Research on "Big Data+" Public Health Service Efficiency of Heilongjiang Provincial and Municipal Governments

Based on DEA Model

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Abstract. In recent years, with the deepening of big data research and application, the medical and health field is also actively exploring. This paper uses the DEA-BCC model and the DEA-Malmquist model to measure the public health service efficiency of 13 prefecture-level municipal governments in Heilongjiang Province during the "Thirteenth Five-Year Plan" period, and finds that scale efficiency is the first cause, and Yichun has an increasing state 2 prefecture-level cities, Qitaihe, Daxinganling and 1 regional administration, and technical efficiency and technological progress efficiency are important binding factors, with growth rates of 0.2% and 0.35%. Research shows that there is still a lot of room for improvement in the efficiency of public health services of prefecture-level municipal governments in Heilongjiang Province. To promote the increase of the Malmquist total factor productivity index of public health services of municipal governments, it is possible to ensure the accurate supply of government public health services and improve government public health services. Effectiveness of service, improve the level of government public service.

Keywords: Heilongjiang Province · prefecture-level government · big data+ · DEA model · public health service

1 Introduction

In the context of the vigorous development of "big data+" public health service applications, the health care model will undergo profound changes, which will help stimulate the vitality of the reform of the medical and health care system, improve the efficiency and quality of health care services, and help foster new business formats and economic growth point. For the development of society, medical care and health are inseparable. Health is an inevitable requirement for the all-round development of human beings. For the national economy, the medical industry occupies an important position. Today's social and economic level is developing rapidly, and people's requirements for material life are getting higher and higher. In some developed countries in Europe and the United States, for national public utilities, the big data of health care has become an indispensable part. Our country is no exception. The Party Central Committee and the

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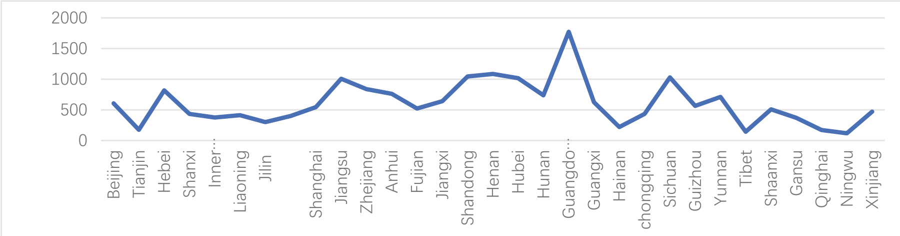

Fig. 1. Public health service expenditure in 16 provinces (Municipality and Autonomous Region) in 2020 (100 million yuan) (Photo credit: Original)

National Health and Medical Commission are also paying more and more attention to the construction of health care informatization. General Secretary Xi Jinping also clearly stated in the "Outline of the Healthy China 2030 Plan": "Without the health of the whole people, there will be no comprehensive well-off", the health care industry has become an important field of big data application and a focus of attention of various scientific research institutions. The "Decision of the Central Committee of the Communist Party of China on Several Major Issues Concerning Adhering to and Improving the Socialist System with Chinese Characteristics and Promoting the Modernization of the National Governance System and Governance Capability" adopted by the Fourth Plenary Session of the 19th Central Committee of the Communist Party of China proposes to accelerate the social construction focusing on improving people's livelihood. In the field of health, "strengthen the institutional guarantee for improving people's health". At present, there is a certain gap in the supply level of public health services among the provinces (municipalities, autonomous regions, and special administrative regions) in my country. According to the data of the China Statistical Yearbook (2021), from the perspective of health expenditure indicators in 2020, Guangdong Province occupies the first place, with 177.299 billion yuan, the Tibet Autonomous Region with the least expenditure, with 14.437 billion yuan; Tianjin is 17.459 billion yuan, only less than Tibet is 3 billion yuan higher, and Heilongjiang Province is 40.119 billion yuan, ranking in the middle position in terms of expenditure, see Fig. 1.

