Study on Community Health Workers’ Satisfaction with Service Information System

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Abstract. This paper intends to use one community as an example to conduct one-way analysis of variance and multi-factor logistic regression analysis of relevant survey data to explore the satisfaction impact factor, and to find some problems in the community health service information system from the perspective of medical staff satisfaction. In response to these problems, it provides a reference for the community health service information construction and management information system application in the medical reform environment, so that the informationization results can better serve the people.

Introduction

Hospital management information system can save manpower and reduce human error rate. However, due to the fact that there are many objective factors and the complexity of the management information system, it is often impossible to achieve ideal results in some aspects. The key to evaluate whether the information construction of community health services is successful and what problems exist in the use process depends on the feedback of users. In the theoretical circle, there are many ways to measure the success of the information system, among which satisfaction is an important measurement perspective, and the application of it in hospital management is the current development trend. By measuring user satisfaction, the application of management information system in enterprises can be reasonably evaluated. The evaluation of information system is an important means for the hospital to improve the management information system and optimize the business process. With the user satisfaction of the information system as the evaluation object, it can help the township hospitals to understand the application of the management information system more intuitively.

Related Concepts and Theoretical Basis of Satisfaction Evaluation

Hospital Information System Concept

The Hospital Information System (HIS) is a system that helps hospital staff to process information accurately and efficiently. From a clinical point of view, the most important function of HIS is to provide clinical data communication support for medical staff, so that medical personnel can easily obtain, interpret and use patient data to support the medical medical decision-making work of medical staff, such as income and expenditure accounts. It must be calculated quickly and accurately, the salaries of hospital employees must be paid on time, and the supplies must be provided in a timely manner. In addition, managers need to understand some important information for long-term and short-term planning [1].

Customer Satisfaction

The Customer Satisfaction Index (CSI), also known as the Customer Satisfaction Index, was originally an economic index co-sponsored by the National Quality Research Center and the American Quality Association at the University of Michigan Business School. User satisfaction refers to how satisfied users are with the company and its products or services. User satisfaction is also a state of user perception of the business, and it is easier to stimulate the occurrence of trading
behavior in this state of experience[2]. User satisfaction is considered to be the best representative measure of information system success. It is defined as a collection of feelings and attitudes about a person's factors related to the delivery of a range of products and services. Systems without user satisfaction are not possible and do not create value for users and organizations[3].

### Analysis on the Satisfaction Survey of Information System Application in Community Health Service Center

#### Survey Description

This topic applies the sampling method, taking into account the requirements of investigation operability, feasibility, quality control, etc., selects the medical staff of the community health service center as the survey object, conducts questionnaire surveys and conducts individual interviews with medical staff who are willing to cooperate. In order to ensure the objectivity and authenticity of the respondents' responses, the survey adopted a strict anonymous answering system. The survey used a self-made questionnaire. The Cronbach’s α coefficient was 0.89, and the validity of the questionnaire was good.

#### Analysis of Survey Results

This survey establishes the community health service information system application satisfaction system from three dimensions: user needs, quality perception and value perception. Among them, the user needs to include the user, that is, the user of the community health service information system, the degree of perception of the target, and the degree of realization of the management system function; the quality perception includes the user's perception of the system data content structure, and the perception of the clarity of the budget system hierarchy. User satisfaction with the output form, satisfaction of the medical staff on the import form, satisfaction with the system response speed, satisfaction with the system data error correction function, satisfaction with the operation authority control function, and satisfaction with the system data entry operation; value Perception includes examining user expectations and psychological perceptions. Five values are given to the user's satisfaction with each factor, among which, very dissatisfied is 1, less than 2 is satisfied, generally 3, and satisfactory is 4, which is very satisfactory. The specific data results are shown in the table below.

| Table 1. Medical staff information system application satisfaction logistic stepwise regression results. |
|---|---|---|---|---|---|---|
| **Age** | B | S.E. | Sig. | OR | Lower | Upper |
| =<25 years old | 0.029 | | | | | |
| 25 years old ~ 35 years old | 0.113 | 0.321 | 0.261 | 1.120 | 0.956 | 1.431 |
| 35 years old ~ 45 years old | 0.121 | 0.334 | 0.119 | 1.129 | 0.963 | 1.556 |
| 45 years old ~ 55 years old | 0.109 | 0.351 | 0.126 | 1.115 | 0.946 | 1.339 |
| 55 years old > | -0.124 | 0.338 | 0.012 | 0.883 | 0.611 | 1.142 |
| **Educational level** | | | | | | |
| Junior high school and below | | | | | 0.021 | |
| Secondary school (high school) | 0.097 | 0.477 | 0.376 | 1.102 | 0.962 | 1.321 |
| Junior college | 0.633 | 0.483 | 0.027 | 1.883 | 1.431 | 2.017 |
| Undergraduate and above | 0.712 | 0.502 | 0.019 | 2.038 | 1.866 | 2.408 |
| **Information system query data response speed** | | | | | | |
| Very dissatisfied | | | | 0.011 | | |
| Not very satisfied | 0.112 | 0.297 | 0.413 | 1.119 | 0.907 | 1.224 |
| General | 0.219 | 0.308 | 0.341 | 1.245 | 0.973 | 1.567 |
| Satisfied | 0.586 | 0.311 | 0.031 | 1.797 | 1.423 | 2.016 |
| Very satisfied | 0.641 | 0.306 | 0.028 | 1.898 | 1.665 | 2.318 |
| **Information system data verification** | | | | | | |
| Very dissatisfied | | | | 0.013 | | |
| Not very satisfied | 0.1147 | 0.217 | 0.554 | 1.122 | 0.877 | 1.272 |
| General | 0.246 | 0.226 | 0.218 | 1.279 | 0.991 | 1.438 |
Firstly, most medical personnel have accepted and agreed to use information technology for office work. From the analysis results, it is found that the satisfaction of the information system is low for people over 55 years old. This is because older employees are less accommodating to information technology and slower in learning, and they are more accustomed to working in the traditional way.

