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Integration Mode of Clinical Medicine and Preventive Medicine Based on Big Data Technology

Huichao Hu[1,a], Yinni He[2,b,*], Lilong Yang[3,c], Zhifeng Liu[3,d]

[1]School of the First Clinical Medicine, Shaoyang University, Shaoyang, China
[2]School of Basic Medicine, Shaoyang University, Shaoyang, China
[3]School of the First Clinical Medicine, Shaoyang University, Shaoyang, China
[a]649897629@qq.com, [b]153407885@qq.com, [c]2506623901@qq.com, [d]42375608@qq.com
**Corresponding author*

Abstract: *In order to overcome the difficulties of traditional medical prevention mode and diagnosis and treatment mode in the era of big data, this paper proposes an integration mode of clinical medicine and preventive medicine based on big data technology. This mode combines big data technology, gives full play to the characteristics and advantages of big data technology, and aims to improve the accuracy and scientificity of the medical field. Based on this, the model also follows the principles and goals of clinical medicine and preventive medicine, and combines the needs of the current era and people's personalized diagnosis and treatment needs. The results show that this model can realize the transformation and upgrading of traditional clinical medicine model and traditional preventive medicine model, strengthen the organic integration of clinical medicine and preventive medicine, and meet the personalized needs of current people for medical model.*

Keywords: *Big data technology; Clinical medicine; Preventive medicine*

1. Introduction

At present, with the further development of science and technology, people pay more and more attention to healthy lifestyle. Therefore, the application of big data technology in the medical field has been widely valued. In the era of big data, clinical medicine and preventive medicine are two important branches in the field of medicine, which are the practice part and the theory part respectively. Clinical medicine attaches importance to practice, while preventive medicine attaches importance to methods. However, the ultimate goal of both is to promote the progress and development of human health. With the help of big data technology, clinical medicine and preventive medicine are developing in the direction of intelligence and systematization. Therefore, according to the characteristics and development status of clinical medicine and preventive medicine, this paper proposes an integration mode of clinical medicine and preventive medicine based on big data technology. The author believes that this model can promote the progress and development of clinical medicine and preventive medicine, and realize the intelligence and accuracy of the medical field.

2. Theoretical basis

2.1 Big Data Technology

There is no doubt that the current era is the era of big data. In the face of massive data information generated every minute, traditional data processing tools have been difficult to complete the collection and processing of massive data information within the specified time. Therefore, in the face of massive data, big data technology is widely used in various fields as a high-tech dedicated to the collection, processing, analysis and storage of these massive data information.

Figure 1 is the framework diagram of big data technology, which shows the process of big data technology processing data, and also presents the process of data information finally presented to users through big data technology.

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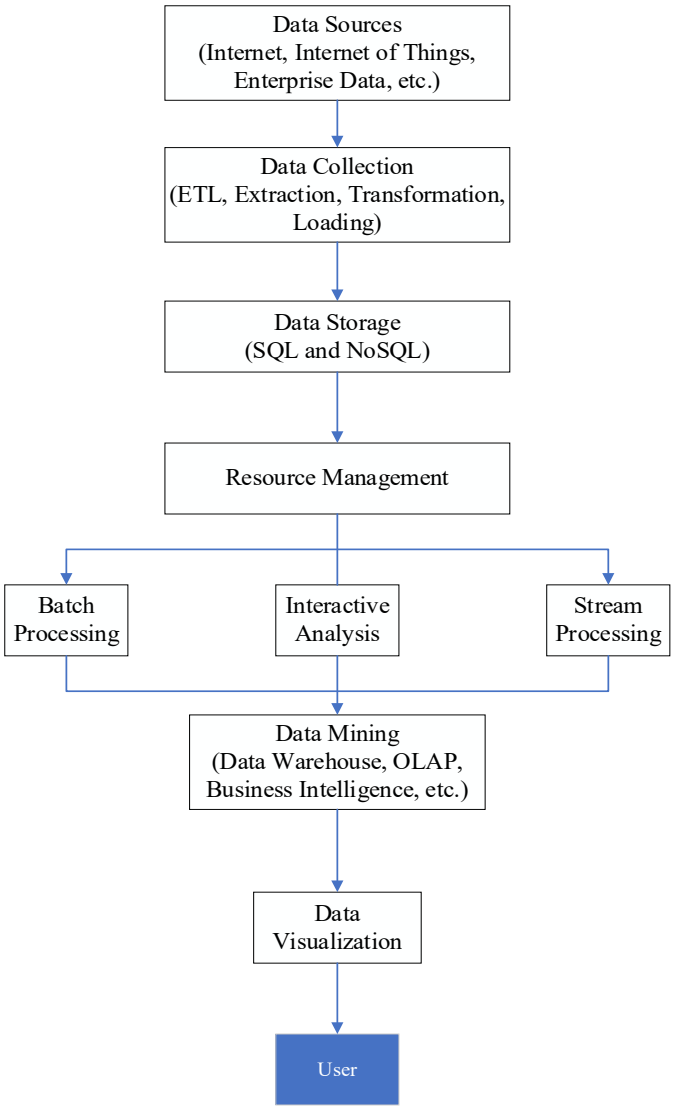