Studies have shown that health expenditure has a significant effect on improving the quality of economic growth. Every 1% increase in health expenditure increases the quality of economic growth by about 0.06%. Therefore, regional differences affect the quality of economic growth [4]. Due to the relatively lagging social and economic development in Heilongjiang Province and the limitation of natural environment and other practical factors, the problem of low efficiency of public health service supply is particularly significant [3]. By measuring the expenditure and investment of public health services of 13 prefecture-level municipal governments in Heilongjiang Province, this paper draws corresponding conclusions and gives corresponding countermeasures from the perspective of digital services. Based on the calculation of the DEA-BCC model and the DEA-Malmquist model, the technological progress index and total factor production index of the 13 prefecture-level governments in Heilongjiang Province have low growth rates. The big data public health service platform should be improved, information barriers should be broken, and technological A positive impact on each other with the service. Through accurate measurement of expenditure and investment, the goal of optimizing costs such as capital and talent is achieved. However, due to the large disparity in financial investment between different regions and the influence of local policies, the accuracy of implementation remains to be discussed.

2 Related Concepts, Research Methods and Data Sources

2.1 Related Concepts

Big data refers to the combination of data that cannot be perceived, acquired, managed, processed and served by traditional information technology and software and hardware work within a tolerable time. Public health big data has 5V characteristics, namely Volume, Velocity, Variety, Veracity and Value. Volume: With the vigorous development of my country's public health undertakings, the national public health information system has stored a large amount of information data from various chronic diseases and infectious diseases, environmental monitoring, monitoring of hazard factors, etc. The speed of information increases; Velocity: Big data is time-sensitive, and the real-time response of the data can significantly and timely reflect the spread of various epidemics and the response capability of the public medical department to the epidemic, so as to strengthen the ability of timely early warning of diseases at an early stage, and provide all-round assistance Public medical departments and disease control departments analyze the causes of chronic diseases and provide effective information for disease prevention, diagnosis, and treatment; Variety: There are various sources of data types, which can be presented in text format, data table, image format, or in Various inspection images, electronic inspection reports, remote consultation videos, etc. Big data retains all kinds of valuable and mineable information, and discovers the correlation between data. Through further analysis, processing, aggregation, and data mining, a data warehouse is established to make it available information; Value: Big data processing scientifically manages, analyzes, correlates and processes a large number of scattered and disordered data, thereby forming medical data with public health emergency response value, which more prominently shows that big data is derived from massive information data. Mining the characteristics of high-value data; after nearly 10 years of development, Veracity disease prevention and control informatization construction has built a nationwide network direct reporting system, and its data comes from 98% of county-level hospitals and 91% The data of township health centers have strong authenticity, reliability, validity and auditability. As shown in Fig. 2.

2.2 Research Methods

The DEA method (Data Envelopment Analysis) is generally referred to as the data envelopment analysis method, which is an analytical method for evaluating the relative effectiveness of decision-making units (DMUs) and is widely used in the field of efficiency evaluation [1]. Considering the possible changes in returns to scale in the performance of government public health services, this paper uses an input-oriented BCC model to study the efficiency of each DMU. The BCC model cannot be used for the time series

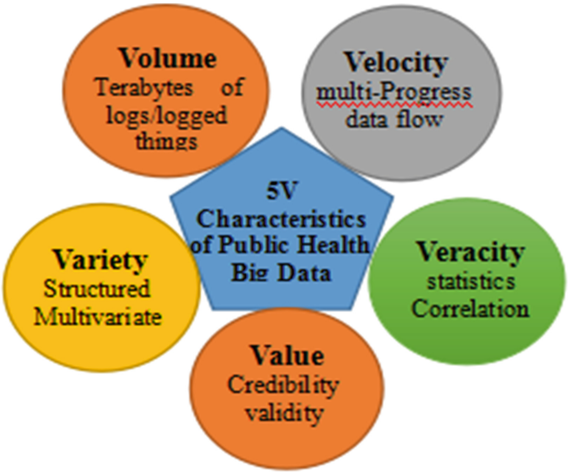

Fig. 2. 5V characteristics of public health big data (Photo credit: Original)

