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“Integrating Patient Feedback into the Continuous Improvement Process in Hospitals: A Tale of Three Hospitals”

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Integrating Patient Feedback into the Continuous Improvement Process in Hospitals: A Tale of Three Hospitals

Abstract

The hospital industry is under extreme pressure to increase quality and decrease costs. Most hospitals have implemented continuous quality improvement (CQI) programs to address these issues. A key aspect of CQI programs is outcome assessment. This paper describes three hospital's approaches to CQI and then analyzes how they integrate assessment using the KQCAH instrument into their planning process. An adaptation of the ISO 9000 quality system maturity classification framework, the HQSM, is introduced which is particularly applicable to hospitals. The three hospitals CQI program results are used to illustrate how the effectiveness of hospital CQI programs can be analyzed in terms of maturity level.

Introduction

Faced with customer dissatisfaction, escalating costs, reduced reimbursement for services and intense competition, hospitals have adopted total quality management (TQM) also known as continuous quality improvement (CQI) (Eubanks, 1992; Ernst, 1994; Hunter, Kernan, Grubbs, 1995). A 1992 nationwide study (Eubanks, 1992) revealed widespread adoption of CQI/TQM. The study found that 58.5% of the hospitals surveyed had implemented a TQM/CQI program and that 84.6% of those who had not were planning to do so in the next fiscal year. CQI/TQM adopters reported statistically significant improvements in patient outcomes and more cost saving than hospitals which had not adopted CQI/TQM. Five years later Chan and Ho (1997) reported that hospital executives continued to embrace TQM/CQI in spite of some noted TQM/CQI failures. About 90 percent of the respondents anticipated that their involvement with TQM/CQI would increase in the future.

With CQI's pervasive use in hospitals, there is a need to understand why the effectiveness of CQI programs varies. Obviously, the implementation process itself is an important variable, as well as the "buy in" by employees and management. But even among programs which have been successfully implemented and have been embraced by employees and management, there can be variations in the value of the program to the organization.

A classic quality principle is that you cannot improve something that you don't measure. One essential element of a successful CQI program is the degree to which key quality characteristics are assessed and the extent to which the assessment results are integrated into the improvement process. A CQI program which tracks key quality indicators increases the organization's understanding of itself and thus could be considered effective, but not as effective as a CQI program that is integrated into the strategic decision making of the organization.

Purpose

In this paper, we introduce an adaptation of the ISO 9000 quality system maturity scale, called the Hospital Quality System Maturity (HQSM) framework, that is applicable to hospitals. This paper begins with an overview of TQM and CQI research particularly as it relates to hospitals, followed by a description of the new HQSM classification framework. Then three hospitals' approaches to quality improvement are described with particular emphasis on the degree to which assessments of patient satisfaction are integrated into the improvement process. Patient satisfaction is measured by the Key Quality Characteristics Assessment for Hospitals (KQCAH) instrument (Sower, Duffy, Kilbourne, Kohers, & Jones, 2001). The three hospital case studies are used to illustrate how the effectiveness of hospital TQM/CQI programs can be analyzed in terms of maturity levels. This analysis of maturity levels can be useful to hospital administrators by providing a means of benchmarking their program's maturity against the HQSM framework.

Literature

Redman and Grievies found that almost all case studies about TQM were success stories (1999). Most of the global case studies in Kazandjian's book (1997) are success stories. Virtually all of the 25 articles listed in Motwani, Sower, and Brashier's (1996) research streams #2 and #3 (conceptual models and current practices respectively) were success stories. However, estimates of TQM failures range from two thirds (Brown 1992) to ninety percent (Graham 1991). Reasons for TQM failures have been summarized as a lack of strategic integration and management commitment, a neglect of human resource (HR) concerns, poor implementation, and linking TQM to downsizing efforts (Redman and Grievies 1999).

Research specific to hospitals reveals that while many hospitals proclaim they have implemented TQM/CQI, there appear to be variations in how pervasive quality improvement is within hospitals. Hudson (1999) found that while 93 percent of the hospitals in his study reported using TQM/CQI methods, only 35 percent of their employees and 22 percent of the doctors had any training in TQM/CQI.

