

Double QSSE innovative hospital management model based on JCI standard and its application in private hospital in China

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Abstract

Background

The Joint Commission on International Accreditation of Health Care Organizations (JCI) standard is a hospital accreditation standard recognized by the medical industry worldwide. However, the previous Chinese hospital management model cannot be fully integrated with the JCI standard. The purpose of this study is to explore a new Chinese hospital management mode that adapts to JCI standard.

Methods

This article retrospectively analyzed the initial results of the operation of the double QSSE management mode at Xuzhou Renci Hospital, a Chinese private hospital from 2016 to 2018. The innovation mode combines the four elements of patients' needs "Quaesitum, Sollicitude, Surroundings, and Expenditure" with the four core contents of hospital management "Quality, Service, Staff and Economic operation".

Results

After two years implementation of the model, Xuzhou Renci hospital has reached a series of achievements, including being elected as the honest private hospitals and ranking first, achieved the highest grade of "special satisfaction" in the third-party hospital satisfaction survey organized by the government; being rated as "the most beautiful hospital in China" and awarded the title of "the most beautiful hospital in China—the light of the city"; promoted to the third-grade orthopedic hospital in 2019; ranked in the forefront of original non-public hospitals in northern Jiangsu Province in the Chinese hospital competitiveness conference hosted by Asclepius Health in Hong Kong 2019; recognized as the "safe demonstration hospital" in Jiangsu Province 2019.

Conclusion

The double QSSE refined management mode has the characteristics of standardization, quantification, comparison, easy assessment and easy replication, which improves not only the patient-centered medical experience, but also the hospital-department quality management system. It is an innovative hospital management mode that conforms to JCI standard and adapts to China's national conditions.

Background

The International Hospital Accreditation Standards of the Joint Commission International(JCI) provides the basis for accreditation of hospitals around the world. The JCI standard defines the performance expectations, structure, and functions that accredited hospitals must have [1]. The JCI standard is currently the most widely used evaluation standard for hospitals. Hospitals that account for 92% of beds in the United States have been certified, which representing the highest level of hospital services and hospital management. It is a recognized medical service standard worldwide and an authentication mode recognized by the World Health Organization [2].

With the continuous deepening of the reform of the national medical and health system and the advancement of the Healthy China strategy, China's medical and health undertakings have made great progress, and hospitals have also obtained great development opportunities [3]. In China, it is the operation mode of independent economic accounting of each department under the president responsibility system, and the performance management mode is the common hospital management mode [4]. Although it meets the basic requirements of "more work, more rewards and better performance", which is conducive to increasing the enthusiasm of medical personnel, the focus is on the internal medical quality and economic benefits of the organization, and not enough attention to the needs of patients and the social benefits of the hospital.

The current Chinese hospital management model can no longer meet the requirements of JCI certification, and seeking an appropriate hospital management system and effective hospital management mode, which is also the requirement of hospital to achieve high-quality development, has become an urgent issue for current hospital managers [5].

Methods

Innovation of hospital management mode— double QSSE hospital management model

In 1991, the International Petroleum Organization proposed the (Health-Safety and Environment) HSE management model for the first time at the World Exploration Conference [6]. In 2001, China National Petroleum Corporation(CNPC) proposed the integrated QHSE management model, includes quality, health, safety and environment, the successful application of this model promotes the high-quality, healthy and sustainable development of the enterprise, and it was ranked 4th in the world's top 500 list in 2018 [7].

Based on the JCI standards and the Chinese industry rules, such as the Implementation Rules of the Evaluation Standards for Three-Grade General Hospitals issued by the Jiangsu Provincial Health Commission, the "Opinions for Performance Evaluation of Three-grade Public Hospitals" issued by the General Office of the State Council, and combined with the actual conditions of the hospital, we established a refined management model with the characteristics of Renci Hospital — double QSSE management mode by using modern management theories and methods. The double QSSE mode focuses on the patients needs. It combined the four elements of patients needs "quaesitum, sollicitude, surroundings, and expenditure" with the four core contents of hospital management "quality, service, staff and economic operation".

1. To ensure the safety of patients, "Everything is patient-centered" is the primary core concept of JCI, which has become the consensus of many hospitals and is also one of the purposes and footholds of hospital management [8]. We summarize the needs of patients into four elements: "quaesitum, sollicitude, surroundings, and expenditure ", in another word, "effect, care, cost, and environment."

