wage levels is long and the standard is low.

## **Research questions**

For the study of human resource management and development, the discipline of human resource management has flourished in China with the introduction and localization of Western human resource management theory in domestic academia in the 1990s. With the further deepening and broadening of the research of human resources management discipline, early domestic research paid more attention to the functions of human resources management, especially for human resources management issues in hospitals. The focus of attention was mainly on human resources Planning, recruitment, training development, performance evaluation, salary management, labor relationship management, employee mobility, team building, hospital culture building, etc. Hospital human resource management in the industry has also attracted the attention of scholars. At present, there are very rich studies in production hospitals, service hospitals, mobile communication industry, telecommunications industry, post and telecommunications industry, power industry, and textile industry. However, the issue of human resource management in the medical field, which is an important part of human resources in society, has been a blind spot. One of the more important reasons is that most hygiene institutions are institutions, and human resource management in institutions is different from that in hospitals. As a result, researchers who study human resource management issues in hospitals tend to pay little attention to human resource management issues in hygiene institutions, which in turn lack the corresponding expertise to complete research on this population. The author retrieved research related to hospital human resource management and found that most of them were from medical schools, hospital administrators and hospital professionals, while researchers from other channels accounted for only a small proportion. This also illustrates, in one way or another, the lack of attention paid to human resource management issues in hospitals. Society should advocate for more professional researchers to focus on this area of research.

The current situation is that the development of the hygiene system is still relatively backward. On the one hand, it is the result of insufficient state investment in the hygiene system; on the other hand, it is the result of insufficient numbers and lack of talent in higher medical disciplines. In order to change the current status quo, in addition to increasing national investment (currently the government has attached great importance to its investment), it is very important to build a high-quality medical talent team. The key to building a team of high-quality medical talents lies in the building of a team of high-level medical professionals. Therefore, how to build a team of high-level medical personnel has become an important research topic.

For various medical institutions, their development will be directly controlled by the high-level talents they own. According to the theory of the hospital resource, human resources are the main source of hospital competitiveness. Similarly, for various medical institutions, high-level medical talents will be the key to their continued competitiveness and competitive advantage. Therefore, for medical institutions, how

to attract and acquire high-level medical talents, how to retain high-level medical talents, and how to reasonably develop and use high-level medical talents will be important research topics that they must consider for a long time. At this stage, some medical managers have conducted preliminary research on the cultivation and incentive mechanism of high-level medical talents, but research on the cultivation and incentive mechanism of high-level medical talents from multiple dimensions of education, competition, incentives, and evaluation mechanisms is still rare.

The scope of this study was the first-class hospitals at Grade 3 in Shanghai. Taking into account the diversity of hospitals and the complexity of the composition of medical and nursing staff, the high-level talents of one of the first-class hospitals at Grade 3, Hospital H, were selected as the target of the study to reasonably describe the characteristics and work attributes of the high-level talents of the first-class hospitals at Grade 3 in Shanghai. To study the role pathways and theoretical models of intrinsic motivations and to clarify the relationship and influencing factors between deposited contributions, intrinsic motivations and job involvement.

Therefore, the core issues of this study include four items:

- (1) What is the basic situation and working attributes of high-level talents in the first-class hospitals at Grade 3 in Shanghai?
- (2) How to define the meaning and composition of deposited contribution?

### **Research objectives**

The purpose of the design of the incentive mechanism is to make the hospital competitive in the same industry and attract qualified employees. Secondly, to achieve stability within the organization, retain the necessary staff. Furthermore, the existing employees of the hospital are motivated to achieve high work performance, and the work goals of the employees are unified with the strategic goals of the hospital. The ultimate goal is to use the scientific salary management system and management process to fully encourage employees to exert their potential capabilities, promote the development of the hospital, and create greater value for the hospital. The following objectives were followed in the design of the talent incentive system for Hospitals:

There is a tendency to compare across departments and employees in hospitals, they tend to compare their own giving and returns to others or to their own past levels, and they expect the goal of fairness, which is to expect the same level of return for the same amount of giving. The fairness objective of the H hospital management incentive mechanism includes both horizontal and vertical requirements: firstly, the incentives for participants in different departments and different sections should be fair; Furthermore, for participants in the same department and sections, the incentive level of the project in different periods and projects is fair. For the various tasks and

activities in the operation process, the marginal benefits should be the same as much as possible, otherwise the personnel of various departments and sections will have a certain tendency for the work that they can independently carry out, which will adversely affect the overall operation of the hospital.

