

# **Quality Management in Health Systems of Developed and Developing Countries: Which Approaches and Models are Appropriate?**

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**(Received 10 Sep 2008; Accepted 19 Oct 2008)**

## **Abstract**

**Background:** Quality Management is one of the most effective strategies for improving the health systems performance in developed and developing countries. The main goal of this study was identifying the most important aspects of quality management and preparing an appropriate model for health system.

**Method:** This research was a comparative study on quality management models in the health systems of different countries. We have selected, as a sample, different countries in Asia, Africa, North America, Europe, and South America having a background in using various samples of total quality models in their health units. The studies also included the experiences of World Health Organization in different countries.

**Results:** The main goals for promoting quality in the countries are being studied includes service efficiency increase, promoting services delivery, promoting quality of working life, and changing organizational culture. Total approaches used for the countries studied include quality Assurance, Cultural change, ISO 9001, TQM and improving services quality. There are not generally outcomes criteria in 22 cases of the studies done in the developing countries. The most important problems revealed in establishing the quality management, organizational resistance against the change, lack of senior management commitments, lack of strategic planning and lack of required resources.

**Conclusion:** The models for quality management should pay attention to the cultural change strategies, staff participation, strategic vision and Strategic planning. Strategic total quality management is the appropriate model in this regard.

**Keywords:** *Quality, Total quality management, Strategic management, Health care system*

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## **Introduction**

During some recent years, among all aspects of the initiations, creations and innovations influenced the health organizations, perhaps quality revolution have been the most effective and comprehensive one (1). Total quality management, continuous quality improvement and or total quality have been the factor for close relation of the rhetoricians and executors because the total quality has suggested a management philosophy and a collec-

tion of tools and techniques useful for performance and preserving the loyalty and customers long term satisfaction (2).

Both in manufacturing and public health care quality allows organizations to pursue their own objectives. In the manufacturing industry, where its benefits first became evident, quality improves the performance of companies by eliminating product defects, enhancing attractiveness of product design, speeding service delivery and reducing cost. In public health care, where quality medical care can be interpreted as the capacity of the elements of that care to achieve legitimate medi-

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cal and non-medical goals (3), high quality of care allows to deliver appropriate care to patients, achieve positive clinical outcomes, avoid unnecessary clinical complications and ensure that public resources are efficiently used (4,5). In the past, the assessment and control of quality medical care were left exclusively to professionals, but nowadays appropriate quality management systems are advocated widely.

Total quality investigates roots causes of problems in the health processes not in the staff. Although some of the hospitals and health institutes have implemented quality programs, most of them have concentrated on special sectors instead of all organization. The wave of quality orientation and application of TQM in health systems supported and encouraged by World Health Organization have been moved from developed countries to the developing ones. WHO has concentrated on services content quality and manners credits and services rendering quality by stressing on organizing, managing and executing of the affairs all the time and published pamphlets and books of specialty in this regard putting developing countries on the sharp focus. In this regard De Geyndt in a report regards measurement, control and assurance of the quality of caring the patients and continual attempts for improving quality as a top activity in the developing countries. For example, in Jamaica, Dominican Republic, Bangladesh, the Philippines in hospitals, in Kenya, China, Ghana, Zaire, Zimbabwe in the rural clinical health centers, in new Gina, Ecuador, and Jamaica, Zaire, in urban health centers and also in PHC structure (Primary Health Care), these tools have been applied. In one hand, these projects have been implemented called different titles such as reforming health sector in Chili, in Yemen called family health projects, in south Korea called hospitals reconstruction, in Mali called safe water provision, in Honduras called health and nutrition project, in Poland

called health services development and in Bangladesh called population and health projects. The important point to be mentioned is that some patterns of quality used were imperfect and limited and have had weak results (6, 7).

A quality management system in health care can be described as a structured organizational process that involves the staff at different levels in planning, measuring and assessing patient care in such a way as to provide optimal medical service to patients (8). These systems are similar to the ones used in other industries although the unique nature of health care processes requires specific adaptation (9).

The point is that in some of the health institutes, implementation of quality management have resulted in valuable finding as in Massachusetts General Hospitals Boston, the amount of center debits was increased up to 52% and annually a saving of 120000 Dollar.