change analysis of decision unit efficiency, and the input-oriented Malmquist model needs to be further used to analyze the time series change of DMU efficiency. The BCC model cannot be used for time-series variation analysis of decision unit efficiency. The model can measure whether the decision-making unit achieves technical efficiency and scale efficiency at the same time, and decomposes technical efficiency (TE) into pure technical efficiency (PTE) and scale efficiency (SE). If the technical efficiency TE. The expression is as follows;

$$\min \theta$$

$$\sum_{j=1}^{m} \lambda_j X_j + S^- = \theta X_0$$

$$\sum_{j=1}^{m} \lambda_j X_j - S^+ = Y_0$$

$$\text{s.t.} \sum_{j=1}^{m} \lambda_j = 1$$

$$\theta < 1, S^- \neq 0, S^+ \neq 0$$

$$j = 1, 2, 3 \cdots, n$$

In formula (1), θ is the relative efficiency value of the measured unit, that is, the decision-making unit DMUj, Xj is the input vector of the decision-making unit DMUj, Yj is the output vector of the decision-making unit DMUj, n is the number of decision-making units, and λj is the decision-making unit. The combination ratio of DMUj, S− and S+ are slack variables, then when evaluating the relative effectiveness of the Jth decision-making unit:

When $\theta = 1$, and satisfy $S- = 0$, $S+ = 0$, then this DMUj is called DEA valid;
When $\theta = 1$, $S- \neq 0$ and $S+ \neq 0$, then this DMUj is called weak DEA effective;
When $\theta < 0$, the DMUj is called invalid DEA.

Furthermore, the input-oriented Malmquist model is used to analyze the time series efficiency. The Malmquist productivity index takes the production frontier of a certain period as a reference technology, and is expressed by the ratio of the distance functions of two different periods. The Malmquist index decomposes the total factor productivity index into the product of two parts, the technological efficiency change index and the technological progress index. The technical efficiency change index can be decomposed into the product of the pure technical efficiency change index and the scale efficiency change index under the assumption of variable returns to scale. If the technical efficiency changes and the technical progress index is greater than 1, it means that the technical efficiency is rising and technology is progressing; The total factor productivity index is greater than 1, equal to 1, and less than 1, indicating that the productivity is increasing, unchanged and decreasing, respectively. The technological progress index reflects the "moving effect" of the production frontier, and the technical efficiency index reflects the "catch-up effect" from the decision-making unit to the best practice boundary. If the change of pure technical efficiency is greater than 1, it means that the efficiency will improve under variable scale returns, otherwise, the efficiency will decline; if the change of scale efficiency is greater than 1, it means that the t + 1 period is closer to the fixed scale return in the t + 1 period than the t period, and vice versa. Away from fixed returns to scale. In recent years, the index method has been widely used to measure the change trend of the total factor productivity of the decision-making unit, that is, the measurement unit across the years. Its basic formula is:

$$\begin{aligned} & M\left(x^{t+1}, y^{t+1}, x^t, y^t\right) \\ & = \frac{D^{t+1}\left(x^{t+1}, y^{t+1} | VARS\right)}{D^t\left(x^t, y^t | VARS\right)} \frac{D^{t+1}\left(x^{t+1}, y^{t+1} | CARS\right)}{D^{t+1}\left(x^{t+1}, y^{t+1} | VARS\right)} \\ & \times \frac{D^t\left(x^t, y^t | VARS\right)}{D^t\left(x^t, y^t | VARS\right)} \\ & = Effch \times Techch = Pech \times Sech \times Techch = Tfpch \end{aligned}$$