Figure 1: Framework of big data technology

Different from other high-tech and traditional data processing technology, big data technology is characterized by processing huge data information in a short time, and can process different formats and types of data in a unified way. The most important thing is that big data technology can screen out valuable data information from the massive data information with extremely low value density, and quickly analyze the content of data information, so as to provide convenience for researchers and staff. Figure 2 illustrates the main links of big data technology in data processing from a macro perspective.

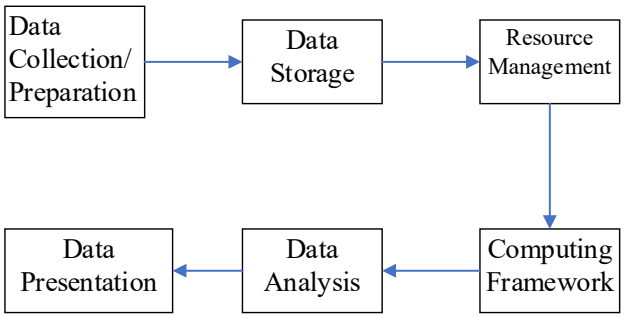

Figure 2: Workflow of big data technology

2.2 Clinical Medicine

Clinical medicine is not only a first-class discipline in the medical field, but also one of the most

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important branches in the medical field. It plays an important role in the medical field. Clinical medicine, in essence, is to analyze and study the causes of the disease, and to diagnose and treat the patient's condition, and to develop a scientific and efficient rehabilitation program for patients with stable condition. Therefore, the ultimate goal of clinical medicine is to study scientific and advanced clinical treatment methods, fundamentally improve the level of clinical treatment, and then ensure human health [1]. The future detection of clinical medicine is shown in Figure 3.

The focus of clinical medicine is to contact patients, and according to the specific performance of patients to develop scientific diagnosis and treatment programs and rehabilitation programs. Therefore, clinical medicine not only needs to be based on the basic methods and traditional experience of disease treatment, but also needs to be combined with the specific situation of patients for diagnosis and treatment [2].

The importance of clinical medicine is constantly highlighted with the degree of people's understanding of diseases. It is a medicine directly against diseases. There are four specific directions for its development in the future, as shown in Figure 4.

