

# IMPACT OF PUBLIC HEALTH EMERGENCIES ON THE COMPREHENSIVE EDUCATION OF MEDICAL STUDENTS IN COLLEGES AND UNIVERSITIES FROM THE PERSPECTIVE OF NARRATIVE MEDICINE



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IMPACTO DAS EMERGÊNCIAS DE SAÚDE PÚBLICA NA FORMAÇÃO INTEGRAL DE ESTUDANTES DE MEDICINA SOB A PERSPECTIVA DA MEDICINA NARRATIVA

EL IMPACTO DE LAS EMERGENCIAS DE SALUD PÚBLICA EN LA ALFABETIZACIÓN INTEGRAL DE ESTUDIANTES DE MEDICINA DESDE LA PERSPECTIVA DE LA MEDICINA NARRATIVA

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## ABSTRACT

The impact of traditional public health emergencies on the comprehensive education of medical students in colleges and universities is mainly reflected in the test of comprehensive literacy. Based on this, this paper studies the construction of a public health emergency impact analysis platform from a medical perspective and cloud computing. From the platform's database construction, event collection methods, impact evaluation rules and other aspects to achieve accurate analysis of the impact of emergencies, using the cloud computing method for comprehensive analysis and evaluation, the algorithm can analyze and intelligently classify information data on the Internet in the process of multiple input, and respond to potential public health emergencies according to cloud computing technology, in order to analyze the impact on the comprehensive quality of medical students. The experimental results show that the public health emergency analysis platform has the advantages of high feasibility and high data utilization, and can effectively improve the impact of public health emergencies on the comprehensive literacy of medical students.

**Keywords:** Public health emergencies; medical perspective; comprehensive education; database construction; cloud computing.

## RESUMO

O impacto das tradicionais emergências de saúde pública sobre a formação integral de estudantes de medicina em faculdades e universidades reflete-se principalmente no teste de formação integral. Com base nisso, este documento estuda a construção da plataforma de análise de impacto de emergência de saúde pública sob a perspectiva médica e computação em nuvem. A partir da construção da base de dados da plataforma, foram desenvolvidos métodos de coleta de eventos, regras de avaliação de impacto e outros aspectos para obter uma análise precisa do impacto das emergências, usando o método de computação em nuvem para análise e avaliação. O algoritmo pode realizar a análise e classificação inteligente de dados de informação na Internet no processo de introdução múltipla, e responder a possíveis emergências de saúde pública de acordo com a tecnologia de computação em nuvem a fim de analisar o impacto sobre a qualificação dos estudantes de medicina. Os resultados experimentais mostram que a plataforma de análise de emergências de saúde pública tem as vantagens de alta viabilidade e alta utilização de dados, pode melhorar efetivamente o impacto das emergências de saúde pública na formação integral dos estudantes de medicina.

**Descritores:** Emergências de saúde pública; perspectiva médica; formação integral; construção de bases de dados; computação em nuvem.

## RESUMEN

El impacto de las emergencias de salud pública tradicionales en la educación integral de los estudiantes de medicina en los colegios y universidades se refleja principalmente en la prueba de comprensión de textos. Con base en esto, este trabajo estudia la construcción de una plataforma de análisis de impacto de emergencias en salud pública desde una perspectiva médica y de computación en la nube. A partir de la construcción de la base de datos de la plataforma, los métodos de recolección de eventos, las reglas de evaluación de impacto y otros aspectos para lograr un análisis preciso del impacto de las emergencias, utilizando el método de computación en la nube para un análisis y evaluación integral, el algoritmo puede analizar y clasificar de manera inteligente los datos de información en Internet en el proceso de entrada múltiple. También puede responder a potenciales emergencias de salud pública de acuerdo con la tecnología de computación en la nube, con el fin de analizar el impacto en la calidad integral de los estudiantes de medicina. Los resultados experimentales muestran que la



plataforma de análisis de emergencias de salud pública tiene las ventajas de alta viabilidad y alta utilización de datos, y puede mejorar de manera efectiva el impacto de las emergencias de salud pública en la comprensión de textos de los estudiantes de medicina.

**Descriptores:** Emergencias de salud pública; perspectivas médicas; alfabetización integrada; creación de bases de datos; cálculo de nubes.