☒ Quaesitum/Care

Among the four elements to improve the patient's medical experience, the treatment result is the core, and the first concern when patients come to the hospital. Accurate treatment measures and rapid rehabilitation are the common pursuit of both doctors and patients. Medical quality and safety are the guarantee of the treatment effect. High-quality medical treatment can guarantee the safety of patients. Good safety measures can promote the improvement of medical quality. Good treatment effects can meet the primary needs of patients. Patient satisfaction can make the hospital develop into a virtuous circle.

☒ Solicitud/Care

Care is centered on "love". Modern medicine is changing from a "biomedical model" to a "biological-psychological-social medical model". On the basis of medical care, more attention is paid to people's psychological feelings. The new medical model puts forward higher requirements for medical humanistic care [9]. The object of medicine is not only disease, but human – an unique individual with high Intelligence Quotient☒IQ☒and emotional intelligence. Under the guidance of the people-oriented development policy, the goal of medical treatment is far from simple treatment and saving lives. The concept of precision and individualized treatment spawned in the context of medical health always reminds us to care for patients from the heart, care with love, and fight against disease together. Beside the medical treatment, humanistic care will lead us to perform the care, love, patience beyond the expectation, which allows patients to experience excellent service quality. Good medical experience can effectively improve patient satisfaction and loyalty, and enhance the social influence of the hospital.

☒ Expenditure/cost

Expenses are based on legality and reasonableness. "Expenses" also affect patients' medical experience, such as whether the hospital has clear charging standards, whether the charges are reasonable, and the proportion of various medical insurance reimbursements, etc. The undesirable phenomenon of over examination and treatment still exists. " difficult to see a doctor, expensive to see a doctor" is still the main factor affecting the relationship between doctors and patients. First, we should eliminate profit-seeking behaviors, return medical services to public welfare, and provide cost-effective medical services, that is, to maximize medical quality / effects at a lower cost. Health service meets the basic requirements for maintaining people's health, and it is also the responsibility of medical institutions. The new technologies and materials has promoted the rapid advancement of medical technology, and at the same time brought a rapid rise in medical prices. Providing basic public welfare medical services, as well as the high-quality medical services and personalized medical services can meet the multi-level medical needs of different patients, improve the health of the people, and promote the long-term and healthy development of the hospital.

☒ Surroundings/Environment

The environment regards humanity as the core. The condition of the hospital environment affects the psychological state of the patient, which is related to the therapeutic effect and the outcome of the

treatment. The physical environment of the hospital is the basic factor that affects the efficacy of patients. A safe, clean and convenient environment is conducive to receiving medical services; and the social environment of the hospital has a close influence on the patient's physiology, psychology and emotion, such as humanized process design, patient privacy protection, good doctor-patient communication and friendly hospital rules, and other soft environment, which is an important factor affecting patients' medical experience. With the improvement of people's quality of life, the concept of consumption gradually trends to pursue a high-quality, beautiful and comfortable living space, and a good environment has also become a standard for patients to choose hospitals. A safe and comfortable hospital environment has positive significance for patient rehabilitation, and is also an external requirement for improving the image of the hospital and creating a hospital brand.

2. Continuous improvement of hospital management quality is an inevitable requirement of JCI certification for hospital quality management. The four dimensions of “quality, service, staff and economic operation” are the core contents of the internal management of the hospital and the main internal factors of the hospital governance system.

☒ Human is the first element of the development of productive forces and also the first element of the development of hospital. The hospital can achieve sustainable development only if the staff training is carried out for a long-term systematic project. At first, to summarize the common knowledge, information, and skills for unified training and assessment. Then the department conducts personalized training. Through training, practice and other methods, improve the comprehensive quality of employees, establish a patient-centric service concept, and ensure medical quality; improve the patients’ medical experience and the overall operating efficiency of the hospital. By using various assessment tools, comprehensively evaluate employees, increase the suitability of personnel and positions, and meanwhile establish a valid evaluation model to obtain key training and precise support for effective promotion of talents and experts. Performance and fund pool management could help promote managers and employees at all levels to complete hospital goals and further improve performance of individuals, departments, and hospitals; Promote the stability and healthy development of employees by clarifying job responsibilities and work tasks, understanding promotion channels, and assisting employees in appropriate career planning. Personnel management focuses on shaping and strengthening hospital values, establishing a magnetic hospital culture, enhancing employees a sense of belonging, and harmoniously coexisting the personal prospects of employees and the hospital’s vision of a future, and finally forming a community of interests, career, so as to shared destiny. Achieve symbiosis and prosperity with employees, thereby promoting the healthy and sustainable development of both hospitals and employees.