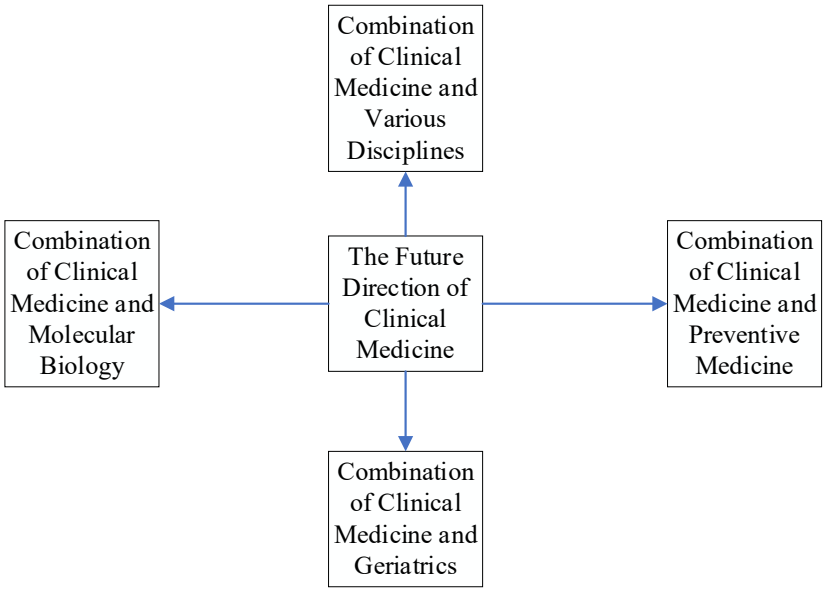

Figure 3. The future detection of clinical medicine

2.3 Preventive Medicine

Preventive medicine, as shown in Figure 4, is not only an important part of medical science system, but also an important branch of medicine. It embodies the deep combination of medicine and science, and also shows the importance of disease prevention for human beings. Preventive medicine, as the name suggests, is to study how to prevent and eliminate the virus, so that healthy people can reduce the probability of disease and improve the physical quality of human beings [3]. It can be seen that the research object and service object of preventive medicine are healthy people. It pays attention to the combination of micro and macro, and its research is the health program suitable for the general population.

With the continuous progress of science and technology, people pay more attention to health and pursue a healthy lifestyle. The importance of preventive medicine is also highlighted. [4] At the same time, preventive medicine has been developing and improving constantly. It is the theoretical basis in the field of medicine to study the relationship between human health and environmental factors and the law of action, and attach importance to methodology.

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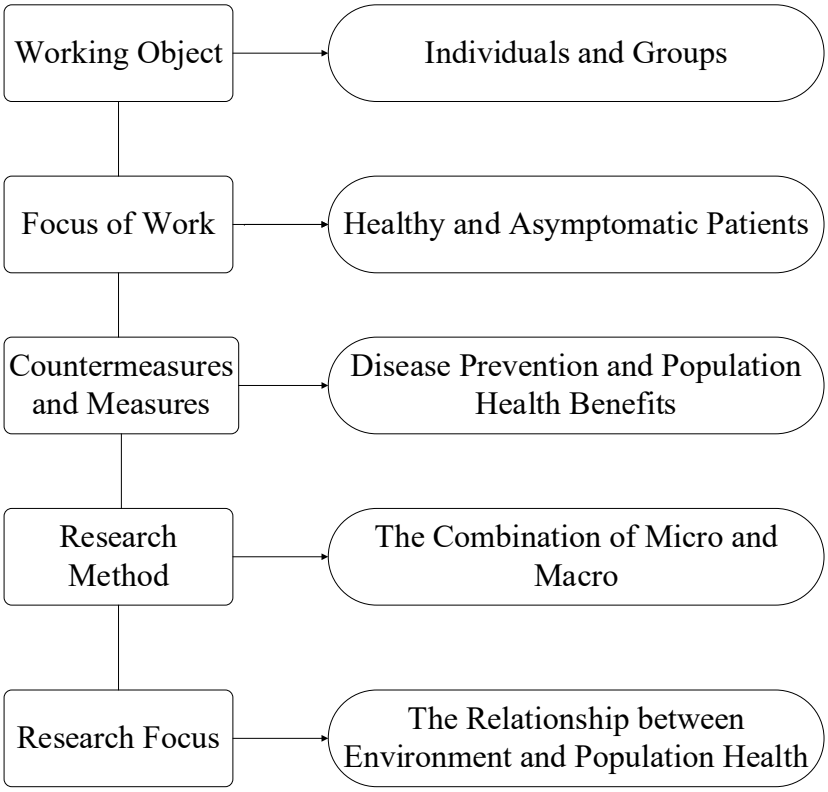

Figure 4. Preventive medicine

3. Construction of the Integration Mode of Clinical Medicine and Preventive Medicine Based on Big Data Technology

3.1 Integration of Theoretical Basis

In the medical industry, the integration of different disciplines must be guided by the overall theoretical basis, starting from the theoretical basis of the system, in order to achieve a truly efficient integration process. Due to the contradictory movement of the medical field itself, the medical industry follows the law of negation of negation. In the era of big data, the contemporary medical field has been closely combined with big data technology, which has produced a variety of emerging products such as medical big data, precision medicine, smart medicine, etc., which is an integrated trend. From a macro point of view, this trend of integration negates the division mode of medical industry [5].