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## INTRODUCTION

At present, China's public health emergency data analysis platform mainly has the problems of slow response speed, low data utilization rate and poor real-time performance.<sup>1</sup> Since 2000, there have been many public health emergencies in China, among which the direct impact on the comprehensive literacy of medical students in Colleges and universities accounts for more than 82%. Therefore, how to establish an efficient and intelligent analysis platform has become an important research direction of Chinese Academy of Social Sciences.<sup>2</sup> In this context, based on cloud computing technology, this paper designs a public health emergency analysis platform, and studies its impact on the comprehensive literacy of medical students in Colleges and universities.<sup>3</sup>

The innovation of this paper lies in the application of cloud computing technology in the public health emergency data analysis platform. On this basis, it can make full use of each event information source in the social event database and the characteristic information of typical crisis events,<sup>4</sup> realize the prediction and unified management of potential public health emergencies, and quantitatively describe different events with neural network correlation factors. The degree of similarity between the similarity and the prediction rules (judging whether it is a potential public health emergency) is consistent with the degree of impact ranking of the public health emergency data analysis platform with quantitative indicators, which can effectively realize the accurate analysis of different types of social events through cloud computing technology and different query methods from the medical perspective.

At present, there is a breakthrough bottleneck in optimizing the control technology of public health emergency data analysis platform in China, which is mainly reflected in the prediction accuracy and impact analysis of target events. Scholars from Renmin University of China have found that most public health emergencies have latent and explosive characteristics in the transmission process, and there are only single functions in the impact analysis platform, such as basic data storage, the call of different events.<sup>5</sup> From the perspective of data information theory, scholars from Tokyo University of Japan proposed that we should pay attention to the construction of online cloud database, strengthen the management and control of public health emergencies, enhance the awareness and attention to the underlying database technology, and improve the communication management efficiency. According to the multi factor relationship theory of collaboration, Harvard University scholars proposed a new public health incident management method, and analyzed the relationship between the different characteristics of traditional public health emergencies. The experiment shows that this method has the advantages of high reliability and strong practicability in the query efficiency of public health emergencies, but in the event of public health emergencies, this method has the advantages of high reliability and strong practicability. There are still some deficiencies in the accuracy of prediction. Scholars from the University of Munich, Germany, combined with the relevant theories of Informatics and social relations, adopted the improved cloud computing technology to construct a public health emergency management method based on the traditional database construction system, and explained the basic

development process of public health emergencies in the transmission process with psychological theory. Based on the Marxist theory, scholars of Peking University of China put forward a hierarchical public health emergency management method. Through the research and analysis of the data such as the occurrence time and impact degree of different public health emergencies, it is found that the management method can realize the prediction of the risk degree of public health emergencies, and the relevant experiments are designed to verify the method. The effectiveness of the method is verified.

To sum up, we can see that the impact of public health emergencies on the comprehensive literacy of medical students in Colleges and universities, most of them do not involve the deep mining algorithm based on the training of public health emergency data set and local optimization efficiency. On the other hand, although China has done a lot of basic research on the prevention of public health emergencies, there are relatively few research results in the management and control of network public opinion communication and the effectiveness of quantitative dynamic evaluation of public health emergency data analysis platform, and there is no management for typical public health emergencies in the process of network public opinion transmission. Research on management and control strategy.

## Experimental process of public health emergency impact analysis system

Before the formal experiment, in order to study the impact of public health emergencies on the comprehensive literacy of medical students, efficiency and timeliness of controlling the propagation speed, this study draws on the public health emergency analysis method based on genetic algorithm and particle swarm optimization algorithm, which can effectively improve the analysis of medical students of different majors. The model of "circle communication of emergency" draws the "node scatter diagram" of medical students in the process of theoretical knowledge, practical ability and operation ability, and determines the prediction criteria in the comprehensive literacy analysis model of public health emergencies to medical students.

In the experimental process, the impact analysis system of Public Health Emergencies Based on cloud computing technology is based on the differences of known public health emergencies, and uses the global optimal classification scheme based on cloud computing technology to conduct experiments on known public health emergency samples and medical students of different majors. When the impact analysis model of public health emergencies obtains the characteristic information of public health emergencies to be classified, it can transform and process the characteristic information of potential public health emergencies. Through the data information (such as event attribute, propagation speed, medical staff, communication type, event keywords, etc.) generated by the network public opinion propagation model, the system can get automatic feedback, and achieve substantial result discrimination, so as to realize the in-depth intelligent analysis of the public health emergency prediction process, so as to evaluate the impact of the comprehensive

literacy of medical students Standards. The initial experimental results of the sample are shown in Figure 1. (Binns C W et al. 2017)

Three groups of known public health emergencies and one group of unknown public health emergencies were designed. Through the experimental analysis of different numbers of medical students in Colleges and universities, it was found that the experimental data obtained by the impact analysis model of public health emergencies were shown in Table 1 and Figure 2.