☒The quality and safety are the eternal theme of hospital management. Institution building is the core of the quality management. Implementing rules and regulations is the only option to ensure quality and safety. While strengthening the implementation of the core medical systems and key indicators, we will focus on establishing and improving systems and processes with hospital characteristics, strictly implementing closed-loop management, refining diagnosis and treatment procedures, integrating high-quality technologies inside and outside the hospital, and achieving the assimilation of diagnosis and

treatment effects. It is also necessary to coordinate all-round development with logistics facilities, equipment operation, information security, fire safety, etc.

With the development of social economy and the improvement of living standards, we are more and more aware that the quality of hospital services will directly affect the survival and development of hospitals. Improving hospital service levels is an important way for hospitals to achieve economic and social benefits, as well as the need to implement "all centered on patients". Service management takes "customers" as the core and continuously improves the patient's medical experience. Hospital-level management establishes the concept of "Clinical departments are customers and management is service". Clinical departments need to uphold the concept of "patient first". The two levels of hospital and departments take improving the patients' medical experience as a common starting point, establish quality awareness of medical services, and strengthen services process management, focus on service effects, and truly provide high-quality, safe and satisfactory services to meet the patients' needs of different levels. Improving the hospital service level can enhance the reputation and popularity of the hospital, build a good hospital brand, and promote the sustainable development of the hospital.

Operation is the basis of hospital survival, and the core of operation management is efficiency. Our goal is to improve the utilization efficiency of health resources, reduce waste, save costs, polish service quality and personal experience, strengthen the integration of related service systems, and pay attention to the expansion and implementation of public welfare undertakings. Continuously perfect the performance assessment and profit allocation mechanism, reduce costs, increase working efficiency, and meet the needs of patients at different levels. Establish a good operating mechanism to reach the economic, and social achievement and sustainable development.

The core concept of the JCI standard is patient safety and continuous quality improvement. The double QSSE management model emphasizes patient needs as the center and strengthens hospital quality management, which is conducive to promoting the orderly improvement of various hospital works.

Practical operation of double QSSE hospital management mode

In our practical work, we follow the principles of management. According to the Pareto's principle (also known as the 80–20 rule) [10], take patient needs as the work orientation, and combine with the core content of continuous improvement of hospital quality, implement closed-loop management, continuously improve the quality of medical care and patients' experience, and promote the high-quality development of the hospital. Following are something to make a statement:

1 Create a hospital organization structure that conforms to the double QSSE management model

The organizational structure model is the hub for enterprises to arrange production factors and connect enterprises with the market, and it is also the foundation and driving force of the hospital management model. The traditional functional organization structure divides the departments into functions. However, it is hard to clarify the functions of each department, and overlapping or vacancies often occurs, which

leads to wrangling or prevarication between related departments, and also prevents effective centralized leadership and unified command. This functional system is mostly limited to the management of internal functions and lacks consideration of patient needs.

In 2001, Carly Fiorina proposed a "front-back" organization structure. The front-end department is responsible for customer service, and the back-end department is responsible for production. It has been successfully applied in HP, and is known as the organizational model that truly conforms to the transformation from "product-oriented to customer-oriented" [11]. Drawing on this model, we have innovatively designed an organizational structure that conforms to the double QSSE hospital management model. Our hospital is divided into a Medical center and an Operation center each led by a vice president. Under the jurisdiction of the medical management center, the medical department, nursing department, outpatient department, hospital department, quality control department and clinical departments are responsible for directly facing patients and medical front-line related work. The Operation center includes the operation office, human resources department, finance department, general affairs department, information department and other departments, which are responsible for the logistics support of hospital operation. At the same time, various committees and supervision and evaluation groups are set up to assist in decision-making and supervision to achieve continuous quality improvement.

This organizational model clarifies the management functions at the two levels of hospital and departments, and strengthens the functions of professional committees. The centralized and unified functions of this model are beneficial to the advantage of team collaboration, and information can be shared in real time, avoiding the drawbacks of poor data exchange and data silos caused by the previous functional system, and improving the efficiency of decision-making and operation. This model embodies the patient-centered spirit, and meets the requirements of the JCI standard for meeting patients' needs and managing internal quality, and promotes continuous improvement of medical quality.

2.2 Establish management teams, refine the management of department

In the two-level management of hospital and department, department is the basic unit, not only the executive level, but also the management level, which plays a connecting role in hospital management. No matter what kind of advanced management mode, if it is not implemented in the Department, it is a castle in the air. Due to the lack of an effective management model in the past, the director of the department was tired of coping with daily management, and only focused on medical expertise. The refined management of the department is far beyond discussion.

