

Apply a Model of CQI to the Hospital

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Abstract

The paper aims to apply a model of continuous quality improvement (CQI) to Taiwan provincial Pin Ton hospital. Tools of quality control were used both total quality management (TQM) and quality control circle (QCC) in order to approach the objective of 「higher quality, higher efficiency, lower cost」. During two years, this hospital has organized thirteen QC circles that were classified three categories according to that objective: four circles work for higher quality; the other four circles work for higher efficiency; five circles for lower cost. After implementation, several results were found from two viewpoints. From viewpoint of tangibility, one of the most outcomes is to reduce labor cost from 56 persons to 28 persons of temporary employees. From viewpoint of intangibility, the result was evaluated using radar chart to compare the difference after improvement.

This paper is going to report the process of CQI for the hospital management because it is a new issue in Taiwan since 1997.

Keywords: Quality Control Circle (QCC), Total Quality Management (TQM), and Continuous Quality Improvement (CQI).

1. Introduction

In today business environment, both competition and change are avoidable. The health care in Taiwan is facing the challenge of competition. The hospitals of health care need to change by using the methodologies of business management. Taiwan provincial Government aware the requirement of revolution in the health care and promote the concept of TQM and QCC to the hospital by financial incentive since 1998. During the period, all departments in the provincial health care have been requested to attend this quality program. Meanwhile, it is necessary to present their performance through QCC activities of oral presentation and documented records in the end. The Government also invited professors of the university to assess the executed organizations in order to make sure whether they follow the program. Those professors as the guide help the implemented organizations to set-up the procedures, solve their problems and make suggestions. Indeed, it is new era to adopt a CQI activity from top to down for health care in Taiwan.

According to this policy, Provincial Pin Ton hospital selected the C-R University as the consultants to conduct the activities of quality management for one year in 1998. The paper is going to report its process and results by using a model, included four steps, conducted by Dr. Tsay. Its purpose may be the reference for decision making by the Government and the follower in the future.

2. Literature review and methodology

The Joint Commission of Accreditation of Health Care Organization (JCAHO) has made a decision that hospital assessment from the traditional viewpoint of structure, process and results turned to a now viewpoint of continuous quality improvement since 1992. The international quality standard ISO-9004-4 in 1994 edition also addressed about quality improvements and its tools.

The successful examples of application of CQI to the hospitals was reviewed as follows:

- Y.C. Chiang and J.L. Wu applied CQI to the Chuan-Gun Hospital in the 1993.
- S.W. Wang of the hospital of Taiwan University (1997) has pointed the current quality management is to pursuit continuous quality improvement.
- F.S. Wang of the hospital of Sin-Chu (1997) has described that the new trend of hospital quality

management is to use the tool of QCC and CQI.

- M-C. Su mentioned that CQI is a necessary condition for a hospital. The technique of inspection is the life of the hospital and health care. The quality is the soul of the technique of inspection.

According to the policy of Taiwan Government in the health care, the provincial hospitals must apply the basic tools of both TQM and QCC to the CQI activities. Thus, this research work used a model of CQI as methodology in the Figure 1. This key point of this model for the hospital is medical service to work with four steps: interface, intersection, interaction and improvement.

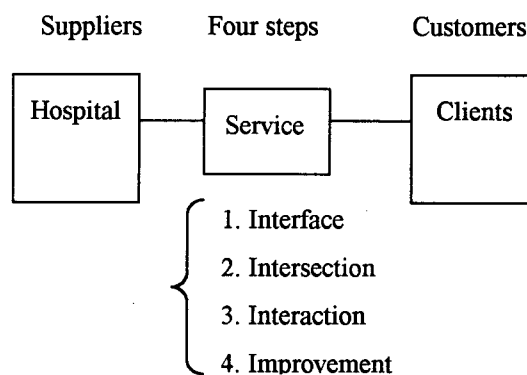


Figure1: A model of CQI

3.Application and its results

The hospital may be classified as service industry. From service viewpoint, It may be looked as the hospital offering the medical service to customers. The medical processes are the median of the CQI model between hospital and clients. These processes are defined as four steps. This section will address these four steps as follows.