The economic goal is the primary requirement of H hospital cost management, and this goal should also be followed when optimizing the management incentive mechanism of H hospital. In short, the economic goal is to reduce the cost of incentives as much as possible to reduce the overall cost under certain conditions such as quality, cost, and incentive effects. Incentives inevitably cost resources or money, which is closely linked to the cost of human resources in the organization. This requires reasonable incentives that do not increase hospital costs too much and that do not affect the hospital's financial chain and benefit situation. When there are multiple incentives that all produce the same effect, the lower-cost incentive should be preferred; the appropriate use of spiritual-level incentives to reduce costs should also be considered when performing mechanism construction.

The legitimacy goal of the management incentive mechanism of public first-class hospitals at Grade 3 is that the continuous system construction meets the legal conditions, and the legitimacy goal also needs to be met in the incentive operation.

A single incentive in the form of monetization or a single non-monetary incentive cannot achieve a good long-term effective management incentive effect. The optimization of H hospital management incentive mechanism should be based on the use of a variety of incentive methods and build a complete target management incentive system to ensure that the incentives are scientific and effective in long-term operation and can have a positive and significant effect on the operating results. The scientific nature of multiple incentives can be derived from the two-factor theory and the hierarchy of needs theory. These theories believe that human needs have spiritual needs in addition to survival factors. Based on this, material and spiritual incentives should be combined for motivation. Based on the actual situation of the H hospital, the effective material incentives that can be considered are: salary incentives, target incentives, innovation incentives and emotional incentives. Incentive systems that work together in multiple ways can constrain and influence each other and have a positive impact on operations.

The overall goal of this study is to study the intrinsic motivation mechanism of high-level talents in public first-class hospitals at Grade 3 in Shanghai. Explore its influencing factors and mechanisms to provide suggestions and theoretical support for stabilizing the hospital's talent team, fully adjusting the enthusiasm of high-level talents, and improving the overall operating efficiency of the hospital.

The specific objectives are as follows:

(1) Describe the basic situation and professional development of high-level talent teams in the first-class hospitals at Grade 3 in Shanghai;

(2) Analyze the influencing factors of intrinsic motivation and job involvement of high-level talents in the first-class hospitals at Grade 3 in Shanghai.

## **LITERATURE REVIEW**

### **Job involvement**

In 1965, the concept of job involvement was first proposed. Lodahl and others believed that job involvement has two levels of meaning. One is the employees' psychological awareness of the importance of the work they are engaged in; The second is the degree to which the employee's work performance appraisal results affect his self-esteem. In 1973, Siegel et al. defined job involvement as the importance of work itself to the self-esteem and values of employees. In 1976 Saleh et al. divided job involvement into four dimensions: one is the employee's personal interest in work; the other is the employee's participation in work; the third is performance as the center of employee self-esteem; the fourth is the generation of self-efficacy. In 1980, Gorn et al. thought that job involvement is the importance of work for employees. In 1982, Kanungo believed that job involvement is the psychological identification of individual employees, and the satisfaction of the work content with the needs of employees will affect the level of job involvement. From a social exchange theory perspective, employees would consider developmental feedback from leaders, such as information that is beneficial for their personal development, to be an important exchange resource. When this kind of exchange relationship is solidified, employees will make their own return independently. At this time, high job involvement will produce high work performance and stabilize the talent team. In 1994, Paullay et al. believed that job involvement is the degree to which an individual employee perceives the level of performance to be important to his or her self-worth. Regardless of whether the job involvement is a single-dimensional variable or a multi-dimensional variable, its correlation with other variables is essentially unchanged.

### **Deposited contribution**

Professor Ye Caifu put forward the concept of "deposited contribution" in the article "Optimization of Talent Incentive System Based on Deposited Contribution". Deposited contribution is the cumulative effect of a person's contribution at work over a period of time (usually one year) or over a considerable period of time (several years) on wealth appreciation and future development of organization, as a precipitation. Deposited contributions are actually the cumulative statistics of the various contributions made by individuals during their time in the organization, which is a kind of unification of merit evaluation and merit accumulation, the size of the deposited contributions also depends on the time deposited factors.