It can be further broken down into:

$$Effch = \frac{D^t\left(x^{t+1}, y^{t+1}\right)}{D^t\left(x^t, y^t\right)}$$

$$Tech = \left[\frac{D^t\left(x^{t+1}, y^{t+1}\right)}{D^{t+1}\left(x^{t+1}, y^{t+1}\right)} \frac{D^t\left(x^t, y^t\right)}{D^{t+1}\left(x^t, y^t\right)}\right]^{-}$$

Among them, (xt, yt), (xt + 1, yt + 1) represent the input-output vector from t to t + 1 period, M (xt + 1, yt + 1, xt, yt) is the Malmquist index representing t The dynamic change index of production efficiency in the period of t + 1, if the Malmquist index is greater than 1, it indicates that the decision-making unit, that is, the total factor productivity of the production sector, increases; if the Malmquist index is less than 1, it

Table 1. DEA Input-Output Indicators (Table credit: Original)

Criterion layer	Indicator layer
Input indicator	Medical and health expenditure (yuan/person)
Output indicator	Number of health institutions per 10,000 people (pieces per 10,000 people) Number of beds in health institutions per 10,000 people (pieces per 10,000 people) Number of health technicians per 10,000 people (person/10,000)

indicates that the decision-making unit, that is, the production sector, reduces the total factor productivity. If the index is equal to 1, it means that its production efficiency is unchanged.

2.3 Data Sources Variation of DMU

This paper draws on relevant research results, taking into account the applicability and-feasibility of the data, and constructs an index system to measure the efficiency of public health services. DEA's input-output indicators include the criterion layer (input indicator: per capita health care expenditure) and the indicator layer (output indicator: the number of health institutions per 10,000 people, the number of beds in health institutions per 10,000 people, and the number of health technicians per 10,000 people). As shown in Table 1.

3 Measurement and Evaluation

3.1 Static Analysis of DEA Model

The DEAP2.1 software was used to measure the input-output efficiency of public health services in 12 prefecture-level cities and 1 regional administrative government in Heilongjiang Province during the "13th Five-Year Plan" period. This paper investigates from the perspective of comprehensive efficiency, because comprehensive efficiency reflects the overall pros and cons of the input-output combination of the decision-making unit, and is an important object to examine the overall input-output efficiency of the measurement object. In the measurement of the input-output efficiency of public health services in each city, if the comprehensive efficiency = 1, it means that the measured DEA is effective, that is, the measured basic public service input-output is at the frontier of production; if the comprehensive efficiency is less than 1, then It shows that the measured DEA is invalid, its public health service input-output deviates from the production frontier, and the input-output has not achieved the optimal allocation of scale and efficiency. The evaluation results are shown in Table 2.

It can be seen from Table 1 that among the 65 decision-making units composed of the 5-year panel data of the 13 prefecture-level municipal governments measured, the DEA is valid, that is, the number of decision-making units with DEA = 1 is 12, that is from the 5-year DEA data measurement, only about 18.4% of the decision-making units

Table 2. DEA-BCC model evaluation results of public health service efficiency of 12 prefecture-level cities and 1 regional administrative government in Heilongjiang Province (Table credit: Original)

DUM	2016				2017				2018			
	TE	PTE	SE	RSC	TE	PTE	SE	RSC	TE	PTE	SE	RSC
Harbin	0.969	1	0.969	drs	0.934	1	0.934	drs	1	1	1	-
Qiqihar	0.699	0.730	0.958	drs	0.670	0.743	0.902	drs	0.737	0.737	1	-
Jixi	1	1	1	-	0.848	0.880	0.964	drs	0.965	0.966	0.999	irs
hegang	1	1	1	-	1	1	1	-	0.999	1	0.999	irs
Shuangya Mountain	0.910	0.914	0.995	drs	0.880	0.892	0.986	drs	0.903	0.943	0.958	irs
Daqing	0.740	0.744	0.995	drs	0.776	0.813	0.955	drs	0.686	0.686	1	-
Yichun	0.700	0.754	0.929	irs	0.761	0.803	0.948	irs	0.771	0.83	0.929	irs
Jiamusi	0.782	0.799	0.978	drs	0.727	0.781	0.931	drs	0.792	0.792	1	-
qitaihe	0.799	0.971	0.822	irs	0.706	0.876	0.806	irs	0.723	0.852	0.848	irs
Mudanjiang	1	1	1	-	1	1	1	-	1	1	1	-
Heihe	0.660	0.694	0.952	irs	0.660	0.669	0.987	drs	0.601	0.655	0.918	irs
Suihua	0.462	0.463	0.998	irs	0.485	0.514	0.943	drs	0.442	0.442	1	-
Daxing'anling	0.719	1.000	0.719	irs	0.670	1.000	0.670	irs	1	1	1	-
mean	0.803	0.851	0.947		0.778	0.844	0.925		0.817	0.839	0.973	