Unsuccessful efforts to implement TQM/CQI have been associated with lack of CQI skills, poor planning and insufficient staffing (Chan and Ho 1997). In a study of Korean hospitals, CQI implementation became more active when a quality information system and scientific skills in decision making were used (Lee, Choi, Kang, Cho and Chae 2002). Carman, et al. (1996) determined that the implementation approach, the degree of physician participation, and extent of organizational immersion in the program were key factors to the successful implementation of a CQI program.

From a review of the literature we learn that there is no "all-or-nothing" characteristic to adopting CQI. CQI adoption takes many forms. Some might consider CQI adoption as a

continuum; we suggest that there are various developmental stages or maturity levels that describe CQI implementation.

The Hospital Quality System Maturity Classification Framework

The proposed Hospital Quality System Maturity (HQSM) classification (Table 1) is similar to Calingo's (1996) evolutionary stages, but provides more guidance for determining the specific stage of a hospital. Calingo's stages are:

Stage 1—Annual budgeting: quality is conformance to product specification and demand

Stage 2—Long Range Planning: TQM is focused on product improvement

Stage 3—Strategic Quality Planning: quality takes a customer focus

Stage 4—Management by Policy: quality is used as strategic weapon and TQM is coordinated across the organization

Stage 5—Strategic Quality Management: Quality planning and strategic planning are integrated.

The HQSM framework is an adaptation of the ANSI/ISO/ASQ Q9004-2000 (ASQ, 2000, p. 48) Performance Maturity Level framework. The value to hospital administrators of the HQSM taxonomy over the ANSI/ISO/ASQ 9004 Performance Maturity Level framework is that the HQSM provides specific characteristics applicable to hospitals and can therefore be used more easily by administrators to determine their CQI maturity level and what is needed to advance their maturity level.

CQI Maturity Levels

CQI maturity is defined as the degree to which continuous improvement permeates the system and is embedded in the organizational culture. The HQSM framework (Table 1) describes five levels of CQI maturity with Level 1 being the lowest and Level 5 being the highest levels of maturity. There is no need to include a Level 0 because all modern hospitals have been mandated to engage in some type of continuous improvement.

Maturity Level	Performance Level	Guidance	Specific Characteristics in Hospital CQI Programs	Assessment Examples Used in Hospitals
1	No formal approach	No systematic approach evident, no results, poor results or unpredictable results.	Use of comment cards; situational management of quality problems	Comment card provided with meal. No systematic analysis or follow-up; Anecdotal assessment
2	Reactive approach	Problem- or corrective-based systematic approach; minimum data or improvement results available.	Tracking of key quality indicators on a snapshot basis; no integration with CQI program	Comment card provided with meal. Negative comments followed-up. No systematic analysis
3	Stable formal system approach	Systematic process-based approach, early stage of systematic improvements; data available on conformance to objectives and existence of improvement trends.	Systematic tracking and analysis of key quality indicators; limited integration with CQI program	Patient survey using instrument like KQCAH. Analysis of data provided for JCAHO audits.
4	Continual improvement emphasized	Improvement process in use; good results and sustained improvement trends.	CQI program integration at operational level; data used to stimulate process improvement	Patient survey using instrument like KQCAH. Analysis of data used to guide improvement projects.
5	Best-in-class performance	Strongly integrated improvement process; best-in-class benchmarked results demonstrated.	CQI program integration at strategic level; data used to redesign system and to assist in environmental scanning	Patient survey using instrument like KQCAH. Analysis of data used to assess organizational strengths and weaknesses and inputs to setting strategic objectives.

Level 1 describes hospitals which have not formally incorporated a quality system but which show an awareness of the importance of customer evaluation of quality. These

hospitals may use comment cards and anecdotal assessment and typically are in a crisis-to-crisis response mode.

Level 2 describes hospitals that track their progress and respond to problems as they arise. Quality improvement is frequently measured in terms of how well the hospital reacts to problems.