According to table 1 and Figure 2, we can see that, from the medical perspective, the public health emergency data analysis platform model

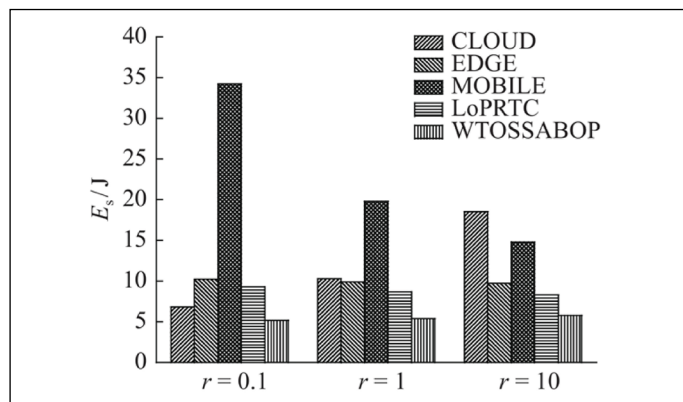


Figure 1. Sample initial experimental results.

Table 1. Experimental results.

	Event attributes	Transmission speed	Medical personnel	Type of transmission	Event keywords
Discrimination accuracy (3 known samples)	0.93	0.95	0.99	0.94	0.98
	0.94	0.95	0.95	0.97	0.97
	0.98	0.97	0.96	0.96	0.99
Discrimination accuracy (1 unknown sample)	0.91	0.93	0.97	0.96	0.97

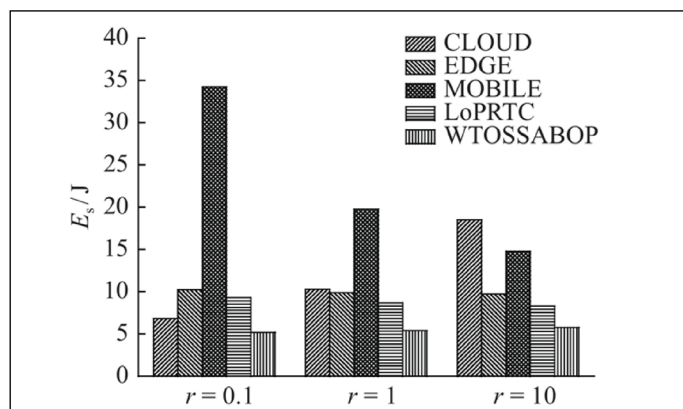


Figure 2. Schematic diagram of the optimization model in the process.

based on cloud computing technology has high accuracy in the accuracy of event attribute, propagation speed, medical staff, communication type and event key words of three groups of known events and one group of unknown events, and has an impact on the comprehensive literacy of medical students, The complexity of the network public opinion management and control model is very low, and the response speed and control effectiveness are very fast. In addition, three groups of public health emergencies with completely different data characteristics can be easily identified by the public health emergency management system, and the five core indicators can be well characterized and correctly classified. This shows that the public health emergency network public opinion communication management and control model based on cloud computing technology can identify and extract the characteristics of public health emergencies. Sorry, it can be well classified, and can also realize the impact analysis on the comprehensive literacy of medical students of different majors from the medical perspective.

## CONCLUSIONS

With the development of cloud computing technology and cloud database and the rapid improvement of algorithms in China, the research on the comprehensive impact of public health emergencies on society and medical students in Colleges and universities is becoming more and more urgent. Based on this, this paper studies the impact analysis model of Public Health Emergencies Based on cloud computing technology from the medical perspective. From the platform database construction, event collection methods, impact analysis rules, transmission speed and other aspects to achieve accurate tracking of unknown social events, using cloud computing technology to analyze the impact of comprehensive literacy of medical students in Colleges and universities. Secondly, based on the known characteristics of typical public health emergencies, a management control model based on cloud computing is constructed, and the fast Fourier transform method is used to construct the evaluation index system of medical students' comprehensive literacy. Finally, the experimental results show that the public health emergency data analysis platform based on cloud computing technology has the advantages of high feasibility, high data accuracy and high response speed, and can effectively play a role in the evaluation process of the impact of college medical students' comprehensive literacy. However, this paper ignores how to realize the in-depth mining of information contained in different data sources in the public health event propagation management model, so we can optimize the operation rules of cloud computing.

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