

# The Influence of Total Quality Management on Developing Healthcare Service Quality

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Received:  
10/08/2025  
Revised:  
20/09/2025  
Accepted: 04/10/2025  
Published:  
13/10/2025

## ABSTRACT

Total quality management (TQM) is widely recognized in the healthcare domain as important practices to improve service quality. The gap between expected and provided medical services is growing due to poor implantation of TQM in healthcare service. As a result, the effectiveness of TQM requires in-depth understanding its main principles to achieve healthcare service quality. The objective of this paper is to investigate the links between TQM and healthcare service quality in UAE and Jordanian hospitals. Quantitative approach was used to investigate this relationship. The questionnaire is a data collection tool. The population comprises of doctors, medical workers, and administrative professionals from various departments who work at six hospitals in Jordan and the UAE. A simple random sample strategy was used in the survey procedure. The findings revealed that TQM has a significant effect on healthcare service quality. The finding of this paper contributes to the body of knowledge on the substantial role of TQM in healthcare industry and provide novel evidence on this relationship in healthcare system of UAE and Jordan.

**Keywords:** Total Quality Management, Healthcare Service Quality,



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## 1 INTRODUCTION

The United Arab Emirates (UAE) and Jordan aspires to build a world class health system to improve their hospitals like the ones in developed countries, e.g., Europe and US. To achieve this goal, the ministry of health in these countries promoted extensive health system reforms in the past 10 years. Today's competitiveness in the healthcare sector reflects the increased demand for higher-quality medical services (Moonesar, 2022). Many hospitals around the world are extending their systems because of the strong domestic and abroad competition. Therefore, hospitals are eager to face the challenge and survive in the healthcare market (Yingfeng, 2018). In this connection, hospitals must strive to improve their healthcare system and satisfy their patients without putting their profitability at stake (Benzaquen et al., 2021). The quality of healthcare services is becoming a major concern in all countries, with the goal of improving performance in order to maximize population health in an effective and efficient manner, by doing the right thing, at the right time, in the right way, for the right person, and achieving the best possible results through well-managed hospitals and clinics. Total Quality Management (TQM) in hospitals emerged as one of the greatest techniques to bridge the gaps in healthcare industry and help hospitals tackle the problems arise from lack of quality in medical services (Hussain et al., 2023). To that end, it has become

increasingly important for hospitals to prioritize patient satisfaction and safety, as well as improve efficiency and reduce healthcare costs. In this regard, TQM provides a comprehensive approach that focuses on continuous improvement, collaboration, and data-driven decision-making. By implementing TQM principles, hospitals can enhance their overall performance and ultimately provide better care for their patients. The nature, extent and success of these reforms has not recently been comprehensively reviewed. In other sense, TQM increase hospitals competitiveness (Bouranta et al., 2019). Achieving high quality services is not limited to certain medical services such as diagnoses, medicines, surgery and treatment (Tayyab, 2020) but extend to administration and performance in the healthcare market. Total quality performance is directly related to healthcare safety, hospital privacy and security, attitude of hospital staff, professional doctors, appointment, delay time, service time, and many healthcare activities (Benzaquen et al., 2021). Accordingly, the adoption of TQM will continuously improve the performance of hospitals in terms of medical quality (Alqudah et al., 2023). Arguably, having advanced healthcare systems does not guarantee free from problems and loyal patients. Scholars reported big difference between the expected service and the perception or actual experience of the service even the organization adopt TQM (Whitford, 2016; Obeta et al., 2019). It has been reported

How to cite: Saleh KJS. The influence of total quality management on developing healthcare service quality. *Adv Consum Res.* 2025;2(4):5136–5142.

that like many other public healthcare systems around the world, public hospitals in Jordan and the UAE confront their fair share of challenges. Hence much academic works need to focus on the degree of TQM implementation that contribute to healthcare service quality. A key problem for public hospitals is meeting rising expectations and demand for health care as a result of population expansion, an increase in chronic health conditions, and the presence of refugees in the country. In addition to the anticipated increase in the number of young people and the elderly, rising healthcare expenditures and an increasing rate of brain drain, primarily to Gulf countries, due to low wages, a lack of incentives and restrictions, and excessive working hours. To that end, it is essential to review the progress and outcomes of health systems reform in any country, in particular measuring the extent of relationship between TQM and healthcare service quality in UAE and Jordan.

## **2 LITERATURE REVIEW**

### **2.1 Total Quality Management**

TQM is a people-focused management system that strives to continuously improve customer satisfaction while lowering real costs (Baker, 2018). TQM system approach is an inherent aspect of high-level strategy; it operates horizontally across functions and departments, incorporates all employees from top to bottom, and extends backward and forward to include the supply chain and the customer chain. It emphasizes learning and adapting to ongoing change as critical to organizational success (Xu et al., 2020). Academics and HR practitioners have explored TQM as a novel concept with roots in Japanese management style (Mukhopadhyay, 2020). Edward Deming was a major proponent of quality management who helped revitalize the Japanese economy following World War II. Many businesses around the world are now using Deming's management method (Xu et al., 2020). However, the relevance of this method in the formalization and growth of management theory is a relatively unexplored topic. The new information that Deming provided to the globe is being reintroduced to some healthcare companies that are committed to offering higher value to patients at an affordable cost. These healthcare organizations are learning about a better management strategy from corporations like Toyota (Gordillo et al., 2023). According to Taroreh et al. (2022), TQM improves the quality of services and goods by fostering collaboration and standardizing performance. TQM takes a holistic approach. It collects information from all departments, uses that knowledge to assist the business improve holistically, and introduces innovative new forms and management practices (Ladewski & Al-Bayati, 2019). There is a consensus view that companies should follow a number of principles in an integrated way for successful TQM implementation. Furthermore, to determine critical factors of TQM, various studies have been carried out and different instruments were developed by individual researchers, Such as Sun (2000), Motwani (2001), and Zhang et al (2000). The researcher identified seven TQM principles (Medne &