Level 3 describes hospitals that systematically track and analyze their improvement effort. The results are not used as drivers in the CQI program, but just to document current performance.

Level 4 describes hospitals that collect data which they use to drive operational planning. Level 5 describes hospitals which elevate their continuous improvement efforts to the strategic level. TQM/CQI is not viewed as an operational level concern but instead, TQM/CQI is merged with strategic management. Assessment results are used as drivers of the CQI program.

Optimal Quality Maturity Level

Since Level 5 is depicted as the highest quality system maturity level, we think it is important to review what others have written on the topic of integrating quality improvement with strategic planning.

Juran and Gryna (1993) define strategic quality management (SQM) as a systematic way to set and meet goals organization-wide. SQM is achieved when strategic and quality planning becomes one seamless process (Calingo 1996). Key elements of the strategic quality approach according to Garvin (1990) include:

- a) focusing on the customer's point of view,
- b) linking quality and profitability,
- c) using quality as a competitive weapon,
- d) linking quality to the strategic planning,
- e) committing to quality improvement throughout the organization.

Senior managers who believe in SQM tend to engage in less direct decision making and goal setting. Instead they "exercise vigorous leadership, including cheer-leading and facilitating implementation, in company-wide total quality improvements." (Schonberger, 1992, p.87). Strategic total quality management as defined by Madu and Kuei (1993) is a specific version of SQM using Hoshin planning. This technique focuses on helping "planning and executing breakthrough improvements in business performance" (Melum and Collett, 1995, 16).

Few empirical studies have examined how strategy and TQM/CQI are linked. The only one to date in the health care domain studied the relationship between strategic orientations—how a company positions itself in its environment--using Miles-Snow typology (1978)--and TQM practices in home health care organizations. The results indicate that certain strategic orientations (prospector and analyzer) seem to be linked to a strong TQM culture (Dansky and Brannon, 1996).

Using a case study of a company that was "managing strategic change through TQM" Redman and Grieves (1999) uncovered some of the reasons TQM is so difficult to embed

in a business at a strategic level. In the case, top management changed after TQM had been instilled in the company culture and the strategic focus went toward marketing the product rather than improving its quality. This change of focus meant that the infrastructure to support quality improvement was not supported to the same degree as before. The case also showed that TQM was introduced as a way to retrench and restructure the business.

We may conjecture that strategic quality management entails a "buy in" by top management. TQM principles must be articulated by top management and not delegated to "a department." Schoenberger (1992, 80) maintained that: TQM "tends to nudge every firm toward a few common strategic planning objectives....". He noted that while TQM principles do not encompass some of the competitive issues that top management must address in strategy formulation, they can provide stability to the process when they become the core of a company's strategic objectives. Bilich and Neto (1997, 88) view the inclusion of quality at an even higher level: mission. They maintain that the implementation of strategic TQM starts with "the definition of the corporative mission centered on quality so that the synergies of the diverse areas of the enterprise converge towards the optimization of results...." Top management must not only articulate that quality is the primary strategic focus from which other strategies are derived, but they must also structure the company to support such a focus. Only top management has the authority to create an infrastructure that will allow quality to be embedded in the company. Only top management can shape an organizational culture which has quality as its fulcrum. We may also conjecture that strategic quality management is more suited, at least at its inception, to organizations which are growing steadily and are not in crisis since TQM is characterized by gradual, steady improvement. In the Redman and Grieves (1999) case study, the organization needed to make a rapid and drastic change to stay viable. For this reason the firm adopted retrenchment and reorganization strategies at the time TQM was introduced.

Two examples of hospitals that appear to have achieved Level 5 are SSM Health Care (SSMHC) (Smith, 2003; Daniels, 2003) and Mayo Clinics (Wood, 2002). SSMHC, being the recipient of the MBNQ Award, has demonstrated that their quality efforts are embedded in the organizational culture and supported at the strategic decision making level of management (Daniels, 2003). Sister Mary Jean Ryan, President and CEO of SSMHC reports using "continuous quality improvement as a system in a very formal way to shape (the SSMHC) culture...Now we're all aligned around a common focus, which comes right out of our mission statement." (Smith, 2003, p. 45). SSMHC uses feedback from their CQI program to identify gaps between their goals and their current position, and to identify the greatest leverage points to focus their CQI team efforts. Applying for the Baldrige Award "accelerated our (CQI) efforts because we really utilized the feedback." (Smith, 2003, p. 46).