In response to this situation, through the operation of double QSSE management model, we have established four teams in the department, "personnel management team", "quality and safety management team", "service management team", "operation management team", to undertake four modules of hospital management. In addition to the participation of the director of the department and the head nurse, according to the professional expertise of the department staff, the corresponding medical personnel are recruited in the four groups, so that they can play their personal expertise and form

a good situation for everyone to participate in management. Clarify the functions of the four management teams, and establish a set of systems, standards, and processes to facilitate the work. In the past, the traditional approach was mainly to control the medical quality and safety of the department through the department quality control team.

The functional departments of the hospital managed the personnel, service, and operation. This model can only control the results afterwards. The establishment of the management team can control the process in the first time.

Through the operation of double QSSE management model, we change the way of thinking– "simplify the administration and decentralization", decentralize power within the prescribed scope, change from passive management to active management. The department directors have overall planning for the development and management of the department, mobilize the enthusiasm of the department. By allowing more training and learning to be placed in the department, the department staff can use the time flexibly, without affecting their normal work and life. While embodying the humanization of hospital management, it also allows medical staff to have more time Return to clinical.

☒Improve the system of self-control, other-control and mutual-control based on organizational control

The implementation of any management model requires organizational control. Department directors, medical team leaders, and individuals carry out work according to the rules and regulations of the hospital, which is "self-control". "Other control" means that the hospital supervises the Departments, the directors /head nurses supervise the medical groups/nursing groups, and the medical groups/ nursing groups supervise the individuals. "Mutual control" management mechanism allows medical groups form monitoring teams to check each other's work. And "mutual control" is the missing link under the traditional management mode in the past. This combination of self-control, other control and mutual control has formed a better organizational control system, so that the internal control management of the hospital can be implemented. Through supervision, inspection and evaluation, correct the mistakes and weaknesses in the work, eliminate the potential risks of medical practice, continuously improve the quality of medical service, and promote other work and the overall healthy development of the hospital.

☒Performance is standardized, quantifiable and comparable to improve the accuracy of assessment

In order to truly implement the double QSSE model, the hospital has formulated modular system, standards, processes and work list, according to the JCI and domestic industry standards and other regulations, to ensure that each work has a rule to follow. The work content should be quantified, tabulated, and data-based, which is conducive to information management, so as to facilitate assessment and comparison between departments and personnel. According to the position responsibilities of the department staff, a quantitative assessment plan was formulated, and all personnel of the departments were assessed monthly, and regularly reported and summarized. For those who fail to pass the assessment, penalties will be replaced by the internal training in the departments. If

they fail again, they should participate in the training of hospital level until they can pass it. Through these assessments, the effect of rewarding advanced and inspiring backward is achieved.

Through the implementation of the above measures, the double QSSE management model can achieve a scientific management state that is standard, quantifiable, comparable, easy to evaluate, and easy to replicate, which makes the hospital management normalized and standardized to achieve standardized, scientific and efficient operation.

Results

As a private orthopedic hospital with strong specialty, Xuzhou Renci Hospital has high reputation in eastern China. As the hospital continues to expand, the original extensive management model can no longer meet the needs of rapid development.

Xuzhou Renci Hospital began to implement the double QSSE management model in 2016, and established a department management team to refine management, formed a complete quality control system, improved the quality of medical treatment and the patient's experience. Meanwhile, The management team provides each patient with a "personal service butler", which is composed of staff who advocates caring, patient, and attentive. The daily feedback from the bed doctors or nurses gives us opportunities to understand the needs of the patients, so we can provide solutions to improve the patient's medical treatment and the patients' satisfaction, furthermore, gain a good social reputation and overall development of the hospital has entered a virtuous circle.

From 2016 to 2018, Xuzhou Renci Hospital was elected as the first batch of integrity private hospitals and ranked first, which organized by the Xuzhou Health and Family Planning Commission. It has repeatedly obtained the highest level "special satisfaction" in the third-party satisfaction survey of hospitals organized by the government. Xuzhou Renci Hospital was awarded the title of "The Most Beautiful Hospital in China-City Light" and was rated as "The Most Beautiful Hospital in China" at the 19th National Hospital Construction Conference in 2018. In 2019, it was promoted to the third grade orthopedic hospital; It is also announced as the original non-public hospital in the country and ranked 103th in the country and the top of the original private hospitals in northern Jiangsu at 2019 China Hospital Competitiveness Conference hosted by Asclepius Health, which is a hospital management research center, in Hong Kong. In 2019, it was recognized as "safe demonstration hospital" in Jiangsu Province... This leaping growth is the result of insisting on management innovation. The double QSSE hospital management model has improved the level of refined management and provided new momentum for hospital development.