Green Wood Center in the city of Likuta has annually 200,000 Dollar saving by solving the problems of non registration of the patients.

Lancaster General Hospital in the U.K has used the expenses of quality for discovering the important opportunities for saving the expenses in the accounts receivable. After the list of the cases for the expenses to be affected were provided, easily the first priority for this hospital was recognized and by implementation of process promotion management the level of income was increased up to 12,000,000 Dollar (10).

Totally there have been positive results for application of this model not only remove some problems of health systems in the world, it has been resulted in increase of the services quality, productivity and customer's satisfaction and staff satisfaction.

So, considering totality and excellence of TQM on the other strategy for change in health systems, its application for health systems are stressed. But the results show that applying it in deformed types and non scientific

and practical models and ignoring the variables and main components could not meet the results and expectations of planners and managers in quality management in all areas. TQM needs a strategic vision and cultural change. The concept of TQM appears cleared, but they are hard to be implemented and TQM can not be implemented without a comprehensive model having all important aspects. Considering selecting TQM as a change strategy in the Health Ministry and on the other hand similarity of Iran Health Situation with some developing countries and similar problems for implementation of TQM in hospitals and health centers, application of total quality management in a correct and comprehensive form is stressed as the most important priority for strategic planning for country health system.

So, considering the mentioned issue, the researchers tried to do a comparative study to recognize the most important quality management components for designing a comprehensive model and favorite for quality management in health systems to be introduced.

## **Materials and Method**

This research was a comparative study in the quality management models in different countries health systems aimed at discovering the most important quality components and providing appropriate models for quality management in health system.

This research covers different countries in Asia, Africa, North America, Europe and South America having background in applying different total quality patterns in their own health system. They have been selected in a sample method which included:

- Europe: Portugal, Spain (11), Ireland, England (12, 13), Poland (6, 7).
- Asia: The Philippines, India, Bangladesh, China, Malaysia, Korea, Pakistan, Yemen (6, 7, 14, 15).
- North and South America: The United States (16, 17, 18), Canada (1), Ecuador,

Brazil, Chili, Colombia, Honduras, Jamaica (6, 7).

- Africa: Egypt, Zambia, Ghana, Papua New Guinea, Dominican Republic, Angola, Kenya, Zimbabwe, Tanzania, Togo (6, 7, 14, 19, 20).  
Meanwhile the studies also included experiences of WHO and World Bank on quality in different countries.

For examining and studying TQM in selected countries health systems, library and field method have been used by applying valid data banks and internet and also agencies of WHO and World Bank in Iran. To analyze the results, the view points and opinions of experts and domestic and foreign opinion makers were used for quality management as well.

The researcher studied different resources aimed at models and criteria of quality in different countries health systems and found the information for applying comprehensively different total quality models (in Asia, Europe, America, Africa). These samples include: Health centers, urban and rural clinics, hospitals, and in some other samples, in a Ministry level. Studying the TQM in different countries health systems was compared in the following items.

## **Results**

### **A: Goals**

The main goals for promoting quality in these countries include increase of services effectiveness, promoting services efficiency, promoting work life quality, decreasing expenses, removing wastes, correct use of resources and reforming organizational culture. In North America and Europe, decrease of expenses, standardization and increase of services efficiencies and also work life quality promotion and behavioral change were mostly stressed. It is the case that in most developing countries, promotion of processes and increase of services efficiencies were the main goals. For example, in Ghana, improving

services processes and in Dominican Republic, decrease of expenses and promoting the performance were considered and the point to be mentioned is that before years of 1995-96, in developing countries, work life quality improvement, promoting the employees empowerment and total participation were not considered. Instead of the recent change and tendencies for quality assurance, total quality for culture change and participation has been considered more and more.

***B: The Approaches to be used***

Total approaches used in the countries studied include quality assurance, cultural change ISO9002 standards, TQM, Re-engineering of the process and projects for services quality promotion. The most applied approach were in the developing countries as of quality assurance and various projects were also implemented for increasing services quality improvement based on the hospital committees, health accounting. For example, in Ghana, the method of tracer, in Brazil the hospital committees and in Zambia quality assurance methods were used. Recent studies in these countries refer to TQM and quality improvement. In Malaysia, moving from quality assurance to total quality is the most important challenge of the recent years in this country. On the other hand application of ISO 9000 standards was applied in a limited for in these areas which of lack of resources can be an important factor for lack of obtaining these credits documents in most of the organizations.