Case Studies

In this section we will discuss three hospitals' CQI programs, their approach to assessing initial conditions and degree of improvement, and what the outcomes were. Finally, we will discuss how these hospitals exemplify stages of the HQSM.

Subjects

All three hospitals are relatively small acute care facilities accredited by the Joint Commission on the Accreditation of Healthcare Organizations (JCAHO). All three hospitals are located in small towns or suburb areas in different regions of the United States.

Hospital W is a progressive health care facility consisting of a 75-150 bed acute care hospital and a 100 - 150 bed Extended Care (ECU) long term care unit and serves residents in a three county area. Hospital W's medical staff includes physicians specializing in Internal Medicine, Family Practice, Obstetrics & Gynecology, Pediatrics, General Surgery, Ophthalmology, Oral Surgery, Orthopedic Surgery, Otorhinolaryngology, Urology, and Vascular & Thoracic Surgery.

Hospital X is a not-for-profit, acute care facility with 75-150 beds. The hospital also has a school of vocational nursing and offers special services in cardiac rehabilitation, expanded outpatient physical therapy, home care, sports medicine, 24 hour emergency medical care, and transitional care.

Hospital R has 75-150 beds divided among medical, surgical, obstetric, pediatric, orthopedic, and psychiatric. The hospital includes a modern intensive/cardiac care unit and step down unit, a state-of-the-art outpatient surgical unit, a full-service radiology department, a wound healing center and a 24 hour emergency medical department. The hospital is the only one in the rural area they serve and its active medical staff is composed of approximately 50 physicians.

Measurement of Quality

The case studies focus on one dimension of hospital quality—patient satisfaction. This dimension cannot be measured in the same way as objective measures such as incidence of falls, or incidence of secondary infections. This dimension must be measured qualitatively in terms of patient perceptions since patients are the primary customers of the system. Feedback from patients is a vital input to hospitals' programs for continuous quality improvement (CQI). A number of instruments have been developed for obtaining feedback from service customers (Parasuraman, et al., 1988; Chakrapani, 1998). These instruments, however, fail to capture the real interests of hospital patients as customers.

The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) (1996) developed a list of nine dimensions of hospital service quality: 1) efficacy, 2) appropriateness, 3) efficiency, 4) respect and caring, 5) safety, 6) continuity, 7)

effectiveness, 8) timeliness, and 9) availability. Using the JCAHO dimensions as the theoretical basis, Sower, et al. (2001) developed an instrument based upon the input of patients, patients' family members, direct care providers, hospital staff, and administrators. The instrument, Key Quality Characteristics Assessment for Hospitals (KQCAH), determines eight empirically derived factors: 1) respect and caring, 2) effectiveness and continuity, 3) appropriateness, 4) information, 5) efficiency, 6) effectiveness—meals, 7) first impression, and 8) staff diversity. The validity and reliability of the KQCAH have been demonstrated in four hospitals and is currently in use in a number of hospitals in the United States, China, and Puerto Rico (Sower, et al., 2001). All three hospitals in this study use the KQCAH to assess patient satisfaction.