In this context, the medical field combined with big data technology, while focusing on disease prevention and treatment of patients, pursues personalized medical mode. The so-called personalized medical mode is a mode of treatment based on a comprehensive and systematic understanding of each individual patient. With the help of big data technology, medical staff can more clearly and quickly understand the differences between different individuals. Specifically, through big data technology, in clinical medicine and preventive medicine, staff can quickly obtain the basic data of patients' clinical manifestations, physiological indicators, environmental behavior, and more detailed data information of patients' genome, proteome, metabolomics, etc. Therefore, the integration mode of clinical medicine and preventive medicine based on big data technology can help medical staff to systematically and comprehensively grasp the patient's condition from multiple dimensions, and truly achieve the right medicine.

Clinical medicine and preventive medicine combined with big data technology can develop scientific and effective prevention and treatment programs according to the individual's physical condition through gene sequencing technology, artificial intelligence technology, big data analysis technology, etc. Therefore, the integration mode of clinical medicine and preventive medicine based on big data technology has multiple advantages, such as accuracy, objectivity, comprehensiveness and systematicness, which not only effectively overcomes the uncertainty of traditional medicine, but also further improves the integrity of clinical medicine and preventive medicine.

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The integration mode of clinical medicine and preventive medicine based on big data technology can not only play a significant role in disease prevention and treatment of patients, but also achieve accurate tracking of patients' late treatment, and timely adjust the treatment plan according to patients' late recovery. Therefore, the integration mode of clinical medicine and preventive medicine based on big data technology is a differentiated and personalized treatment mode, which is in line with the current law of social development and people's personalized needs.

From a macro perspective, in the era of big data, the medical field has shown the development trend of in-depth refinement and integration. The rise of precision medicine based on big data technology and the integration of clinical medicine and preventive medicine based on big data technology fully reflect this. From the perspective of historical development, the integration of clinical medicine and preventive medicine reflects the comprehensive and holistic development mode of modern medicine. From the perspective of methodology, the integration model in the field of medicine fully embodies holism and systematology. It takes human body as an interactive whole, and studies preventive medicine, clinical medicine and other medical disciplines as an interactive whole. From the point of view of the ultimate goal, what modern medicine pursues is not the prominence of a single discipline, but the interaction of various components in the medical system to produce the effect of "one plus one greater than two" [6].

Therefore, from the perspective of theoretical basis, whether it is clinical medicine, preventive medicine, or other medicine, in the process of development, their integration is inseparable from the guidance of holistic view and global view. Therefore, the theory of human body as an organic whole is also the theoretical basis for the integration of clinical medicine and preventive medicine.

3.2 Integration of Concept Model

From the perspective of conceptual model, the main purpose of clinical medicine is to treat patients, while the main purpose of preventive medicine is to prevent diseases. Under the promotion of big data technology, the main purpose of the integration mode of clinical medicine and preventive medicine will be to treat patients on the premise of preventing diseases as much as possible, and pay more attention to the prevention of diseases and the disease trend of individual patients. The medical mode based on big data technology is not only reflected in providing personalized treatment mode for individuals, but also in its unique timeliness. As we all know, to ensure that a medical model can prevent diseases and protect national health is the fundamental purpose of medical research and medical treatment, not just focus on the treatment of patients.

With the help of big data technology, through the collection, storage and analysis of medical big data, the medical field can not only use these data to carry out disease prevention, disease treatment and disease prediction, but also carry out deeper disease research. Moreover, with the help of medical big data, medical staff can find some diseases more timely in the early or subclinical stage, so as to comprehensively reduce the incidence of diseases and improve the treatment rate of diseases. Therefore, with the help of big data technology, the importance of preventive medicine is beyond comparison. In the era of big data, disease prevention is the focus of all sectors of the society. Improving the disease prevention rate can greatly improve the National Health rate and alleviate the medical tension.