In Europe and North America, considerable attention were paid to total quality management as of late 80s, and in most hospitals merge of TQM and reengineering processes were mentioned. For example, in Ireland, 33% of TQM are used and 27% of the hospitals are developing cultural change method and obtaining ISO certificate. The important point is that in these countries, traditional quality assurance is totally abolished and no report on application of quality

assurance in hospitals has been seen in the recent years.

***C: Criteria and quality assessment indexes***

The studies showed that the attempts made for assessing and promoting the quality in developing countries were concentrated on structure, process and finally the results were also concentrated before 1995. the findings of the recent years show that in 22 cases of the studies done in developing countries generally there is not results criteria, 7 studies on structure indexes and 12 studies on processes indexes and 3 studies on both indexes and structure for assessment of quality of care were applied. A review in Europe and America shows an attention to the process and results. In the United States, death rate in the hospital was used as an index for quality of services. The studies weren't focused on long term result indexes and plans impacts.

Table 1 shows quality improvement indexes in different countries.

***D: The factors influencing quality programs implementation***

Quality management and quality management systems are widely advocated in health care. Some of the main reasons for this development are: the increasing complexity of health institutions and systems, the focus on efficiency and effectiveness, the pressure on cost-reduction, the ongoing process of (sub-) specialization and individualization and strengthening of the position of the client.

In most of the related researches in America on deduction of expenses and increase of income were stressed. In the developing countries, the pressure of decrease expenses of limited resources and waste were important factor for promoting quality. In Malaysia, domestic pressure by the government for increasing efficiency was an important factor, in other countries such as Zambia and Egypt the internal forces especially the government in commissioning quality programs were effective. On the other hand, global process for supporting TQM programs resulted from

WHO attempts in developing quality in the world especially in the developing countries were considered.

In Europe and developed countries, some other factors such as staff and managers' zeal and tendencies for implementing quality programs were referred in addition to foreign pressure.

***E- Quality programs implementation methods***

In Spain and Portugal, some methods such as team working, quality promotion projects, workshop training as a basic element and strategic factors were mentioned. In America, the tools and various techniques such as research on customers, educational standardization, team working and process reengineering were used for implementation of TQM and the important note was prize of quality Baldrige in this country. In Ireland, customers' satisfaction, quality improvement projects and determining the mission and standards were mostly stressed.

In developing countries such as Malaysia, training to the managers and staffs and projects for quality promotion and also vision determination of used methods was applied and in Zambia and Egypt training workshop, standards determination and holding conferences were used.

Totally the methods used can be specified as: quality promotion projects, determination of mission and vision, research on customers, establishing standards, managers training, staff training, team working, clinical assessment, tools and techniques of total quality training, reengineering of the processes, prize and award of quality, facilitation skills, benchmarking and improving processes quality.

***F: problems and barriers for implementing total quality***

The studies done in different countries mentioned lack of senior and middle management commitment as a most important barrier for implementing TQM. In Canadian health system a meaningful statistical relations was found between senior management commitment and quality programs accomplishment

and it has been stressed that without management commitment and creating appropriate and supporting organizational culture, can not expect any progress. Another important factor is lack of participation and involvement of the staff in programs and lack of culture change.

In developing countries, like developed countries, lack of senior management commitment was important factor for failures reports. Other reported items included lack of technical skills and team working, lack of appropriate information system and lack of appropriate organizational structure. The most important problems present in Table 2.

***G: Impacts and results of programs implementations***

In this study, the results of developing and developed countries had the maximum repetition level, includes: improvement of process quality, decrease of expenses, increase of service efficiency, satisfaction of customers and staff job satisfaction. In developed countries, decrease of expenses, increase of income were stressed mostly but in developing countries, work processes improvement, processes standards improvement, health services promotion were mostly stressed. In both groups, the long term results and final impacts of TQM programs implementation were not referred. Results of quality plans implementation shows in Table 3:

***Processes Improvement Approaches***

In studying the models for TQM application in the health systems and other models used for other sectors, it has been observed that various models for improving process or process management were applied, approach of FADE, America hospital institute problem solving approach or FOCUS- PDCA, problem solving process, process continual improvement cycle, 8 steps for process improvement cycle in Malaysia and other models of which all are collection of repeatable processes which a team or person can learn them or follow up are presented. Process management,

through guidelines, protocols and preventive inspections, is instrumental to quality improvement because health-care activities are sets of interlinked processes. Totally it can be

concluded that all methods for improving quality benefits from four basic process: These processes include Plan, Do, Check and Act (PDCA cycle).