entered the production frontier, achieving the optimal input-output efficiency. Harbin and Hegang contributed most of the DEA effective decision-making units. For example, Harbin City has always been at the forefront of production in the input-output of basic public health services. Except for Mudanjiang City, which was in DEA invalid in 2020 and was above 0.9, DEA was valid in the rest of the year. For diminishing returns to scale.

Analysis of the comprehensive efficiency of public health services of municipal governments. As shown in Table 2, the comprehensive efficiency values of public health services of the six municipal governments in Harbin, Qiqihar, Jixi, Hegang, Shuangyashan and Mudanjiang are also relatively high, reaching DEA effectiveness in most years. The comprehensive efficiency value of public health service of most provincial governments is relatively large, but the comprehensive efficiency value of public health service of Heihe and Suihua municipal governments is significantly lower, with the average value lower than 0. 72, and the annual minimum value lower than 0. 60. This shows that the comprehensive efficiency of public health services of Heihe and Suihua municipal governments is relatively poor and needs to be improved urgently. Judging from the differences in the comprehensive efficiency values of public health services among municipal governments, the differences are not significant and the differences show a decreasing trend. In particular, after analyzing the situation of provincial governments whose comprehensive efficiency value of public health service is lower than

Table 3. DEA-BCC model evaluation results of public health service efficiency of 12 prefecture-level cities and 1 regional administrative government in Heilongjiang Province (continued) (Table credit: Original)

DUM	2019				2020			
	TE	PTE	SE	RSC	TE	PTE	SE	RSC
Harbin	1	1	1	-	1	1	1	-
Qiqihar	0.794	0.808	0.982	drs	0.853	0.871	0.979	drs
Jixi	0.852	0.858	0.992	drs	0.84	0.844	0.995	irs
hegang	1	1	1	-	1	1	1	-
Shuangya Mountain	0.934	0.953	0.98	irs	0.875	0.902	0.97	irs
Daqing	0.725	0.727	0.997	drs	0.608	0.654	0.929	drs
Yichun	0.804	0.853	0.942	irs	0.763	0.81	0.941	irs
Jiamusi	0.85	0.868	0.979	drs	0.881	0.928	0.95	drs
qitaihe	0.799	0.947	0.844	irs	0.729	0.921	0.791	irs
Mudanjiang	1	1	1	-	0.935	1	0.935	drs
Heihe	0.618	0.666	0.927	irs	0.629	0.639	0.984	drs
Suihua	0.453	0.459	0.986	drs	0.502	0.539	0.933	drs
Daxing'anling	0.7	1	0.7	irs	0.622	1	0.622	irs
mean	0.81	0.857	0.948		0.787	0.854	0.925	

Note: TE stands for comprehensive efficiency, PTE stands for pure technical efficiency, SE stands for scale efficiency, RSC stands for change in returns to scale; - stands for constant returns to scale, irs stands for increasing returns to scale, and drs stands for diminishing returns to scale.

0.8, it is found that the scale efficiency value of public health service of these provincial governments is greater than the technical efficiency value.

