

# Total Quality Management in Healthcare

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## Abstract

This paper presents the description on Healthcare organizations are required to focus on Total quality improvement: Rendering acceptable, quality health services to patients at affordable price within reasonable price, within in a reasonable time; Applying zero errors to all patients services; maintaining a continuous error prevention program; Training employees in medical care on such aspects as error prevention, reducing delay time and providing prompt reasonable to patients needs; management system have always improvement in such systems to realize the true nature of the quality of healthcare and to be motivated towards improving this quality. In spite of billions of dollars of money spent worldwide, most of the healthcare is seen to be ineffective, inefficient and inadequate. Therefore there is a crying need to bring about a paradigm shift in the quality of health care delivery and to monitor and sustain it. It is obvious that those institutions, which are quality conscious and are committed to continuous quality improvement, will gain the highest consumer acceptance and will flourish at the expense of others. The 'Quality Revolution', as it is sometimes referred to, is nothing but putting the patient at the heart of health care and wrapping the care around it, rather than the other way around.

Quality Measuring and assessing service is important, particularly when multiple sources of variation are present. Analyzing all medical processes to remove rework and waste could build healthcare quality and lead to significant reductions in patient cost. The use of quality-assurance programs and statistical tools can be directly applied to healthcare organizations with improved quality of patient's objectives and the results of care from the patient's viewpoint.

## I. Introduction

Now a day, Healthcare systems are of fundamental interests to all level of Hospitals in our societies. Eventually, increasing importance and reliance are placed on total quality management in healthcare systems. Due to this rising importance that is also reflected in the increasing percentage of national and international resources for both private and public sector to allocated in hospital management systems. Hospitals and other healthcare organization across the globe have been progressively implementing TQM to reduce costs, improve efficiency and provide high quality patient care. Contrary to popular belief, the TQM movements were not the start of concerns about quality in healthcare. The roots of quality assurance initiatives in healthcare extends at least as far back as the time of Florance Nightangles's work during the Crimean War(1854-1856),when the introduction of nutrition, sanitation and infection control initiatives in war hospitals contributed to reduction in the death rate from 43% to 10%. TQM can be an important part of hospitals' competitive

strategy. Thus, TQM, which places on improved customer satisfaction, offers the prospect of great market share and profitability.

TQM can be an important part of hospitals competitive strategy in quality of healthcare system. Hospitals in competitive markets are more likely to attempt to differentiate themselves from their competitors on the basic of greater service quality. Thus, TQM which places a heavy emphasis on improvement in Customer satisfaction index that offers the prospect of greater combines internal quality measures with value analysis and conformance to specifications. Acceptable quality services not only include direct medical services such as diagnoses, medicines, surgery and treatment but indirect operations such as administration and purchasing whose costs are reflected in what the buyer pays. It may also include Total Quality of performance that is directly related to healthcare safety, security, attitude of nursing and word boy, role of doctors in terms of 'time' includes appointment, delay time, service time, timing with regards to medical treatment and surgery.

## *The Concept of Total Quality Management:*

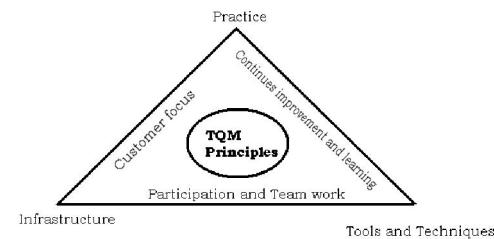


Fig. 1, TQM structure

People define quality in many ways. Some think of quality as superiority of excellence, others vies it as a lack of patient care and service defects. According to Crosby, quality is 'conformance to requirements'. (Zero defects). Today most managers agree that the main reason to pursue quality is to satisfy the customers. The American National Standards Institute (ANSI) and American Society Quality (ASQ) define quality as "The totality of features and characteristics of a care or service that bears on its ability to satisfy given needs". The view of quality as the satisfaction of customer needs is often called fitness for use.

## **II. The importance of TQM in Healthcare systems:**

Health services include a wide variety of quality aspects, all of which are important. In the case of medical services, the seller is doctors, hospitals, nursing homes, clinics, etc. because they offer health services for sale as stipulated prices. They buyer

is the client or patient who buys these health services at the stipulated prices. It may also include quality of performance that is directly connected and closely related to healthcare such as food, housing, safety, security, attitude of employees, and other factors that arise in connection with hospitals and nursing homes. So, the time taken to fix an appointment, delay time, services time, timing with regard to medical treatment and surgery.

- Quality of administration and management
- Quality of doctors
- Quality of hospital care

### III. Principle of Total Quality management:

The basic principle of TQM should be carried out using the 8 QM principles otherwise the resultant system will not satisfy the intent of the quality standards in the healthcare management system.