The size of the deposited contribution determines how much rewards are allocated, which not only has the concept of a reasonable return, but also differs from the hospital's investment income. The commitments and expectations that organizations need from individuals are often implicit, informal, non-public and subjective. In the physician's subjective beliefs, there is a set of expectations about what the organization should be responsible for, what it should do, what treatment it should provide, etc. If the organization matches what the employee expects, and the employee thus feels fulfilled by the spiritual contract, he or she is likely to show more organizational commitment, be motivated to work, be willing to take on extra work, praise the organization externally, etc. Of course, this kind of psychological contract changes with the internal personal desires and the external social and economic environment changes, so it needs to be constantly revised, changed and supplemented. How to maintain the timeliness of the psychological contract is an issue that the organization should pay attention to, and effective measures must be taken based on the evaluation and accumulation of accumulated merits.

Since deposited contribution is a compound concept, it contains two levels of contribution evaluation and contribution accumulation. This study splits the deposited contribution into two variables: contribution evaluation variable and contribution accumulation variable. Among them, the contribution evaluation is essentially the performance evaluation of the organization. In this study, the "performance appraisal orientation" will be used to replace the contribution evaluation; the contribution accumulation is still expressed by the variable itself.

### **Performance appraisal orientation**

Performance Appraisal is an evaluation system. In management, it refers to the systematic evaluation of employees' work abilities and performance through scientific methods. It is a process of gathering information, index analysis, result evaluation and feedback. The participants are mainly supervisors and employees themselves. Performance appraisal orientation refers to employees' feelings about the purpose of the performance appraisal system. The difference between this concept and the traditional performance appraisal process is that managers should realize that the performance appraisal goals should not only focus on the design of the pay system.

In 1960, McGregor first divided the objectives of performance appraisal into three levels:

First, the results of performance appraisal are used in salary, promotion, etc .; second, let employees realize their own advantages and disadvantages; third, motivate employees. In 1965, Meyer and others believed that the design of the performance appraisal system was mainly based on two considerations: one was based on salary, that is, the salary level, task assignment, evaluation decision and rank promotion were determined by the performance appraisal score.

The second is based on incentives. It is used to discover the strengths and weaknesses of employees, help them improve their performance, and better achieve career development. It is an assessment purpose based on incentives and trust. In 1983, Huber developed it into three dimensions based on the dual theory of the purpose of performance appraisal: first, the purpose of performance appraisal is personnel decision-making; second, the performance appraisal results are used to promote employee development; third, the performance appraisal results are used for employee protection and to solve the communication barriers between subordinates.

## **Research methods**

### **Study Design**

The study will collect the basic situation and career development factors of senior-level talents in H hospital, one of the public first-class hospitals at Grade 3 in Shanghai through a sample survey, and analyze the mechanism and relationship between deposited contribution (including performance appraisal orientation and contribution accumulation), intrinsic motivation and job involvement through SPSS statistics and structural equations, and explore its influence factors and mechanisms.

### **Introduction to H Hospital**

H hospital was founded in 1921 and renamed H hospital in 1951. It is a first-class general public hospital at Grade 3 with geriatrics as its feature, integrating medical treatment, teaching, scientific research and prevention, based in Shanghai and facing the domestic and foreign countries. The hospital has four main medical buildings in the east, south, west and north, as well as more than a dozen supporting buildings, with 1,300 open beds, 43 clinical medical departments and more than 2,000 employees, including 318 full and associate professors (full and associate chief physicians); has advanced medical equipment, with a large number of high-grade, precision and advanced diagnostic and treatment equipment such as the world's latest technology digital operating room, da Vinci robot, dual-source photon CT, high-definition low-radiation volume gemstone CT, PET-CT, magnetic navigation angiography X-ray machine, SPECT, 3.0TMR, four-dimensional linear accelerator. Since undertaking the teaching mission of Fudan University Shanghai Medical College in 1989, it has trained more than 3,000 qualified undergraduate and graduate students for the country.