**Table 1:** Quality improvement projects with indexes and unit of analysis in selected countries

Country	Authors	Indexes	Unit of Analysis
Ghana	Amonoo- Lartson	Process	Rural Clinics
Papua New Guinea	Burrell	Process	Health Center
United state	Dubois	Outcomes	Hospital
Jamaica	Walker	Process	Hospital
United state	Hartz	Outcomes	Hospital
Papua New Guinea	Garner	Structure	Health Center
8 Countries	Burns	Process	PHC Facilitates
Dominican Republic	Lewis	Structure	Hospital
Papua New Guinea	Thomason	Structure	Hospital
Zimbabwe/ Zaire	Whishik	Structure	Rural & Urban Clinics
Bangladesh	Begum& Salahuddin	Process	Hospital
Ecuador	Robertson	Structure/ Process	Rural Clinics
Philippines	Peters & Becker	Structure/ Process	Hospital
12 Countries	Nicolas	Process	PHC Facilitates
Angola	Bjorck& Johansson	Process	Health Center
Brazil	World Bank	Structure	Hospital
Bangladesh/ Egypt	Forsberg	Process	PHC Facilitates
United State	Keeler	Process/Outcome	Hospital
Kenya	Loevinshn / Mwabu	Structure/ Process	Rural Centers
Malaysia	Hamid	Process/Outcome	Health Centers/ Hospital
United State	Jessee	Process/Outcome	Health Institutes
Egypt	Jackman	Structure/ Process	Hospital
United State	De Geyndt	Outcomes	Hospital
Portugal/ Spain	Saturno	Process/Outcome	Health Centers
United State	Weiner& Shortell	Process/Outcome	Hospital
Canada	Wager & Rondeau	Outcomes	Hospital
United State	Batalden & Smith	Process/Outcome	Hospital
Ireland	Ennis &Harrington	Process/Outcome	Hospital

**Table 2:** The most important problems for implementing total quality in selected countries

- Organizational resistance against change	- Lack of senior expert management commitment
- Resistance of Experts and staffs against the changes	- Lack of required resources
- Resistance of middle managers against the changes	- Lack of skills and staff participation
- Lack of encouragement and zeal in managers	- Barriers in the sectors and units
- Lack of encouragement and zeal in staff	- Lack of strategic planning
- Lack of unity in organization	- Lack of health information system

**Table 3:** Impacts and results of quality programs implementation in selected countries

- Increase of customers / patients satisfaction	- Increase of information on quality
- Increase of effectiveness	- increase of efficiency
- Change in Organization Culture	- Decrease of expenses
- Better Communication in Organization	- Decrease of customers claims
- Increase of process quality	- Employees empowerment

## Discussion

During the studies, positive results of TQM application in different countries health institutes were repeatedly observed. Though the few existing studies show a positive relationship between the implementation of quality management systems and organizational performance (21- 23). Most TQM patterns have stressed necessity of senior management commitments and increasing information and management knowledge for accepting change (1). Also based on the studies in various countries, there has been a meaningful statistical relation between senior management commitment and quality programs accomplishment and it has been stressed that without health management commitment for quality and creating favorite and supporting management culture, can not expect any success (1). It is seen that most opinion makers and researches in health organizations reveals importance of management commitment and their full scale supporting of TQM. Through commitment to quality, management implements the community desires for quality of care and make and address the organizational culture. Management leadership and commitment to quality is expected to build, maintain and encourage an organizational context that leads to high organizational performance, individual development, and organizational learning. As mentioned, implementation of continual training programs for managers and staffs for increasing their ability in techniques and total quality tools are another important factor

for effective TQM accomplishment and should be paid attention in quality management.