**Table 1. TQM Principles:**

1	<b><i>Customer focused organization</i></b>	Organizations depend on their customers and therefore should understand current and future customer needs, should meet customer requirements and strive to exceed customer expectations
2	<b><i>Leadership</i></b>	Leaders establish unity of purpose and direction. They should create and maintain the internal environment in which people can become fully involved in achieving the organization's objectives
3	<b><i>Involvement of people</i></b>	People at all levels are the essence of an organization and their full involvement enables their abilities to be used for the organization's benefit.
4	<b><i>Process approach</i></b>	A desired result is achieved more efficiently when activities and related resources are managed as a process.
5	<b><i>System approach to management</i></b>	Identifying, understanding and managing a system of interrelated processes as a system contributes to the organization's effectiveness and efficiency in achieving its objectives.
6	<b><i>Continual improvement</i></b>	Continual improvement of the organization's overall performance should be a permanent objective of the organization.
7	<b><i>Factual approach to decision making</i></b>	Effective decisions are based on the analysis of data and information.
8	<b><i>Mutually beneficial supplier relationships</i></b>	An organization and its suppliers are interdependent and a mutually beneficial relationship enhances the ability of both to create value.

TQM is a people-focused management system that aims at continuing increases in customer satisfaction at continually lower real cost. TQM system approach is an integral part of high level strategy, it works horizontally across functions and departments, involves all employees, top to bottom and extends backward and forward to include the supply chain and the customer chain. TQM stresses learning and adaptation to continual change as keys to organization success.

#### ***Deming principles to healthcare Systems:***

- Insists on zero defects eliminate inspection through proper quality control on suppliers.
- Constantly improve the system
- Educational and Training program
- Maintain the records
- Eliminate numerical goals, work standards and slogans
- Remove the barriers that hinder the worker through the day
- Top management support for implementing TQM

### IV. The basic elements of TQM :

#### ***A. Customer Focus:***

The customer is the judge of quality. From the TQM perspective, all strategic decisions a healthcare institute makes are "customer driven". Customer driven firms measure the factors that drive customer satisfaction. The perception of value and satisfaction are infused by many factors through the customer's overall purchase, ownership and services. Also reducing defects and errors and eliminating causes of dissatisfaction contribute significantly to company's views of quality. Also, customer opinion surveys and focus techniques can help to understand the customer requirements and values. Customer focus extends beyond the customer and internal relationships; however society represents an important customer of business. Business ethics, patient's health and safety, environment and sharing of quality standards in the healthcare systems and communities are necessary activities.

#### ***B. Strategic planning and Leadership:***

Strategic planning needs to anticipate many changes such as customer's expectations, new opportunities, advanced diagnostic technologies development; evolving patient care system and social expectations. Achieving quality and healthcare service leadership requires a strong future orientation and a willingness to make long-term relationships with key customers, employees, doctors, nurses, suppliers, the public and private community. Through their personal roles in planning, reviewing healthcare quality performance, and staffs for quality achieving, the senior leaders serve as role models.

reinforcing the values and encouraging leadership through the organization.

#### **C. Continues improvement and learning:**

Continues improvement is part of the management of all system and process. Achieving the highest of performance requires a well-defined and well-executed approach to continues improvement and learning. Learning refers to adaption to changes, leading to new goals or approaches. Improvements and learning need to be embedded in the way an organization operates. The process of continues improvement must contain regular cycles of planning, execution and evolution.

#### **D. Empowerment and Teamwork:**

A healthcare institute's success depends increasingly on the knowledge, skills, and motivation of its work force. In healthcare management, individuals and departments work for themselves. In TQ individuals cooperate in team structures such as quality circles, steering committees and self-directed work teams. Department works together towards system optimization through cross-function team-work

#### **E. Process management:**

Deming and Juran observed that while majority of the quality problems are associated with processes, few are caused by workers themselves. It is involves planning and administrator the activities necessary to achieve a high level of performance in a process and identifying opportunities for improving quality and customer satisfaction.

#### **F. Tools for process management:**

The tools and techniques, along with management practices and the organizational infrastructure and fundamentals components of TQM.

The various tools for improving process management are:

- Team-building and group-integration tools
- Specific process/technical tools
- Process flow chart
- Check sheet and Histograms
- Pareto analysis
- Fishbone Charts
- Process control chart
- Quality function Deployment (QFD)
- Poka-Yoka or Fail sating

#### **G. Quality Assurance and Control:**

Quality assurance is the planned or systematic actions necessary to provide adequate confidence that a patient services or safety will satisfy given requirement for quality. The activity of this department includes quality planning, control, improvement, internal audit and reliability. Moreover it also includes quality advice and expertise, training of personnel in quality, analysis of customer diagnosis, treatment records, medical claims details, and patients liability cases. Management is responsible for defining, documenting and supporting the quality policy, quality manual, performance, safety and dependability.