The hospital has strict medical style and solid medical ethics, and implements the strategy of "building hospitals with quality, establishing hospitals with services, revitalizing hospitals with science and education, and strengthening hospitals with talents". After more than sixty years of practical accumulation, in the basic and clinical research, a series of major scientific and technological achievements that have

attracted attention at home and abroad have been achieved; It has accumulated rich experience in the diagnosis, treatment and rescue of cardiovascular, respiratory, digestive, urinary, osteoporosis, multiple organ failure and tumor diseases of the elderly; It has also made remarkable achievements in the fields of biliary and pancreatic surgery, hernia and abdominal wall surgery, gastrointestinal endoscopy, special needs medicine, dentistry and nutrition. Since the establishment of the hospital, while performing the public welfare functions of the first-class hospitals at Grade 3, it has made outstanding contributions to protecting the health of well-known people, democrats, scientists, and artists from all walks of life. It has successfully treated a large number of elderly and critical old comrades, which is fully affirmed by the central leader and the main leaders of Shanghai. In addition to medical care, H Hospital provides more than 1.8 million outpatient emergency medical services and more than 30,000 inpatient medical services to patients in Shanghai and across the country every year.

According to the data of the hospital personnel department, as of May 2019, the total number of employees in H hospital is 603, including 442 within the staffing establishment and 161 beyond the staffing establishment. The composition of personnel within and beyond the staffing establishment varies greatly. The personnel within the staffing establishment are mainly composed of medical personnel, management personnel and other personnel, while the personnel beyond the staffing establishment are mainly composed of nursing personnel, financial personnel and logistics, etc.

### **Criteria for defining high-level talents**

According to the definition of medical high-level talents, combined with interviews, this study formulated the high-level talents definition criteria shown in Table 3.1:

Table 0-1 Criteria for defining high-level medical personnel

Indicators	Specific requirements
Soft Power Standard	1 Good ideological and political qualities.
	2 Good academic ethics in research.
	3 Strong organizational management skills: ability to unite members of the full disciplinary echelon.
	4 Familiarity with cutting-edge development areas and development trends within specialized disciplines.
	5 Ability to think creatively and creatively.
Specific selection criteria	1 Intermediate technical title and above.
	2 In principle, a master's degree should be obtained.
	3 The age range is in principle between 30 and 45 years, subject to appropriate relaxation.
	4 Has presided over scientific research projects at the municipal, ministerial, departmental and bureau levels and above.
	5 Has undertaken school- and academy-level talent training programmes.
	6 Medical technicians whose medical technology is at or above the advanced level in the city.
	7 Published two or more SCI papers as first or correspondence author in the last three years.
	8 Cumulative impact factor of five or more points for SCI papers published as first or correspondent authors in the last three years.
	9 Other particularly outstanding academic cadres and young talents.

### H hospital high-level talent sampling design

In this study, the stratified sampling method was used to carry out doctor motivation and work cognition surveys in the H hospital. According to the sample calculation formula, 330 people needed for the study were calculated. The doctors in the H hospital were stratified by proportional sampling.

In the specific sampling process, the departments of internal medicine, surgery, gynecology, pediatrics, and other departments of the H hospital were selected, and the number of doctors was determined according to the proportion of high-level doctors in each department to the total number of hospital doctors.

In this study, doctors from the department of internal medicine, surgery, gynecology, pediatrics and other departments in the H Hospital were selected according to the proportions of 40%, 35%, 15%, 5% and 5%.

## **Analysis**

### **Basic information of high-level talents in the H hospital**

In this study, 330 questionnaires were distributed, and 292 effective questionnaires were recovered, with a recovery rate of 88.5%, which met the analysis requirements. In this study, SPSS 25.0 was used to conduct descriptive statistical analysis of demographic characteristics and work attributes of the samples.

The results show that the high-level talents of H hospital are mainly concentrated in the middle-aged and young people, with high educational background, high expected income and great emphasis on training and career development opportunities, as shown in table 4.1.

### **Table 0-1 Description statistics of high-level talents in H hospitals**

Variable	Initial assignment	Frequency
Gender	" Male" = 1	157
	" Female" = 2	135
Age	"29 to 35 years old " = 1	93
	"35 to 40 years old " = 2	89
	"40 to 45 years old " = 3	77
	"45 to 50 years old " = 4	33
Income	"<5000 yuan " = 1	12
	"5000 to 7000 yuan " = 2	43
	"7000 to 9000 yuan " = 3	65
	"9000 to 10,000 yuan " = 4	39
	" > 10,000 yuan " = 5	133
Expected	"< 10000 yuan " = 1	25
income	"10,000 to 15,000 yuan " = 2	59
	"15000 to 20000 yuan " = 3	65
	"20000 to 25000 yuan " = 4	67
	"25000 to 30,000 yuan " = 5	42
	"> 30,000 yuan" = 6	34
		" Bachelor's Degree " = 1
" Master's degree, = 2		127

In terms of age distribution, doctors aged 30-45 are the main group in Hospital H, in the golden period of career development and personal development; the highest level of education is mainly master's degree and doctoral degree, and the overall level of

education is higher; professional and technical positions are mainly intermediate and higher titles.