In this study it has been stressed that training should not be for one time and cross-sectional but it should be continual for the subjects such as quality concept understanding, techniques and quality tools, participation, process and method for quality improvement and also the skills of leadership should be taught to the managers. By studying theoretical research principles and examining quality opinion makers' comments, the aspects with most emphasis are: Leadership, Team working, customer orientation, continuous improvement and quality training. On the other hand, by studying and examining the managers, most important responsibilities, most skills are allocated for TQM programs efficiencies. So, it is necessary that in suggested quality management model the continual trainings are stressed for continual training of organizational leadership skills, problem solving, teams learning, training educational coaches.

Certainly, team working, participation, conflict management, development of innovation and creativity are the most important aspects of effective leadership in the total quality organization (1). Quality experts believe that leadership should developed a culture in which all the staff from top manager to the minimum level should have commitment for continuous improvement as a part of their daily work appeared. TQM has a clear management method dealing with transferring

responsibility and quality culture development which each person has commitment for continuous improvement and customers' satisfaction (24).

In Ireland, 27% of the hospitals have repeatedly used culture change method and 50% declared that the relations were better as the result of programs implementation (12). The proposed quality management model should be stressed on the culture change strategies in practical process and regular basis and establishment of participation techniques of first and second level such as: survey feedback, dividing information, suggestion system and also forming a team for solving problems for strengthening participation should be used.

For accomplishment and reaching TQM goals, is required for quality to be recognized as an organization's strategic goal (25, 26). Considering quality as an integral part of the overall business planning allows health-care organizations to determine their strengths, weaknesses and opportunities in the quality service area, optimize the use of resources and ensure that the deployment will be effective. Recently, two major changes have emerged in government health policy: (a) a shift from an internal approach to performance (e.g., internal efficiency, productivity) to an external one (e.g., patient satisfaction, accountability), and (b) a shift from a focus on structure to a focus on process. These changes have placed a renewed emphasis on service quality and its relationship with health-care providers' organizational performance in order to create a mechanism for internal feedback and external accountability.

Thus TQM should be implemented in a comprehensive and total form in the organization not in a unit and sector form, TQM is a total and horizontal process which include all levels of organization and is searching for the answers to needs and expectations of all stakeholders of all health organization such as the people, government, services receivers,

staff and other economical social organizations in a long term. So, it is necessary that TQM implemented in strategic form. Madu also stressed on this quality strategic view point (27). It has been revealed that 60% of the organizations using TQM in America had strategic planning, designing management and information analysis. Before implementation of TQM appropriate planning should be applied, and without having a plan, establishment of TQM will not be applied and after a while it will be mitigated. Most of the failures in TQM implementation are due to lack of action plan (23). Of course, the plan can be implemented in a coordinated and inter related forms for common vision when they are regulated in a strategic management framework.

By studying the health system process management models and other industrial and service organizations in different countries in four steps; Plan, Do, Check and Act are common which are in accordance with quality improvement cycle of Showhart and Deming (28). The researcher have stressed in the suggested model in team working, value and importance of staff participation in discovering the problems, documentation, relation with customers, statistical process control, process capability analysis, presenting solution and implementation of reforming solution.

Measuring full impacts of TQM in health sector within the framework for a comprehensive pattern including all structure, process, short term results, long term results and final impacts indexes. This means having strategic vision for health sector.

#### ***Proposed model***

For success in TQM implementation in health organizations, the most important factors are as following:

- 1- A manager who has active and considerable role in encouragement of team working, development of participation and creativity, creating organizational useful com-



munication, expanding common vision and training.

2- Manpower of capable and active staff whose goals are doing the right things and doing things right and improving it in later times by customers satisfaction