In the era of big data, the community's understanding of the medical field has been further developed, paying more attention to disease prevention, but this does not mean the decline of clinical medicine. With the help of big data technology, the integration mode of clinical medicine and preventive medicine is not only an important cornerstone of precision medicine, but also an important node to realize the transformation from advanced treatment mode to early treatment mode [7].

3.3 Integration of Ultimate Goals

Whether it is clinical medicine or preventive medicine, its purpose is to ensure people's health, improve people's quality of life, and maximize the social medical input and output. Therefore, even in the era of big data, after the organic integration of clinical medicine and preventive medicine, its purpose is still to improve people's physical quality and improve the disease prevention rate and treatment rate. Therefore, the ultimate goal of the organic integration of clinical medicine and preventive medicine has not changed, and it is still consistent with the past goal, but the process and method of its realization have changed greatly. Specifically, with the help of big data technology, clinical medicine and preventive medicine are developing in the direction of accuracy and personalization, which can provide personalized disease prevention plan, disease screening plan, disease diagnosis plan, disease treatment plan and disease rehabilitation plan for each individual. In the

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past, personalized medical model required a lot of human and material resources, which could only provide services for a small number of people. However, in the era of big data, everyone can enjoy the convenience of personalized medical model and meet their own needs.

If from a long-term perspective, the integration mode of clinical medicine and preventive medicine based on big data technology will be committed to providing the best diagnosis and treatment scheme for individuals, and can also provide the most appropriate rehabilitation plan for individuals, so that more people can enjoy the benefits brought by the progress of science and technology. At the same time, we should also note that in the past, the medical model of paying attention to treatment but ignoring prevention no longer adapts to the current background of the times. In the past, this medical model was caused by the limitation of medical resources under the background of the past. At present, with the continuous increase of chronic patients and the rapid rise of medical costs, the medical model of paying attention to disease prevention is more and more important. It's more important and more in line with the current background.

In a word, the combination of big data technology and medical mode has changed the treatment mode that paid attention to treatment and despised prevention into the treatment mode that paid attention to prevention. It is committed to early prevention and early diagnosis, which can not only discover and control the disease deterioration as soon as possible, but also save medical expenses. Moreover, through big data technology, the medical field can reduce the cost of medical treatment investment, realize the maximization of economic benefits, and then increase the investment in medical research to achieve a major breakthrough in the medical field. Thus, in the era of big data, the core and essence of medical integration is to build a new health care service system, so that everyone can enjoy personalized medical services, and then promote the sustainable development of the medical industry.

4. The Practical Significance of the Integration Mode of Clinical Medicine and Preventive Medicine Based on Big Data Technology

With the progress and development of big data technology, clinical medicine and preventive medicine are developing in the direction of systematization and intelligence. In the era of big data, with the emergence and application of precision medicine, the integration of clinical medicine and preventive medicine can give full play to the advantages of clinical medicine and preventive medicine, which is not only a simple superposition of the advantages of the two, but also makes the advantages of the two promote each other and cooperate closely. On the one hand, with the help of big data technology, the emergence and application of precision medicine mode with big data technology as the core undoubtedly provides a good development opportunity for the integration of clinical medicine and preventive medicine. On the other hand, the integration and development of clinical medicine and preventive medicine also makes big data technology play more advantages in the medical field. And then promote the scientific realization of the prevention goal and diagnosis and treatment purpose of the medical industry based on big data technology.

In general, in the era of big data, the integration mode of clinical medicine and preventive medicine based on big data technology proposed in this paper has important practical significance. It not only promotes the application and development of big data technology in the medical industry, strengthens the organic integration and close cooperation of clinical medicine and preventive medicine, but also makes precision medicine with big data technology as the core become more and more popular. The treatment mode will be further promoted to the medical market, so as to accelerate the realization of the goal of precision medicine.

5. Conclusion

The integration mode of clinical medicine and preventive medicine based on big data technology is committed to achieving the common goal of everyone's health. Moreover, the integration mode is of great significance for the prevention and control of chronic diseases, the improvement of people's physical quality, the promotion of medical equity and the deepening of health reform.

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