

Research on the Mode Construction Method of Key Laboratory of Translational Medicine

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Abstract: This paper studies the basic elements of the mode construction and management mode of the Key Laboratory of translational medicine, preliminarily discusses the relationship between the above elements through qualitative research, preliminarily constructs the mode of the Key Laboratory of translational medicine in the hospital in combination with the main characteristics of the current development of translational medicine, and finally discusses the guarantee mechanism for its effective operation. Through the empirical research on the Key Laboratory of translational medicine, it is of great significance to analyze the problems in the development process, provide strategies and suggestions for the construction and development of translational medicine, and promote the effective implementation of translational medicine research results.

Keywords: Mode Construction Method; Laboratory Management; Key Laboratory of Translational Medicine

INTRODUCTION

In recent years, molecular biology, immunology and other disciplines have developed rapidly, and great achievements have been made in related basic research. However, with the deepening of medical research, the research fields and research contents are becoming more and more diversified, and the substantial growth of basic medical knowledge has not brought about the emergence of new methods and new technologies in disease prevention and treatment, while the massive data obtained in the basic research field needs to be transformed into effective information that can solve the problems related to the medical field [Gibson-Corley, et. al., 2012]. At the same time, the international community approves a large number of scientific research funds for research in this field every year, but the research results are not satisfactory, and the health status of the population has not been significantly improved. The root causes are the rapid development of basic medicine and clinical practice, but the barriers between them are becoming more and more obvious and the estrangement is deepening [McGaghie, et. al., 2010]. Basic research is divorced from clinical practice, which leads to the failure of basic research to solve the problems found in clinical practice in time, which seriously restricts the application of medical achievements and the further development of clinical practice. On the contrary, it will also hinder the progress of basic research. In this environment, the concept of translational medicine has been gradually put on the agenda and relevant research work has been carried out. The focus of its work is to promote the systematic transformation of medicine scientific research, so as to fill the gap between basic

experimental research and clinical and public health applications. Through effective coordination and adjustment of human resources, infrastructure, data information and other resources, the concept of translational medicine has opened up and connected basic research, clinical trials, technical products and community services, so as to contribute to the development of new drugs. The development of new therapeutic methods has opened up a new way with innovative significance [Friese, et. al., 2013]. The purpose of translational medicine research is to promote relevant basic medical research results to effectively improve the optimization of population health strategies. At the same time, according to the actual needs of clinical application, it puts forward a feedback and forward-looking research perspective, so as to achieve the mutual transformation between clinical and basic, and finally achieve a higher overall medical level and basically meet the health needs of patients.

RESOURCE INTEGRATION THEORY PROVIDES THEORETICAL BASIS FOR LABORATORY RESOURCE INTEGRATION

The core idea of resource integration theory is to identify resources of different types and functions first, and then select them according to their functions. By selecting and configuring useful resources, we can activate the functions that have not been presented before, so as to achieve the purpose of machine integration, so as to make them have strong systematic value that has not been seen before, and further create a new, effective and integrated dynamic allocation process. The above so-called resource integration, the most important thing is to optimize

the existing limited resources for allocation, in order to maximize the overall function of this limited resource. According to the basic elements of hospital translational medicine, the relevant resources mainly include policy, information, human, material and financial resources. The integration of the basic elements of the construction of the Key Laboratory of translational medicine means that the main body of the laboratory will be connected with the realization of the objectives of the Key Laboratory of translational medicine through the coordination between the system construction and the operation mechanism, so as to achieve the optimal allocation of resources after the effective accumulation of resources such as policy guarantee, fund source, project and administrative management, so that the integrated resources can be organically combined and the utility can be effectively amplified. The construction of Key Laboratory of hospital translational medicine should focus on three aspects: clarifying the subject of resource integration, broadening the content of resource integration, and improving the way of resource integration. The integration of the basic elements of the Key Laboratory of translational medicine is the optimal allocation of funds, policies and administrative resources that have a joint relationship with the construction of the Key Laboratory of translational medicine. Therefore, the construction of the Key Laboratory of hospital translational medicine should be guided by resource integration, upgrade the framework of resource integration, pay attention to the construction of modular platform integration of effective resources, and finally achieve the purpose of promoting the development of the laboratory.