Pure technical efficiency analysis of municipal government public health services. As shown in Table 2, the pure technical efficiency of the public health services of the two municipal governments in Harbin and Qiqihar exceeds 0.85. This result shows that, on the whole, the pure technical efficiency values of public health services of municipal governments are relatively high, reflecting the high level of management and operation efficiency of public health services of municipal governments in my country. In the analysis of provinces with low comprehensive efficiency value of municipal government public services from 2016 to 2020, it is found that the scale efficiency values of these municipal government public services are greater than the technical efficiency values, indicating that the main factors affecting the comprehensive efficiency values of these public health services are the management and technical level of its governments in Heihe and Suihua are relatively poor. Further analysis of inter-provincial differences shows that the pure technical efficiency value of public services of the two municipal governments in Heihe and Suihua is even lower than 0.8, indicating that the management of their governments in Heihe and Suihua is not the same as that in Suihua. The technical level

Table 4. Malmquist index and its decomposition index of public health service efficiency of 12 prefecture-level cities and 1 regional administrative government in Heilongjiang Province (Table credit: Original)

years	technical efficiency	skill improved	pure technical efficiency	scale efficiency	full factors production rate
2016–2017	0.996	1.094	0.999	0.997	1.089
2017–2018	0.919	1.222	0.916	1.003	1.123
2018–2019	1.102	0.851	1.105	0.997	0.939
2019–2020	0.999	1.007	1.001	0.999	1.007
mean	1.002	1.035	1.003	0.999	1.037

is very poor. For such municipal governments, they should improve the pure technical efficiency of Heihe and Suihua by improving the management and operational efficiency of Heihe and Suihua, thereby improving the overall efficiency of their public services.

Scale efficiency analysis of municipal government public health services.Harbin (2016–2019), Hegang (2016–2017, 2019–2020), Mudanjiang (2016–2019), Daxing'anling (2018), a total of 4 municipal governments achieved DEA effectiveness of public service scale efficiency 32 times. The average value of the public service scale efficiency of the four municipal governments is above 0.8.

3.2 Dynamic Analysis of Malmquist Index

The Malmquist index can reflect the changing trend of public health services in Heilongjiang Province by year and region. The DEAP2.1 software is used to analyze the data of 13 prefecture-level governments in Heilongjiang Province during the "Thirteenth Five-Year Plan" period. Dynamic characteristics of total factor productivity of health services. See Table 3 (Table 4).

As can be seen from Table 2, except for 2018–2019, the total factor productivity of all other years was greater than 1. Among them, the total factor production index of public health services in Heilongjiang Province in 2018–2019 was the lowest at 0.939, and the total factor production index in 2017–2018 was the highest at 1.123, with a large fluctuation range. The average annual growth rate of technical efficiency is 0.2%, and the fluctuation range is relatively small; the average annual growth rate of technological progress is 3.5%, and the fluctuation range is relatively large; the average annual growth rate of pure technical efficiency is 0.3%, and the fluctuation range is relatively small, and the average annual growth rate of scale efficiency is almost no. Change.

4 Conclusion and Suggestion

The calculation and analysis using DEA-BCC model and Malmquist model show that the comprehensive efficiency of public services of prefecture-level municipal governments in Heilongjiang Province is relatively good, the inter-provincial differences in the comprehensive efficiency of public services of municipal governments are small and gradually decrease; 13 The public health services of the prefecture-level municipal governments are quite different, especially for Heihe and Suihua with low pure technical efficiency, and even promote the overall efficiency improvement. In terms of changes in returns to scale, most provincial government public health services have shown that the scale efficiency value remains unchanged or fluctuates. For example, building a cross-departmental collaborative big data platform is conducive to integrating existing resources. Municipal government public health services Malmquist total factor productivity index is mainly affected by changes in technical efficiency index and technological progress index alternately. Comparatively speaking, technological progress index has more room for improvement. The construction of a health care big data platform should be accelerated to automatically collect, update and analyze the health information of each key resident, and realize "point-to-point" personalized tracking guidance. To this end, the following recommendations are made:

4.1 Develop Data Tools for Municipalities

Different types of data are stored in systems with different structures, and data integration needs to be performed between related data to integrate various types of data into a whole, thereby providing convenience for medical and health services. For big data, it is necessary to extract effective information from massive data, and powerful analysis tools are indispensable. In order to establish a more complete health care big data, it is necessary to integrate and correlate various categories to form a whole, which is convenient for later analysis and application [5]. Due to the difference of classified data, medical big data, health big data and bio-omics big data are integrated and integrated, so that the data can be integrated into personal-based health and medical big data integration, thereby forming people's comprehensive health and medical information collection. In this way, it will be beneficial to promote the realization of people's personalized diagnosis and treatment and precision medicine.

4.2 Medical Information Digitization

The effect of specific drugs, the degree of damage to the human body, the recovery of cases, and the consumption of medical resources can all be obtained in real time with the help of the big data platform. At present, most hospitals in my country have realized electronic medical records and installed HIS systems, realizing the digitization of basic information and pathological information of patients from admission to discharge. The online medical knowledge base of the company can use big data technology to screen suspected cases at an early stage, track the source of the disease, find out patients with basic diseases susceptible to the new crown, track the behavioral trajectories of susceptible people and suspicious people in real time, and dynamically adjust the epidemic situation information. In order for the government to strengthen the early warning and prediction of the epidemic. For example, big data products such as Zhongyun big data platform and Baidu Brain rely on medical information resources to detect possible unknown causes and unknown diseases in a certain area by monitoring the keywords frequently searched by users in a certain area. After comparing with the data model, trying to find out the possible source of the epidemic is conducive to effective supervision of the potential epidemic and coordinated prevention and control of various departments.

4.3 Create a Digital Governance Mechanism

Big data technology can analyze the historical data of public health crises and social real-time monitoring data in the whole process, in the whole field, and in the whole data, and deal with the places where there are hidden dangers in a timely manner to reduce losses and speed up the effect of joint governance. Improve the national public health crisis emergency response mechanism, based on the big data platform, link transportation, health, justice, residents' basic daily necessities and other departments as well as urban residents, integrate resources of various departments to achieve unified scheduling, command, and sharing across departments, with visual communication, Multi-dimensional data display and other methods have formed an integrated governance model of cross-departmental linkage and joint governance. For example, the big data platform developed by Digital China Holdings in Sanming City, Fujian, integrates the previously dispersed "reporting" of citizens with the "disposal" of various government departments, and adds a feedback mechanism to improve the quality and efficiency of government processing, forming a cross-border Departmental governance closed loop. It not only established a platform to serve the people, but also built a bridge between residents, cities and governments, allowing ordinary residents to participate in epidemic prevention and control through the big data platform, thus building a governance pattern of co-construction, co-governance and sharing [6].

4.4 Strengthen Medical Data Security

The security of medical big data and the privacy and security of personal medical data are the focus of the current society. Strict control measures should be taken for personal information to avoid off-label and de-identification processing, and to protect personal privacy [2]. Continuously evaluate the safety and reliability of big data platforms and service providers, and improve and optimize information reporting and emergency plans, so as to achieve real-time monitoring, backup, and early warning in big data security, and to improve medical data security. As the construction technology of big data information platform becomes more and more perfect, the system construction of big data platform has been paid attention to by Nanguo Municipal Health Information Administration, and they have also tried to introduce various The purpose of the data frame system is to study the large-scale system framework through cloud computing, and realize the horizontal dynamic expansion of the system and the network support for content distribution through the actual idea of the distributed system framework, so as to ensure that every user can enjoy the same speed. Experience. Based on the upgrade mechanism, it can ensure that the cloud computing big data platform architecture maintains a state of continuous operation for 7 days, and can maintain a non-stop state when the user does not feel it. According to the monitoring system, the operating state of each node can be monitored in real time, and the operation of the system can be mastered. Based on the security system, a multi-level joint prevention and control mechanism is constructed.

At the same time, based on a powerful log system and a community correction system, every visit is safe and effective.

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