From the current income and expected income, the difference between the target income and expected income of H Hospital's high-level talent is large, only 38.35% of high-level talent is satisfied or very satisfied with the current salary level, 61.64% of high-level talent is dissatisfied or very dissatisfied with the current income level, indicating that H Hospital's high-level talent has higher expectations and requirements for salary. 54.8 per cent have worked in their profession for less than 10 years, and 59.4 per cent have worked in their units for less than 10 years.

### **Effect of performance appraisal orientation on intrinsic motivation and job involvement**

The method of salary incentive is an important incentive measure in the theory of external incentive. The results of this study showed that the salary satisfaction of high-level talents in municipal public hospitals had a significant impact on job involvement, and the post-variance analysis showed that the higher the salary satisfaction, the higher the job involvement level. However, 61.64% of high-level talents are dissatisfied with the current income level. On the one hand, high-level talents may have high expectations for their future development. They believe that the improvement of medical ability and business ability brought to the hospital in the future is not fully reflected in the salary, so there is a sense of unevenness. On the other hand, the dissatisfaction also stems from the fact that the overall salary level of medical staff is low, and the medical income cannot reflect the personal medical ability and value.

Among the high-level talents of H hospital, the salary incentive method is still an unsatisfied hygiene factor for the hospital at present. For higher-level talent, increasing their compensation packages can still raise the level of job involvement at that level, resulting in higher performance outcomes.

At present, the salary system of medical personnel in public hospitals is a public institution salary system with grading and post determination. The salary income is related to the professional title, and the other part of bonus income comes from the hospital's performance appraisal of medical personnel.

The path analysis of this study shows that evaluation-based performance appraisal does not have a direct effect on the level of job involvement of high-level talents in public hospitals, but affects the level of job involvement through the mediating effect of intrinsic motivation, and the total effect of evaluation-based performance and developmental performance on job involvement is only 0.090, proving that the performance appraisal method has a very limited effect on the level of job involvement of talents at this level. On the one hand, the hospital itself may not fully understand the purpose and meaning behind the performance appraisal when implementing the type of performance appraisal, moreover, when the performance

appraisal does not reflect a high proportion of performance wages to total income, the performance appraisal system simply will not play its due incentive role, especially when the level of wage satisfaction is low, no matter how perfect the performance appraisal system is, high level talents will not have a corresponding sense of self-esteem at work. On the other hand, the performance appraisal system comes from organizations such as hospital management and business administration that pursue the goal of performance. Public hospitals are characterized by public welfare, and the way of performance appraisal may focus more on the assessment of doctors' professional level, patient satisfaction and other indicators, rather than the pursuit of high income. Therefore, there may exist the phenomenon of "performance appraisal" being unaccustomed to the climate of a new place in public hospitals, which reflects the practical problems that the current scientific management system has not been able to take root in the field of hospital management. There is no professional performance management team or system suitable for public hospitals to evaluate performance.

In Sobel's test, the results show that evaluative-based performance appraisal "dilutes" the direct effect of overall performance appraisal orientation on job involvement, and intrinsic motivation may still have some mediating effect on job involvement of high-level talent developmental performance appraisal. This result is inconsistent with the relevant studies on hospital employees. Hu bei et al. verified the negative predictive effect of evaluative-based performance appraisal on intrinsic motivation and job involvement. The positive predictive effect of developmental performance appraisal orientation on intrinsic motivation and job involvement. This may be due to the fact that this study targets knowledge-based organizations with highly educated talents, whose understanding of performance appraisal may be somewhat biased; at the same time, this study speculates that public hospitals are public welfare organizations, which inevitably emphasize less on the pursuit of "Performance and KPI", so the relevant appraisal-based management style does not play a role in the high-level talents. This suggests that the way of performance appraisal in public hospitals should focus on the purpose of developmental performance appraisal and pay more attention to the evaluation of high-level talents' future development potential, business progress ability and innovation ability.