(1) Interface

Taiwan Government implemented the policy of the whole people health care from 1996. All payment of health care charge for hospitals controlled by the bureau of health and insurance department. Meanwhile, the people have the option to choose the hospital what they prefer. Therefore, all hospitals in Taiwan faced the challenge on competition and the problem how to survival and growth. They need lots of means to attract customers. Pin-Ton Hospital set-up a goal

of higher quality, higher efficiency and lower cost. The approach is to apply the small group QCC for quality improvement since 1997. Those QCC comprised of thirteen groups included nursing, personnel, pharmacy, inspecting, general affairs, electronic department and social care.

The directions of TQM in this hospital are listed as follow.

- Customer orientation: It means to use scientific means to solve problems, increase efficiency and evaluate customer satisfaction.
- Process orientation: It means to emphasizes on the process in the CQI and quality assurance.
- System orientation: It means to adopt of TQM in the administration system and health care system.

The principles of TQM used in this hospital such as: customer driven, commitment, teamwork, innovation and improvement, communication, culture.

(2) Intersection

There are thirteen circles are listed in the Table1.

Table 1: Contents of QCC in the Pin Ton Hospital

Objective	Name of QCC	Subject
Higher Quality	Team Work	Increase inspecting quality
	Baby	Improve care education
	Survival	Improve nursing record
	Thin	Improve review of charge apply
Higher Efficiency	Circle	Shorting documentation working days
	Happy	Reducing injection
	Efficiency	reducing frequency of broadcasting
	Delivery	Shorting time of delivery data
Lower Cost	Holy	Reducing telephone charge
	Better	Reducing linkage charge
	Sun rise	Reducing temporary employee
	Green	Increasing storing period
	Hot Heart	Increase social funds

(3) Interaction and (4)improvement

In the practice, the Pin Ton hospital adopted the above principles to improve quality, its results were shown in Table 2.

Table 2: Results from CQI

Name	Measure	Before improving	After improving
Team	Error rate of	over 50%>5mg/dl	100% <1mg/dl
Work	Total bilitubin		
Baby	Frequency of teaching	3 times	1 time
Survival	Linkage rate	31%	5%
Thin	Reviewing rate	6.4%	2.16%
Circle	Documentation day	2.99 days	2.0 days
Happy	Re injecting rate	11.2%	2.9%
Efficiency	Frequency of broadcasting	2 days	0 day
Delivery	Delivery time	19 mins	12 mins
Holy	Charge of telephone	NTD 10,385/M	NTD5,875/M
Better	Linkage fee	NTD6,648.6	NTD276.6
Sunrise	Reduce employee	56 persons	28 persons
Green	Storage duration	One week	Two weeks
Hot Heart	Social funds/ month	NTD 13,732	NTD 67,532

4.Discussion

After the application of the CQI model to the Pin Ton hospital, the successful factors and comparison was found as follows.

- (1) The critical success factors were listed as below.
 - Consultants: the right selection of consultants.
 - Leadership: insist and assistance.

- Total involvement: every department and everyone involve.
- Continuous improvement: each improvement is a new case for each circle.
- Communication: from top to down, or from down to top mutual communication.
- Commitment: encourage is the incentive drive.

(2) Comparing the difference as implementation of QC tools.

To comparison the application of TQM with QCC to the Pin Ton hospital as Table 3.

Table 3: Comparing the difference between QCC and TQM at the PT hospital

TQM	QCC
1. Viewpoint of the hole hospital	1. Problems in the basic operation.
2. The integration of improvement	2. Achieve the unit objective
3. Everyone ownership	3. Responsibility of the circle
4. Concentrate on integration	4. Deal with the top of this event
5. Emphasize both process and results	5. Self learning
	6. Use quality tools

5. Conclusion

A model of CQI was successfully applied to the Pin Ton hospital. The result was achieved the goal of higher quality and lower cost. Several success factors were found for the future work.

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