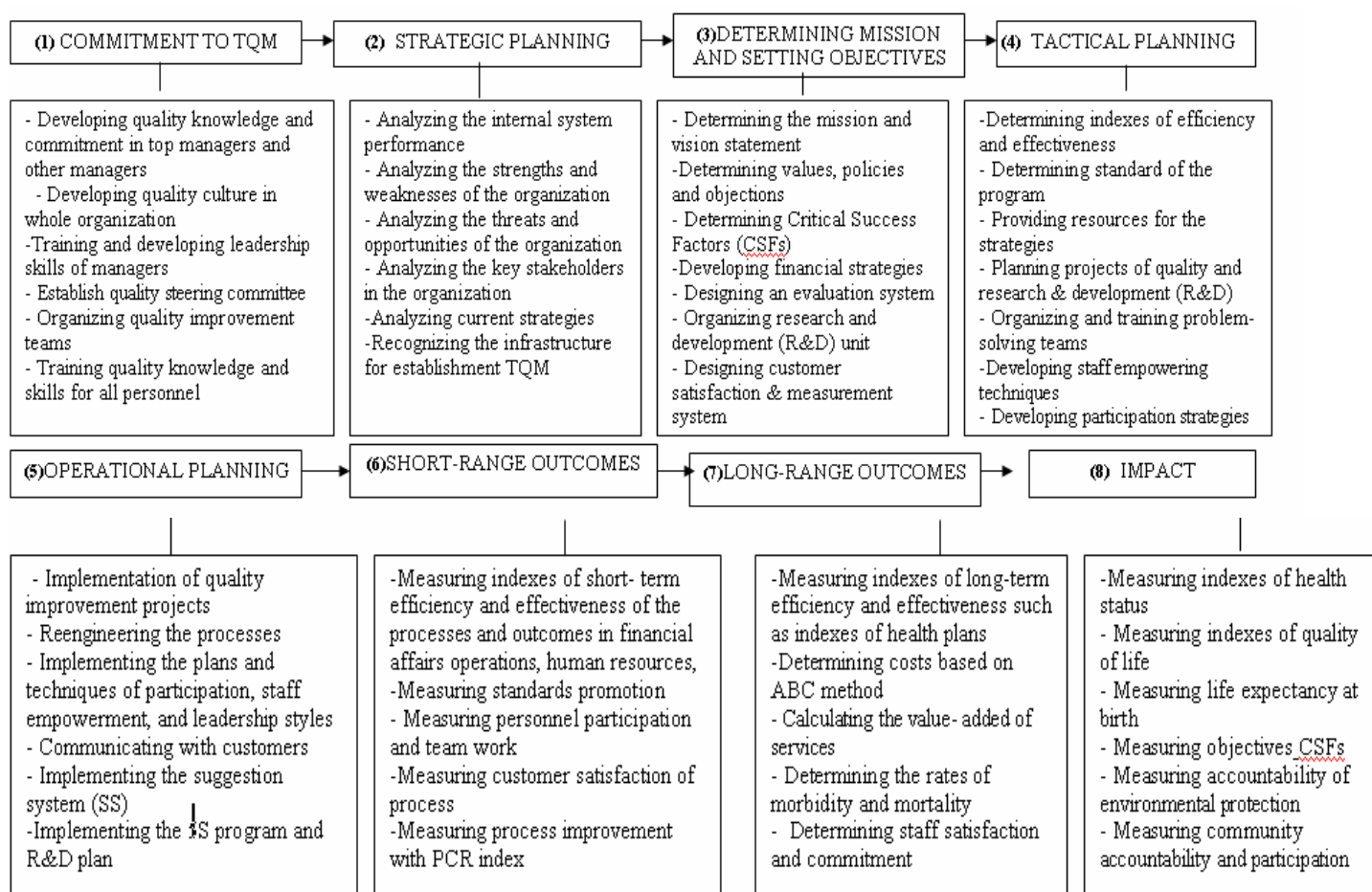
3- Organizational culture stressing on continues change, accepting conflict, team working, multi aspect communication, total participation and continual learning.

4- Strategic management considering specifying the mission, vision, long term goals continuous improvement, strategic thinking and total comprehensiveness in the organization interacting with external environment. The researcher proposed models for quality management having mention component title

strategic total quality management and define it as follows:

**Strategic Total Quality Management**

(STQM) is a strategic approach toward employees, the organization and society and focuses on empowering the employees at all levels and ensures their participation in the permanent quest for the improvement of the quality of processes and health planning, creating added values, changing organizations' culture, and preserving the resources. The final objective of STQM is to improve of the society's health, fulfillment of social responsibilities and focusing on the needs of all stakeholders. The element of STQM model shows in Fig. 1.



**Fig. 1:** Final Model of Strategic Total Quality Management

## Acknowledgements

The authors would like to acknowledge Hamadan University of Medical Sciences for providing support and encouragement for this study.

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