Therefore, this study believes that although the performance appraisal orientation plays a certain role on intrinsic motivation, the total effect of job involvement as the outcome variable is small, and the performance appraisal system still has great room for improvement in hospital management. Therefore, in the process of implementing performance management, how the medical staff can fully understand the purpose and meaning of the performance appraisal of their hospital, how the medical business income can be reflected in their salary income, and how the purpose of the performance appraisal can focus on the future development of medical ability rather than the repetitive appraisal of past work, etc. are the problems we need to solve. Otherwise, managing only around performance appraisals, without research in

conjunction with the people being managed, will not ultimately produce good motivational results.

### **Effect of contribution accumulation on intrinsic motivation and job involvement**

In this study, the mediating effect of contribution accumulation on job involvement and intrinsic motivation was verified. This is consistent with relevant research conclusions. Knee et al. showed that contribution accumulation promoted communication and cooperation among employees, and promoted employees to be more deeply involved in work, which stimulated higher productivity. The research of Guay, Boggiano and Vallerand shows that contribution accumulation is conducive to the improvement of self-assessment of individuals, thus improving the intrinsic motivation of individuals. When autonomy is destroyed, the level of intrinsic motivation of employees decreases, especially in tasks that require creativity and flexibility. This further confirms the importance of contribution accumulation in knowledge-based organizations such as hospitals. This shows that contribution accumulation is a very important antecedent variable in the intrinsic motivation mechanism of high-level talent team. For this kind of young and middle-aged backbone talents, the need of contribution accumulation is very urgent. It can be surmised that obtaining the title of high level talent awarded by the hospital is an important internal motivating factor for itself - leadership recognition, and the accumulation of high contribution means a broader "stage", giving them the power to self-determine the content of work and work tasks. Therefore, in hospital management, hospital leaders should delegate power and believe that such talents can play an active role in hospital medical activities. Although the management of public hospitals has gradually stepped into the era of scientific management, there are still many systemic problems in the administrative management team, such as the lack of administrative management team, the lack of systematic management theory training, the large amount of routine work in daily work, and the lack of research and analysis on the hospital itself. It is difficult for decision-makers to combine science and art and there is a large gap with advanced hospital management and hospital management at home and abroad, with varying degrees of high centralization, high power distance and lack of management dynamism. Therefore, naturally, leaders are not willing to delegate power to medical staff, high-level talents lack a sense of control over their own work, and there is a lot of room for improvement in intrinsic motivation level and job involvement level. From the perspective of hospital departments, high-level talents with high contribution accumulation level may come from the decentralization of hospital leaders on the one hand, and the "loose" construction of department teams on the other hand. In the management of the hospital department, the department director is also responsible for the cultivation and development of high-level talents in the department. High-level talents are both the reserve talent pool of the hospital and the reserve talent pool of departments. Their personal development also determines the strength of the department's future medical ability. Appropriate competition between departments and departments is conducive to the promotion of management measures.

If the director of the department can recognize the unique status and role of the accumulation of contributions in the internal incentives, delegate to the reserve talents in the department, and give full play to their enthusiasm, it is possible to generate a high level of work involvement on a continuous basis, thus stabilizing the talent team in the section and hospital. Therefore, this study argues that both the decentralization of hospital leaders and the decentralization of departmental directors are conducive to increasing the level of intrinsic motivation of high-level talents in the hospital and fully mobilizing their self-esteem and motivation at work.

## **Conclusion**

### **Effect of performance appraisal orientation on intrinsic motivation and job involvement**

The method of salary incentive is an important incentive measure in the theory of external incentive (Yao Ling, 2012; Ding Yan, Wang Yuwei, Ji Jianwei, 2012; Yi Ying, Tong Qingzan, 2013; Ge Lirong, 2014; Adams & Hicks, 2015; Luo Siliang, 2015; Wu Wensheng, 2015; Chai Lingling, 2016; Liu Yan, 2016; Liu Xiaoyi, 2016; Liu Xiaoyi, 2016; Luo Gang, 2016; Fei Yahai, Xu Hongtao, 2017; Wang Haicang, 2017; Yang Xiaoling, 2017; Zhu Huirong, 2018). The results of this study showed that the salary satisfaction of high-level talents in municipal public hospitals had a significant impact on job involvement, and the post-variance analysis showed that the higher the salary satisfaction, the higher the job involvement level. However, 61.64% of high-level talents are dissatisfied with the current income level. On the one hand, high-level talents may have high expectations for their future development. They believe that the improvement of medical ability and business ability brought to the hospital in the future is not fully reflected in the salary, so there is a sense of unevenness. On the other hand, the dissatisfaction also stems from the fact that the overall salary level of medical staff is low, and the medical income cannot reflect the personal medical ability and value. Among the high-level talents of H hospital, the salary incentive method is still an unsatisfied hygiene factor for the hospital at present. For higher-level talent, increasing their compensation packages can still raise the level of job involvement at that level, resulting in higher performance outcomes.