**THE THEORY OF STRUCTURE FUNCTION
MUTUAL ADAPTATION PROVIDES THE BASIS
FOR THE DIVERSITY COMPOSITION OF
TRANSLATIONAL MEDICAL LABORATORY
INSTITUTIONS**

Structural functionalism shows its strong vitality with its broad theoretical vision and effective social explanation. Especially in the late 1970s, with the revision of the new functionalism theory, it is becoming more and more perfect. The framework of structure function theory is still the mainstream of sociology, and has a very important and lasting impact on Sociology related research on the basis of its own framework [Ray, et. al., 2021]. The far-reaching influence of structural functionalism and its continuous improvement prove that it is an analytical paradigm and theoretical perspective with considerable reference value. The purpose of the theory of structure function mutual adaptation is to abstract the research object into the text concept of system or system class, so as to clearly define the

boundary characteristics of things, and then regard the relevant structure embedded in the system as an important factor affecting its evolution and development. At the same time, the theory also pays special attention to the integration and mutual adaptation between various subsystems, understands the analysis channels from various factors in various events with diversified thought channels, or clarifies the relevant guarantees and conditions for the sustainable development of a social system from the perspective of sub functions. Therefore, when solving the problems related to the translational medicine center, we must first regard the Key Laboratory of translational medicine as an organic whole with a certain function and agreeable structure [Shi, et. al., 2022]. This function and agreeable structure make the system have the internal characteristics and mechanisms to promote its own development and continuation, which also makes the structure and functions of various components in the Key Laboratory of translational medicine different. This also provides a macro and micro framework for the analysis of the components of the translational medical center.

**SYSTEM THEORY PROVIDES AN ANALYTICAL
METHOD FOR THE CONSTRUCTION OF
TRANSLATIONAL MEDICINE LABORATORY
FROM AN OVERALL PERSPECTIVE**

System theory has the most basic connotation, which often reflects the inseparable relevance and integrity between certain things, as well as the dynamic balance between the elements of things, the structure of different levels and the timing of different periods. This is not only the basic idea of system theory, but also the basic principle of system method. The core idea of system theory is to regard a certain thing or institution as a specific and unique system, and then try to analyze the changing laws and relationships among the functions and structures, the internal system, the surrounding environment and related factors in this system; The ultimate goal is to achieve the ultimate goal by adjusting the internal structure of this specific system and optimizing the relationship between its internal related factors. System analysis requires researchers to understand the construction and development of translational medicine and its center from the overall perspective and overall situation. Government departments, translational medicine concepts, medical institutions, academic institutions, enterprises, communities and other institutions, as well as science and technology, education, etc., together constitute the translational medicine organization management system. As a complex social organization system, it must use organization management to systematically analyze, synthesize and optimize various aspects of problems.

In the process of organization management, it is necessary to control and regulate the operation of translational medicine and its centers or laboratories, and guide its rapid and standardized development.

CONSTRUCTION OF INNOVATIVE DEVELOPMENT MODEL FOR KEY LABORATORY OF TRANSLATIONAL MEDICINE

(1) Strategic positioning. The strategic positioning of the key laboratory is determined according to the development direction of the hospital and the professional expertise of the leaders, so as to ensure that the organization will not deviate from the development direction in the process of development, especially in the formulation of strategic objectives, which has important guiding significance for the development of the organization. Strategic positioning is mainly divided into positioning, technical direction and service platform. The implementation of strategic positioning can be achieved through the following measures, such as competition analysis between relevant transformation institutions, finding the differences between their own institutions and other institutions, and obtaining technical support. At the initial stage of establishment, the Key Laboratory of translational medicine did not form a competitive strategic goal, but carried out relevant research work based on the temporary projects at that time. After the establishment of the innovative development model, the relevant leaders of the hospital kept pace with the times and positioned the strategic objectives. The "1+2+n" development and operation mode of the Key Laboratory of translational medicine has been gradually formed. Among them, "1" refers to a starting point for research, that is, to slowly spread the research to the surrounding related disciplines from the immunology of jingzhuan; "2" refers to two key points, i.e. transplantation immunity and mucosal immunity; "N" refers to other subdivisional immune research directions as a supplement.