Secondly, in terms of education level, the higher the level of education, the higher the satisfaction of the information system. This shows that the obvious academic qualifications in the process of applying the hospital information system are that the employees with higher education are more knowledge-oriented, have better understanding of the system purpose, and have stronger learning ability.

Thirdly, there is a significant difference in the respondents to the system response speed. However, as far as the results are concerned, the satisfied employees are nearly twice as dissatisfied, indicating that the psychological factors of the medical staff are very different. In the process of applying information system, system speed is a key factor affecting user experience. Too long data query waiting time will have a negative impact on the work of medical staff, affect work mood and reduce work efficiency.

Fourthly, a sound data verification function can increase the accuracy of data input and ensure that data is reliable and reduces human error. In the satisfaction survey of the information system data verification function, the satisfied and very satisfied group is nearly twice as large as the dissatisfied group, indicating that the information system used by the community health service center has strong ability to screen for data identification.

Lastly, User satisfaction is also high in the rationality of information system design, export form and system maintenance survey. It shows that the information system currently used basically meets the needs of users. However, there are also some low user satisfaction, indicating that the system improvement space is still very large, and the construction of community health service information system still needs to be strengthened.

### Analysis of Application Problems of Community Health Service Information System

#### Insufficient Understanding of Information and Imperfect Information Management

Through investigations, it was found that community health service centers generally did not formulate comprehensive information development plans, and the formulation of relevant information system rules and regulations and emergency plans was not perfect. This indicates that the administrative leaders of community health service centers have insufficient understanding of informationization and information management is flawed.
Informatization Construction Lacks Professional Talents, and Systematic Training Is Insufficient, Which Needs to Be Strengthened

In this survey, the information workers of community health services are not computer and information-related professionals, so the professional level of information personnel is not high. The training of information technology for ordinary medical staff is lagging behind, and most medical personnel are not well aware of the information system. In terms of health information management talents, department heads are mostly medical majors, lack of knowledge about computers and informatization, and lack of experience in managing large-scale information construction projects. There is a lack of multidisciplinary talent with computer, medical, and management knowledge in the staff structure of community health service centers.

Obstacles to Information Sharing and Lack of Uniform Standards

In the various platforms for information sharing, the system of health care reform management system, two-way referral, and the regional health information platform's docking rate did not reach 100%. In the field investigation, the informationization standards adopted by the health service centers are not uniform, resulting in the information sharing of the health centers and the lack of cooperation. Inconsistent information standards are prone to information chimneys and information islands.

Information Security Mechanism Is Not Yet Sound

The survey results show that the information system security systems and measures of the hospitals are generally imperfect. An information system lacking security mechanisms will never be a reliable and powerful system.

Countermeasures

Increase the Introduction of Talents and Conduct Regular Internal Training

To create a high-quality information talent team, you can start with the following measures. First, open recruitment for the society. Grassroots medical organizations such as community health service centers must solve the problems of preparation and professional titles in order to attract talents, and combine the actual construction of talent introduction systems and systems involving personnel selection, promotion, reward, and promotion. Excellent talents who have the ability to undertake the health informationization work of township hospitals and can make outstanding contributions have implemented certain incentives in internal distribution, and formulated corresponding special policies in terms of wages, medical care, training, etc., to stimulate employees' sense of belonging and Work enthusiasm, initiative and creativity. Second, regular selection of employees for internal information technology training to enhance the professional quality of employees. Through the comprehensive measures of external introduction and internal training, we will strive to build a team of compound talents[3].

Improve Informationization Awareness, Strengthen Organizational Management, and Formulate Comprehensive Long-Term Strategic Development Plans

Executive leaders should fully understand the value and significance of health information construction, have scientific management concepts and accomplishments, and regard health information construction as an important long-term work project. At the same time, the leaders should actively establish and improve the information technology professional departments, and formulate comprehensive long-term strategic development plans and specific programs. Only when the development plan is formulated, the health informationization construction has clear objectives and performance evaluation standards. In addition, any system needs rules and regulations to be bound and guaranteed. Emergency plans are needed to deal with emergencies. Leaders must pay more attention to the system and norms, and formulate detailed and reasonable information management rules and regulations and perfect emergency plans according to actual needs.
Establish Unified Standards and Accelerate the Construction of Regional Health Information Platforms

The health administrative department must organize the establishment of a standard system for health informationization, and each health center shall carry out rectification and construction in accordance with the standard system established by the health administrative department to promote information sharing between institutions. Only on the basis of following the same standard system, the information construction of regional platforms can be greatly developed.

Improve the Security Mechanism of Information Systems

The basic health information system is an important part of the national health information system, and its safety is the basis of national health information security. Health centers must establish sound security mechanisms for information systems, including data security mechanisms, system security mechanisms, network security mechanisms, and various contingency plans to prepare for emergencies.

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