Varying Approaches to CQI

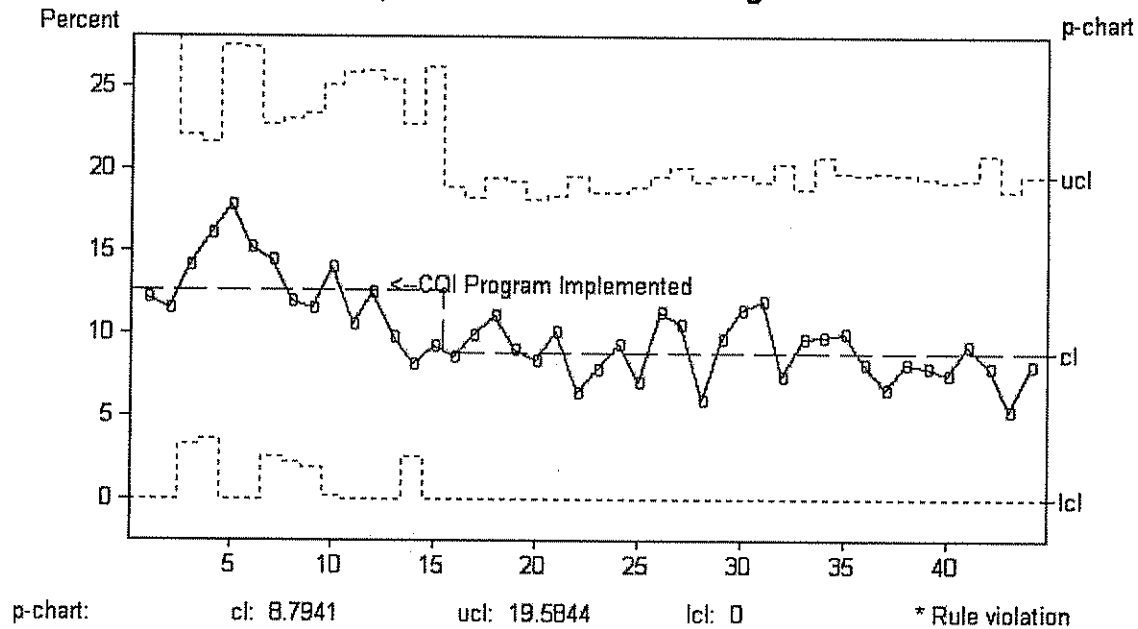
Feedback loops are critical parts of any system. Negative feedback tells the system that the outputs of the process are not doing what they were designed to do. Positive feedback provides the system with information that it is continuing to meet the needs of customers. Both types of feedback are required in a program of continuous improvement. Otherwise how do the owners of the system know where change is needed? Feedback provides the data for "fact-based" decision making.

The KQCAH is a 75-item instrument which uses a 7 point Likert scale. The KQCAH is provided to patients at discharge for completion and return to the hospital. For analysis purposes a dissatisfied or "not delighted" patient is one who rates any of the 75 items below 4 (scale midpoint). This is a very stringent criterion.

Hospital R, used the KQCAH for about 12 months before implementing a CQI program. During this period patient satisfaction, as measured by the KQCAH, was stable. Hospital R initiated a quality improvement program designed to build an overall culture for high quality customer service by simply creating awareness of the importance of customer service and empowering employees with the tools to respond to customer concerns. The staff of Hospital R "is committed because of the people they are and the community they serve - we are a very close community of people with a genuine spirit of service - it's just the nature of the people" in our service area.