(2) Facilities and equipment. The important investment guarantee of the Key Laboratory of translational medicine in the hospital includes necessary infrastructure equipment, peripheral supporting equipment for research and various supporting platforms necessary for normal operation, such as the construction of such peripheral structures as sample library, information service center and database, to ensure the normal operation of the Key Laboratory of translational medicine.

(3) Talent team. In the case of complete facilities and equipment, it is particularly important to have a professional talent team. "The policy of introducing a group of key experts and scholars at home and abroad, cultivating a group of outstanding young research talents through joint training or self-cultivation, and

promoting self-cultivation with the introduced measures" is an effective talent development strategy for the Key Laboratory of translational medicine in the hospital. One side is eager to hire and introduce senior and associate senior researchers at home and abroad, especially high-quality young translational medicine experts, to participate in the research of hospital translational medicine. Introduce core technical talents from abroad as the leader of institutional development, and drive the development of institutional translational medicine. On the other hand, the institution has continuously optimized the allocation of full-time staff, created innovative conditions to attract and cultivate excellent translational medicine professionals, and cultivated a number of talents in this field. Driven by the introduction of talents, the institution has developed a sustainable and complementary research talent team to improve the overall quality and quality of the translational medicine research team.

(4) Management mode. Scientific and reasonable management mode is an important condition to improve the operation efficiency of the Key Laboratory of translational medicine, and it is also one of the important indicators of people-oriented. The hospital implements the policy of reducing administration and delegating power to key laboratories and strengthens independent management, including setting up a full-time management organization, setting up a research fund management department, an appropriate performance evaluation management system, and having full-time management personnel, such as center director and subject team leader.

(5) Safeguard mechanism. The hospital encourages key laboratories to innovate the operation mechanism, including guiding policy guarantee mechanism, internal and external team cooperation innovation mechanism, research management and other fund input guarantee mechanism, performance evaluation mechanism and so on. Among them, the policy guarantee mechanism can solve the institutional obstacles that are difficult to overcome for the development of laboratories and related industries, so as to ensure the benign development from research to achievement transformation to achievement implementation; The team innovation and cooperation mechanism can ensure that the research of the Key Laboratory of hospital translational medicine enters the gender cycle of sustainable development; The funding mechanism can ensure the sustainable development of translational medicine, and the performance evaluation mechanism can achieve the survival of the fittest for the team and its members. As the most important incentive mechanism of this model, it can provide the most stable centripetal force for the development of

institutions and ensure the healthy development of key laboratories.

CONCLUSION

Based on the analysis of the basic elements of the established translational medicine centers in China and the published translational medicine research literature, this study believes that the most basic elements of the construction model of the Key Laboratory of translational medicine in hospitals should at least include policy support elements, human resources elements, financing channels and incentive mechanisms, information platform construction elements and other elements. All the elements are not isolated but linked to each other Influence each other. After induction and summary, the "1" in the "1+5" innovative development model of the Key Laboratory of translational medicine, that is, "people-oriented" in the key laboratory, mainly has two aspects: one is to realize the equality between external doctors and patients, and the other is to realize the effective connection and dynamic adjustment between personnel and departments in the Key Laboratory of translational medicine. Its main contents include the following five aspects: first, strategic positioning, including strategic objectives and development models; The second is the necessary foundation and advanced facilities and equipment, which mainly includes the necessary foundation and supporting implementation equipment, and the construction of various support platforms required for development; The third is the talent team and elite leaders needed for the development of key laboratories, including their own talent training and the introduction of excellent talents; The fourth is the effective management mode of laboratory development, which includes full-time management of each department, performance management of

personnel, fund management of projects, etc; The fifth is the operating mechanism, including: guiding policy guarantee mechanism, team cooperation and coordination mechanism, fund investment mechanism, performance evaluation mechanism and incentive mechanism.

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