Discussion

With the development of social economy, people's health awareness is getting stronger and clearer, and the demand for medical and health services is increasing. In order to meet patients' needs, hospital

administrators need to innovate the hospital management model, focus on the improvement of patients' serving and medical quality, to achieve the high-quality development of the hospital.

The double QSSE hospital management model focuses on satisfying external needs and strengthening the internal management. The external needs are mainly patient satisfaction, which is also an important indicator for evaluating the quality of medical service [12]. The treatment outcome is still the main factor affecting patient satisfaction [13]. We focus on four elements of "quaesitum, sollicitude, surroundings, and expenditure" and truly implement "Everything is patient-centered" to improve patients' sense of experience; the internal management of the hospital highlights four core contents of "quality, service, staff and economic operation" to continuously improve the quality of medical care. Through the implementation of double QSSE management model, the two-level fine management of hospital and departments has been improved, which not only increases patient satisfaction, but also strengthens the management of medical quality and enhances the reputation of the hospital brand.

In practice, we have realized that the double QSSE management model is simple, easy to operate. It has the advantages of standardized, quantifiable, comparable, and easy to evaluate and be duplicated as follows:

☒ This model uses JCI international standards, the "Third-grade General Hospital Evaluation Standards Implementation Rules" and other industry rules as management goals, and uses operation outcomes as a standard to encourage the enthusiasm of employees. Employees participate in the whole cycle of management, including the formulation setting, implementation, inspection and evaluation. Meanwhile personal growth gradually promotes the realization of the hospital's vision, which reflecting the essence of Drucker's goal management [14];

☒ This mode modularizes the assessment standards of hospitals and other departments, digitizes assessment results, adopts information-based quantitative management, and guides the behavior direction of all employees through quantitative indicators, so that the work goals of employees are consistent with the organizational goals☒ to achieve the common development of individuals and hospitals. Quantitative approaches are the specific application of this scientific management idea in modern hospital management [15];

☒Affected by personal cognition, different managers will have different understandings of the evaluation standard rules such as graded hospitals of the above grades. Due to complicated contents, difficulties in coordination and deviation in actual implementation, this mode sums up the complex assessment standards into four management modules, which simplify the form of work list. This modular management is the foundation of the modern management system and also the basis for the realization of modern hospital management [16]. It is easy to understand clearly and convenient for practical operation, accurate execution, convenient for information accurate management. Systematic evaluation and assessment are conducive to rewarding good and punishing, improving work efficiency and achieving a virtuous circle;

☒ According to the " Pareto's principle", this model firmly grasps the two key points of improving patient needs and strengthening hospital management. It adopts the three control principles of self-control, mutual control and other control to form a perfect organizational control system and strengthen the internal management control of the hospital. Internal control management is an inevitable requirement of the modern enterprise management system, and it is also the only way to promote the modernization of hospital management and scientific management [17]. Internal control is conducive to reducing medical treatment risks and improving the overall management level of the hospital, which is of great significance to the sustainable and healthy development of the hospital;

☒ At this stage, there is a lack of hospital management talents in China and the level of personnel management is uneven, especially the private hospitals are mostly in the growth stage. This model can lower the difficulty of management; easily duplicate the successful experience among hospitals, and improve the standardization and the efficiency of hospital management.

There are still some shortcomings such as immature theory and lack of long-term practical experience, and it needs continuous development and improvement.

Conclusion

In summary, the innovative establishment and implementation of the double QSSE management model has not only improved the two-level fine management of hospital and departments, but also improved the patient's medical experience, which meets the core requirements of JCI standards for patient safety and continuous quality improvement [18]. In practice, it has the advantages of standardized, quantifiable, comparable, easy to assess and copy. It is consistent with the requirements of JCI's fine management, using specific, clear and operable quantitative standards. The double QSSE management model provides new ideas and successful experiences for the exploration of the Chinese hospital management model based on JCI standards and in line with national conditions.

Abbreviations

JCI , Joint Commission International;

HSE , management model–Health☐Safety and Environment ;

CNPC , China National Petroleum Corporation;

QHSE management model , Quality☐Health☐Safety and Environment;

IQ , Intelligence Quotient.

Declarations

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Availability of data and materials

All the data supporting findings are contained within the manuscript.

Authors' contributions

Zong Yali designed the questionnaire and composed the manuscript. Zheng Dawei participated in data collection and compose the manuscript. Both authors read and approved the final manuscript.

Consent for publication

Not applicable.

Competing interests

The authors declared that they have no competing interests.

Ethics approval and consent to participate

Ethical approval was obtained from Xuzhou renci hospital Research Ethics

Committee before the study was done. The interviewees were required and sign a consent form after being read an introduction to this study by the interviewers.

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