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Research on the Application of Big Data in Medical Operations Management

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Abstract: With the rapid development of the times, the medical field has also made huge room for development. As an emerging field in medical care, medical operations management appears in people's field of vision. And the analysis and application of big data has been in line with various industries and fields. With the continuous innovation of data analysis technology, the problems in medical operations management can be well solved. Moreover, with the help of big data technology, technical problems in the medical field can be effectively solved.

1. Introduction

The patients in hospitals are different from day to day, and the data sources involved are extensive and complex. Traditional management methods cannot effectively extract relevant data information, which affects the work of the hospital to a certain extent. And even a little attention will lead to information extraction errors, leading to a wide range of errors in the work of the hospital. Therefore, it is imperative to use big data technology in medical operations management. It can not only strengthen the statistics and analysis of big data, but also further reduce work errors and strengthen the use of various resources.

2. The Impact of Big Data Technology on Medical Operations Management

2.1 Affecting the Medical System

According to relevant data, the use of big data technology in the management of medical operations has had a certain impact on the form of hospital charges. Through big data technology, the patient's diagnosis and treatment effect can be accurately grasped, and the risks of excessive medical treatment and medical errors can be effectively avoided. In addition, the use of big data technology transforms the passive disease prevention method into an active way, which can effectively analyze the electric medical records and improve the accurate prediction of infectious diseases. At the same time, different data information can be collected according to the patients and diseases, and the previous closed learning methods can be broken through big data technology, and the data information between various schools can be connected to realize mutual learning of rare cases. And the use of big data technology in medical operations management can improve the

accuracy of medical data, make medical data transparent, and further improve the quality of medical services.

2.2 Affecting Hospital Management

In the era of big data, a wave of informatization has gradually emerged in hospitals. In hospital management, strengthening working thinking is one of the most important contents. Constantly adapting to the changes brought about by data technology innovation and changing the working thinking of traditional data statistics have become the highlight of medical operation management. With the innovation of data technology, medical quality is further guaranteed. The use of big data technology can help doctors master scientific and reasonable information, so that the error rate of doctors' diagnosis can be effectively controlled, and the medical quality can be promoted. Besides, the application of big data technology has gradually standardized medical operations management, and truly realized refined medical management that can save consumption costs to a certain extent and provide a strong guarantee for the level and efficiency of medical care [1]. In addition, the use of big data technology to build a medical scientific research data center can not only provide assistance for the hospital's scientific research, but also strengthen the collection speed of medical data and analyze and process the data in a timely manner, so that the work efficiency of the scientific research personnel can be improved and the medical research can be developed.

3. Application of Big Data in Medical Operations Management

3.1 Application in Mobile Medical Treatment

With the advent of the Internet era, the traditional outpatient business has no longer adapted to the development of the current era. With the support of the Internet, medical operations management, as a new business of smart hospital development, appears in people's vision. At the same time, medical operations management has the advantages of strong real-time and high efficiency, which is widely used in the medical field, including doctors' mobile rounds, nurses' mobile nursing, online appointment and big data intelligent decision-making and other new businesses. In addition, with the arrival of 5G technology, it is hopeful to complete precise and complex remote surgery. And mobile medical treatment not only changes the medical service mode, but also optimizes the allocation of medical resources, which greatly improves the quality and efficiency of medical services, and effectively promotes the development of medical operations management.

3.2 Application in Innovation of Drug and Equipment Supervision System

In the daily management of the hospital, as an indispensable content, drug management is closely related to the life safety of medical staff and patients, which is an important link that can not be ignored. But at present, the strength of drug supervision in hospitals is insufficient, and the safety awareness of drug supervision is weak, which makes the supervision can not be implemented in place. In the traditional drug supervision system, the interests of enterprises are mostly taken as the goal of supervision, and the contents of finance and logistics are focused, while the safety and quality of drug are not valued. At the same time, the new drug and equipment supervision system uses real-time communication, database, dynamic monitoring and other technologies, combines with artificial intelligence on the basis of big data analysis, and deeply analyzes the comprehensive supervision information system of drug and equipment quality control. In addition, the drug regulatory system can monitor the production process and market flow process of drug products in

real time, so as to closely monitor the suspicious process. In this way, it can timely deal with the relevant suspicious personnel, and publish the relevant reasonable information to the public, so as to fundamentally and effectively avoid the hidden quality hazards of pharmaceutical equipment in the production process.

3.3 Application in Medical Equipment Management

With the rapid development of medical level, hospitals has gradually paid more attention to modern medical equipment, and the advanced large-scale medical equipment is directly linked with the medical level. But the traditional medical equipment does not have the function of real-time monitoring, and can not predict the failure in time, let alone the data and loss during the use of the equipment. At the same time, traditional medical equipment still has some unsolved defects, including inaccurate maintenance cycle, high maintenance cost and long idle time of faulty machine. Therefore, the use of big data technology in medical operations management can effectively realize the technical development of medical big data, artificial intelligence and blockchain, so as to accurately grasp the failure rate and annual opening probability of medical equipment, as well as making the maintenance of medical equipment early warning and successfully realizing intellectualization.

3.4 Application in Performance Assessment

Performance assessment is an indispensable part of hospital performance management, which plays a great role in promoting medical service and operation efficiency and ensuring the development of daily management and overall operation of the hospital [2]. At the same time, the establishment of a sound performance appraisal system can maximize the consumption of hospital resources under the protection of medical service quality and public welfare, which can not only save the cost of patients to a certain extent, but also effectively stimulate the enthusiasm of medical staff. In addition, the application of big data to hospital performance management can comprehensively assess all aspects of indicators, including medical care quality, social benefits and operating efficiency, further promote the formation of fine hospital management. And fully integrating hospital performance management into the overall strategic planning of the hospital is conductive to promoting the development of medical operations management.

4. Conclusion

With the rapid development of information technology, big data technology has gradually been widely used in the field of medical operations management. At the same time, applying data mining technology to medical management can effectively promote the completion of the construction of smart medical care. Big data analysis has the advantages that traditional data analysis methods do not have. It can accurately capture unstructured data. It can not only optimize daily medical management methods, but also effectively analyze the health data of disease prevention and prediction, public health decision-making, which promotes the construction of health information platform based on big data.

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