At present, the salary system of medical personnel in public hospitals is a public institution salary system with grading and post determination. The salary income is related to the professional title, and the other part of bonus income comes from the hospital's performance appraisal of medical personnel.

The path analysis of this study shows that evaluation-based performance appraisal does not have a direct effect on the level of job involvement of high-level talents in public hospitals, but affects the level of job involvement through the mediating effect of intrinsic motivation, and the total effect of evaluation-based performance and

developmental performance on job involvement is only 0.090, proving that the performance appraisal method has a very limited effect on the level of job involvement of talents at this level. On the one hand, the hospital itself may not fully understand the purpose and meaning behind the performance appraisal when implementing the type of performance appraisal, moreover, when the performance appraisal does not reflect a high proportion of performance wages to total income, the performance appraisal system simply will not play its due incentive role, especially when the level of wage satisfaction is low, no matter how perfect the performance appraisal system is, high level talents will not have a corresponding sense of self-esteem at work. On the other hand, the performance appraisal system comes from organizations such as hospital management and business administration that pursue the goal of performance. Public hospitals are characterized by public welfare, and the way of performance appraisal may focus more on the assessment of doctors' professional level, patient satisfaction and other indicators, rather than the pursuit of high income. Therefore, there may exist the phenomenon of "performance appraisal" being unaccustomed to the climate of a new place in public hospitals, which reflects the practical problems that the current scientific management system has not been able to take root in the field of hospital management. There is no professional performance management team or system suitable for public hospitals to evaluate performance (Gilson & Palmer, Schneider, 2005; Leggat, Bartram & Stanton, 2011; Lutwama, Roos & Dolamo, 2012; Cao Lei, 2012; Magrath & Nichter, 2012; Cai Xi, 2014; Zacharatos & Barling, Iverson, 2015; Lindelow & Serneels, 2015; Li Xiao, 2015; Rowe, Savigny, Lanata & Victora, 2015; Xin Dawei, 2016).

In Sobel's test, the results show that evaluative-based performance appraisal "dilutes" the direct effect of overall performance appraisal orientation on job involvement, and intrinsic motivation may still have some mediating effect on job involvement of high-level talent developmental performance appraisal. This result is inconsistent with the relevant studies on hospital employees. Hu bei et al. verified the negative predictive effect of evaluative-based performance appraisal on intrinsic motivation and job involvement. The positive predictive effect of developmental performance appraisal orientation on intrinsic motivation and job involvement. This may be due to the fact that this study targets knowledge-based organizations with highly educated talents, whose understanding of performance appraisal may be somewhat biased; at the same time, this study speculates that public hospitals are public welfare organizations, which inevitably emphasize less on the pursuit of "Performance and KPI", so the relevant appraisal-based management style does not play a role in the high-level talents. This suggests that the way of performance appraisal in public hospitals should focus on the purpose of developmental performance appraisal and pay more attention to the evaluation of high-level talents' future development potential, business progress ability and innovation ability.

Therefore, this study believes that although the performance appraisal orientation plays a certain role on intrinsic motivation, the total effect of job involvement as the

outcome variable is small, and the performance appraisal system still has great room for improvement in hospital management. Therefore, in the process of implementing performance management, how the medical staff can fully understand the purpose and meaning of the performance appraisal of their hospital, how the medical business income can be reflected in their salary income, and how the purpose of the performance appraisal can focus on the future development of medical ability rather than the repetitive appraisal of past work, etc. are the problems we need to solve. Otherwise, managing only around performance appraisals, without research in conjunction with the people being managed, will not ultimately produce good motivational results (Franco, Bennett & Kanfer, 2002; Razee, Whittaker, Jayasuriya, Yap & Brentnall, 2012; Mutale, Ayles, Bond, Mwanamwenge & Balabanova, 2013; Agyepong, Anafi, Asiamah, Ansah, Ashon & Narh-Dometey, 2014; Peters, Chakraborty, Mahapatra & Steinhard, 2014; Zhang Aiping, 2015; Okello & Gilson, 2015; Manongi, Marchant & Bygbjerg; 2016).

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