In quality manual system that defined as an assembly of components such as the organization structure, responsibility, procedures and resources for implementing quality management must be documented in the form of a quality manual.

### **V. Six-Sigma Quality concepts:**

The concepts surrounding the drive to Six Sigma quality are essentially those of statistics and probability. In simple language, these concepts boil down to, "How confident can I be that what I planned to happen actually will happen?" Basically, the concept of Six Sigma deals with measuring and improving how close we come to delivering on what we planned to do.

For any process with a standard distribution (something that looks like a bell-shaped curve), the probability is 68.26% that the next value will be within one standard deviation from the mean. The probability is 95.44% that the same next value will fall within two standard deviations. The probability is 99.73% that it will be within *three* sigma; and 99.994% that it will be within *four* sigma. *Standard distribution curve with mean, sigma values and four sigma tolerances. For a product to be virtually defect free, it must be designed with both normal process variation and process drift in mind. With these things considered, a Six Sigma design specification width would produce a yield of 99.99966%-3.4 defects per million opportunities or virtually zero defects.*

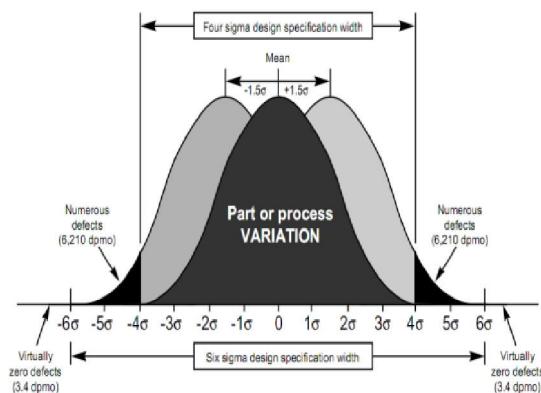


Fig.2 Standard distribution curve with mean, sigma values and DPMO = defects per million opportunities

If the range of acceptability, or tolerance limit, for your product is at or outside the four sigma point on the distribution curve for your process, you are virtually assured of producing acceptable material every time—provided, of course, that your process is centered and stays centered on your target value. To achieve Six Sigma Quality, a process must produce no more than 3.4 defects per million opportunities. An "opportunity" is defined as a chance for nonconformance, or not meeting the required specifications.

## **VI. Reliability and Maintainer:**

Reliability is the ability of the patient service to performance as expected over time is one of the principal domination or key elements of quality that is multi-dimension in the nature. Reliability is the probability that a patient care, piece of medical equipment or system performs its indented function for a stated period of time under specified operating condition. Maintenance covers all the operations such as monitoring, inspection, adjusting, repairing, and/or doing whatever is necessary to keep a machine, piece of medical equipment or system may consist of break-down maintenance, simple preventive maintenance and total productive maintenance.

## **VII. Benchmarking:**

Benchmarking is defined as “measuring our performance against that of best in class companies determining how the best in time achieve those performance levels and using the information as a basic for hospital’s strategies, planning, and implementation.

## **VIII. Case study:**

The IHMC is composed do medicine and health sciences, a 150 bed tertiary care hospital and full time clinical faculty. The major selling point of continues quality improvement was its philosophical underpinnings. IHMC administrators quickly realized that the transformation would require a major commitment form top management. They also realized that the management team would face a challenge translating the

organization’s philosophy into a clear vision of what a quality transformation would require.

The following initiated TQM in IHMC:

- The healthcare services, which were good old time, barely meet the requirement of today and will adequate tomorrow. Customers need to continue increase demands in services.
- In the age of technological revolution in medical, customers expected speedy response to their queries and services.
- Employee involvement in quality improvement was not to the desired levels. There was resistance to change among them to suit the changing business environment. This resistance needed to be reduced in order to ensure better employee indolent.
- The management was satisfied with the prevailing levels of quality. This satisfaction arose out of comparing the present performance with the previous year’s performance, instead of the performance expected customers.
- The present hospital quality program is based on the evolution of departmental practices against establish the standards. The focus is therefore on subsystem with the hospital quality control programmed essential the sum of all departments program.
- The standards, which have been set, are by medical officers, not the patients, and thus they create a mismatch between the user needs and the services provided. Furthermore, the set standards tend to remain static, so that improvement occurs within a limited range.
- After several months of planning a quality transformation model was developed to help participants visualize the score of the quality management effort.

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