



Application and Research of Big Data Technology in the Field of Medical Care

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How to cite this paper: Li, T.X., Dongye, S.L., Wang, B.L. and Yin, Y.Q. (2023) Application and Research of Big Data Technology in the Field of Medical Care. *Open Access Library Journal*, **10**: e9981. <https://doi.org/10.4236/oalib.1109981>

Received: March 8, 2023

Accepted: April 7, 2023

Published: April 10, 2023

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Abstract

Big data technology has become a hot spot in the development of scientific and technological information. In the era of big data, the national level is also actively promoting informatization construction in the field of doctor's health. With the continuous deepening of the development of digital economy and the improvement of the level of informatization in the medical field, the collection, application and management capabilities of medical data in society are constantly strengthened, and the volume of medical data is growing rapidly. The research on the application and research of big data technology in the field of medical care has important theoretical significance and reference practical value. Through the targeted capture, analysis and prediction of electronic medical record data, medical big data provides more direct and accurate diagnosis and treatment suggestions for clinical practice, and also provides rich data support for scientific research.

Subject Areas

Nursing

Keywords

Big Data Technology, Medical Care, Data Statistics

1. Introduction

With the aging and empty nest phenomenon of our country's population becoming more and more serious, the function of home care has weakened, the incidence rate of chronic diseases has increased, the "three child" policy has been liberalized, and no accompanying wards have been carried out. Medical and

nursing personnel have become an indispensable social role. Big data technology has greater advantages in data acquisition and storage, management and analysis, and has strong data processing capabilities. Big data has the following advantages: quickly realizing data exchange and sharing, storing massive data information, the value of low density, diversified data types, and so on [1]. Big data technology has promoted the progress of the Internet, and has penetrated into all walks of life in society, which also has a huge impact on the field of medical care. Medical staff should keep pace with the times, constantly improve the level of nursing and improve the quality of service [2] [3].

Under the new situation of hospital reform, medical staff must keep pace with the times, update their work concepts, strengthen the improvement of their professional quality, and shape the new image of medical staff, in order to increase the competitiveness of the hospital in the highly competitive medical market.

Although the application of big data technology in medical quality management is still in its infancy [4] [5] [6] [7], from the perspective of national and industrial policy support, as well as the needs of the hospital's own development, it is bound to achieve greater development, thus improving the lack of management decisions will also affect the safety of medical processes to a certain extent, which is not conducive to building a harmonious doctor-patient relationship. Therefore, in the process of hospital information construction, if scientific quality management methods can be effectively applied, it will help to improve the quality management level of hospital information system software, and also improve the system application level to a certain extent.

2. Application of Intelligence and Big Data in Medical Care Quality Management

2.1. Realize the Collection and Arrangement of Mobile Information Data to Improve the Work Efficiency of Nursing Staff

Using big data technology to establish a mobile nursing information system, the closed loop management among technicians, nurses, doctors and other medical staff was realized, and electronic medical and nursing documents were easily generated, which ensured the hospital nursing management and the collaborative work between doctors and nurses, reduced the workload of nurses in daily processing of nursing documents, and improved their work efficiency and accuracy of recording work, add a protective barrier to the medical safety of patients [8] [9] [10].

It is convenient and quick to check the patient's identity by electronic means, simplify the patient information check process, and improve the overall medical efficiency. In addition, the safety of transfusion, blood transfusion and medication can be ensured through the patient's identity verification. Through the use of mobile nursing information system, the clinical information of patients can be displayed uniformly. When doctors need patient data, the background program displays the relevant diagnosis and treatment information of patients in chrono-

logical order. At the same time, the system will also display the standard values of these clinical data for reference and comparison.

2.2. Help Analyze the Demand for Nursing Information

Based on the demand survey of nursing information system, a mobile nursing quality management system based on intelligence and big data has been developed in the hospital. This system is connected with big data platform, HIS database and medical information system, and wireless internet technology is adopted to realize information transmission and sharing. On the basis of nursing management, nursing quality index statistics and query, nursing management monitoring Automatic feedback of nursing results and bedside quality control [11] [12].

The main component of hospital clinical informatization is patient care health information, and the important content of clinical informatization construction includes: patient health informatization management, mobile application technology, internet application technology and clinical nursing information. Nursing health information plays an important role in patients' diagnosis and treatment decisions, and the requirements for clinical information sharing are gradually highlighted. In the work of processing patient health information, it involves a separate knowledge framework, and thus creates new demands in the construction of nursing information. The patient's file information data is uploaded to the nursing information system or health information system through collection and sorting. Create a risk event assessment mechanism, share the electronic information of medical records in the risk assessment interface of clinical nursing staff, access the risk assessment forms of pressure sore risk, pipeline slip risk and fall risk at any time, screen the patients with various risk levels in the data background, and send out early warning, and then develop targeted prevention plans to provide scientific guidance for nursing work. Through systematic data analysis, the nurses can obtain the nursing recommendation decision, which can optimize the nursing decision of nurses and improve the quality of clinical medical care of patients.

2.3. Improve the Nursing Quality Control Process

The two major indicators of basic nursing and nursing sensitivity jointly constitute the management of nursing quality indicators, which involves reporting, control and review of nursing quality indicators [13]. The system can automatically extract relevant data such as adverse nursing events, statistical decision analysis, etc., so as to realize many functions such as automatic statistics, system query and feedback in nursing indicators. The quality controller can query the nursing quality control progress and the nursing situation of each department at any time through the smart phone client and the nursing control platform. The head nurse accurately manages and controls the quality of the nursing process through the medical care information management client, and uses the big data platform to achieve data statistics. Specifically, the head nurse queries the pa-

tient's situation, the workload of nurses and the actual implementation, for example, the nursing situation of each operation, the infusion volume, the level of nursing inspection rate, and so on, and timely supervises and guides the situation of inadequate nursing.

2.4. Improve the Patient's Nursing Satisfaction

In nursing work, the head nurse, the nursing department and the nurse should be given full play to the management and control of nursing quality, and the nursing quality data should be collected and fed back in a timely manner. The indicator group should input the data into the nursing control platform through smart phones according to the on-site query results, so that the system's evidence collection function can be realized, and thus the continuous improvement of the nursing quality control process can be realized [13]. The nursing quality information management system can directly present the patient's basic information, payment information and work execution, and realize the clarity of nursing work. By maintaining the disease health education module, nursing staff can provide high-quality and targeted health education for patients, thus meeting the patient's nursing needs, helping to close the relationship between nursing staff and patients, and the timeliness of early warning information reminder, To a large extent, the nursing omission rate has been reduced, and the comprehensive implementation of the nursing work verification system is of great significance to the standardization of the practice behavior of nursing staff. The nursing information quality management system helps to strengthen nurse-patient communication, improve the level of medical and nursing services, and thus improve the patient's nursing satisfaction.

3. Conclusion

In the context of big data, the application of big data is the core of hospital competitiveness. Big data technology has important applications at both the technical and business levels in the medical field. Big data technology can be applied to data analysis, mining and real-time monitoring, providing technical support for the construction of medical and health management system and comprehensive information platform. Big data technology can provide doctors with clinical assistant decision-making, industry supervision, assistant decision-making, performance evaluation support for managers, health monitoring support for residents, statistical analysis for drug research and development, and medical behavior analysis support.

Acknowledgements

The authors would like to thank the associate editor and the reviewers for their constructive comments and suggestions which improved the quality of the paper. This work was supported by the Support Plan on Science and Technology for Youth Innovation of Universities in Shandong Province (2021KJ086).

Conflicts of Interest

The authors declare no conflicts of interest.

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