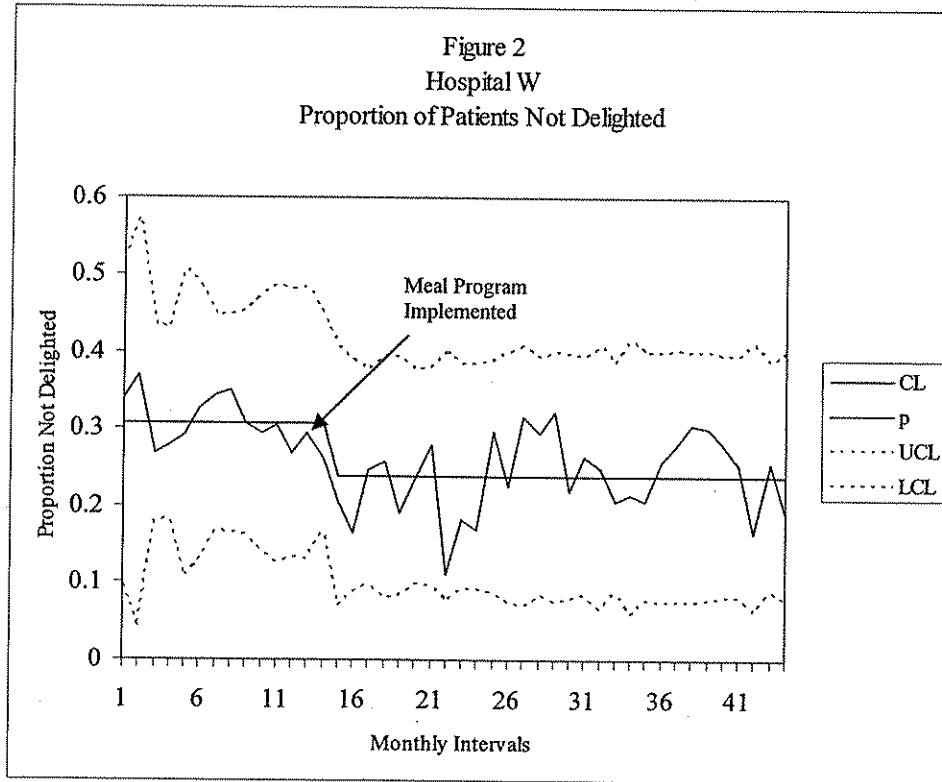
The hospital used input from the KQCAH to determine the focus of the first quality improvement efforts upon implementation of the CQI program. Within two months patient satisfaction increased significantly. This increase has been sustained for over two years as shown by the proportion defective control chart (p-chart) in Figure 1.

Figure 1.
Hospital R
Proportion of Patients Not Delighted



Note: Data are disguised but patterns are preserved.

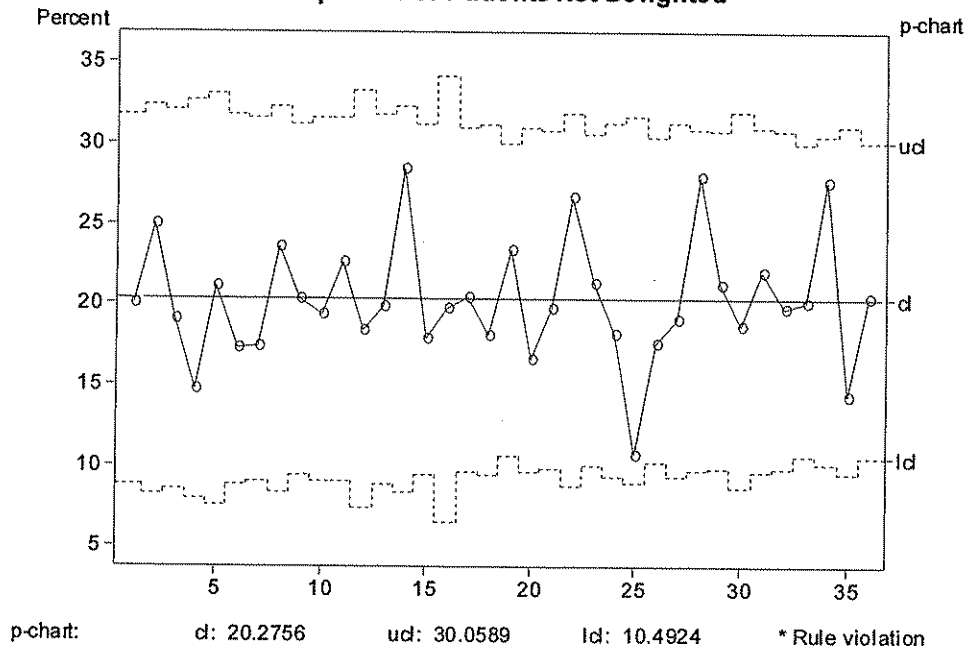
Hospital W has a CQI program and used the KQCAH to identify the one dimension which created the most dissatisfaction among patients. This was the Effectiveness—Meals dimension. One early realization was that patients often have unrealistic expectations about hospital meals. Patients may have a fried chicken expectation but are on a bland diet. It was realized that one aspect of improving patients' satisfaction with meals was to help patients adjust their expectations by explaining why they were on a restricted diet, what the restrictions are, and offering options within those restrictions. An improvement program was launched whereby each patient is visited by a member of the food service staff and the dietary orders of the physician are discussed. Patients are given a menu consistent with the dietary orders from which they can choose. Each meal is delivered with a comment card to be completed by the patient and returned with the empty tray. Patients who make negative comments are visited by a member of the food service staff to ascertain the nature of the complaint. Complaints are dealt with as appropriate and patients are provided with some compensation for their dissatisfaction (e.g. a special snack). This program resulted in significant improvement in that dimension score and a reduction in the proportion of dissatisfied patients. The pattern in the p-chart for Hospital W is similar to that of Hospital R (Figure 2).



Note: Data are disguised but patterns are preserved.

Hospital X, has an established CQI program and has used the KQCAH for over three years. Over this time, the KQCAH data have been stable indicating that management has sustained a specified level of performance, but not improved. In this hospital the KQCAH data are primarily used to document current performance but not to drive the improvement effort. The KQCAH results have not been effectively incorporated into either the operational or strategic planning processes as a driver of improvement activities to any measurable extent.

Figure 3
Hospital X
Proportion of Patients Not Delighted



Note: Data are disguised but patterns are preserved.

Application of HQSM

The three hospital case studies illustrate three different levels in the HQSM framework. Hospital X illustrates Level 2-3 since it tracks progress and responds to problems as they arise. There is little evidence of systematic integration of the assessment information into the CQI program. The result is a stable system as shown in Figure 3.

Hospital W's systematical tracking and analysis of their improvement efforts typifies a movement from Level 3 to Level 4. In at least one area, Hospital W identified a specific area for improvement using KQCAH data. They initiated a CQI project directed toward improving that area. Figure 2 shows that the project was effective. The shift in the proportion of patients not delighted necessitated recalculation of the control chart limits.

Hospital R exemplifies first a movement from Level 2 to level 3 then to Level 4. This hospital collected baseline data prior to implementing a CQI program. They used these data to drive operational planning. The result was a significant reduction in the proportion of patients not satisfied as shown in Figure 1.

Each hospital can claim increased effectiveness due to their CQI program, but Hospitals R and W have achieved a higher level maturity in their efforts to improve the quality of their services. The HQSM framework would suggest that even Hospitals R and W can move to a higher level of maturity which would allow them to more fully integrate their quality improvement efforts into the fiber of the total organization.

Conclusion

The healthcare community is under increasing pressure from outside constituents to improve quality and reduce costs. Many in the healthcare community lack a fundamental understanding of what is required to respond effectively to these constituents. CQI adoption is generally discussed in broad terms. We ask: Does the hospital have a CQI program? Is it successful? But treating CQI adoption in a general, nonspecific way deprives the decision makers access to important information that is needed to fully optimize the usefulness of the CQI program.

Integrating assessment into the strategic planning process will provide top managers with the information they need to orchestrate an infrastructure that will support quality improvement, which in the strategic quality management paradigm is the dominant component of strategy formulation. Moreover this integration will point out where there are needs for better communication and increased commitment within the total company. By integrating assessment into the strategic planning process, we remove TQM from being the concern of "one department" to being the concern of everyone.

We have proposed a way to add specificity to discussions on CQI. The HQSM framework presented in this paper allows administrators and researchers to examine CQI at five different levels. Moreover, the results of the case studies of three hospitals illustrate how the proposed HQSM framework can be used to differentiate CQI adoption patterns. Using the HQSM framework administrators can determine how mature their CQI program is and can plan an effective approach to optimizing continuous quality improvement efforts for their hospital.

Practitioners in the healthcare community will be able to learn about approaches to CQI which have demonstrated their effectiveness in improving patient satisfaction. Teachers and researchers may also find that the results of this project provide validation for the KQCAH theoretical model.

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