Lapina, 2019; Horvat & Filipovic, 2020; Lim et al., 2022; Wassan et al., 2022) as explained below:

#### **2.1.1 Customer focus**

Customer focus refers to the organization's commitment to understanding and meeting the needs and expectations of its customers. It involves placing the customer at the center of all decision-making processes and ensuring that their satisfaction is the primary goal of the organization. This customer-centric approach requires a deep understanding of the customers' requirements, preferences, and feedback, which is then used to drive continuous improvement and innovation within the organization (Lim et al., 2022).

#### **2.1.2 Leadership**

Leadership in Total Quality Management (TQM) can be defined as the ability to guide and inspire individuals within an organization towards achieving excellence in quality and continuous improvement. It involves creating a shared vision, setting clear goals, and empowering employees to take ownership of their work. Effective TQM leadership also emphasizes the importance of collaboration, communication, and fostering a culture of trust and accountability (Wassan et al., 2022).

#### **2.1.3 Engagement of people**

In TQM, the role of employees is very different from what it was in traditional systems. Workers are empowered to make decisions relative to quality in the production process. They are considered a vital element of the effort to achieve high quality (Brata & Soediantono, 2022). Their contributions are highly valued, and their suggestions are implemented. In order to perform this function, employees are given continual and extensive training in quality measurement tools (Saragih et al., 2020).

#### **2.1.4 Process approach**

Process approach leads to identifying the interfaces of key activities within and between the functions of the organization, and focusing on the factors – such as resources, methods, and materials – that will improve key activities of the organization. The application of this management principle also leads to evaluating risks, consequences and impacts of activities on customers, suppliers and other interested parties (Medne & Lapina, 2019).

#### **2.1.5 Improvement**

Improvements of all operations, activities, and aspects are the core of TQM, leading to customer satisfaction. According to (Medne & Lapina, 2019), improvement refers to both incremental changes and breakthrough improvements which may take one of the following forms: improving products and services; reducing errors, defects and their related cost; increasing productivity and effectiveness in the use of organization resources; and improving performance cycle time (Tayyab, 2020).

### **2.1.6 Evidence-based decision making**

This principle indicates that application of this principle of factual approach to decision making typically leads to ensuring that data and information are sufficiently accurate and reliable, and to making data accessible to those who need them (Aljuhani, 2019). The application of this principle also leads to analyzing data and information using valid methods and making decisions and taking action based on factual analysis, balanced with experience and intuition.

### **2.1.7 Relationship management**

This principle states that the application of the principle of mutually beneficial supplier relationships typically leads to establishing relationships that balance short-term gains with long-term considerations, pooling of expertise and resources with partners, identifying and selecting key suppliers, and clear and open communication. The application of this principle also leads to sharing information and future plans, establishing joint development and improvement activities, and to inspiring, encouraging and recognizing improvements and achievements by suppliers (Permana et al., 2021).

## **2.2 TQM in Hospitals**

TQM is a philosophy aimed at achieving excellence involving all organizations employees. In healthcare settings, excellence is measured in health outcomes and patient satisfaction (Chaitanya et al., 2018). Five concepts are consistently cited in studies of TQM in healthcare i.e. focus on customers, continuous improvement and learning, participation and teamwork by all employees, commitment by top management and process approach to the organizations business challenge (Mahadevan, 2022). TQM plays a crucial role in hospitals by ensuring the delivery of high-quality healthcare services to patients. The significance of TQM lies in its ability to improve patient outcomes, enhance patient satisfaction, and promote a culture of continuous improvement within healthcare organizations (Permana et al., 2021). By implementing TQM principles, hospitals can streamline processes, reduce medical errors, and optimize resource utilization, ultimately leading to better patient care and increased operational efficiency. Additionally, TQM fosters a patient-centered approach, emphasizing the importance of communication, collaboration, and teamwork among healthcare professionals. This patient-centered approach ensures that all members of the healthcare team are working together to provide the best possible care for each individual patient. TQM also encourages healthcare organizations to regularly collect and analyze data on patient outcomes and satisfaction, allowing them to identify areas for improvement and make data-driven decisions. Overall, TQM is a valuable tool for healthcare organizations seeking to provide high-quality, patient-centered care and continuously improve their services. TQM has become an important issue in the healthcare industry. The increasing attention of the healthcare industry towards TQM is due to influence of customers, influence of stakeholders, hospital management initiative, reduction in the costs of treatment, and

upgraded service quality (Yingfeng, 2018). Additionally, the healthcare industry itself is rapidly transforming from a seller-oriented to buyer-oriented market due to increasing influence of consumer organizations, interference of insurance companies, and pressure of public. Also, managers of the hospitals start thinking in terms of service quality and care systems with emphasis on customers or patients (Bouranta et al., 2019). To that end, understanding the methods of TQM implementation in healthcare system can provide insights that will help develop approaches to facilitate and enhance the successful TQM implementation within the local culture (Gunasekaran et al., 2019). The review of literature shows that TQM is a new way of doing business and it is the most effective way to achieve not only high-quality management but also profitability, compared to all traditional administrative method (Alfanek, 2017). The focus of TQM is to meet all the requirements and expectations of the beneficiaries whether this beneficiary is inside or outside the organization or establishment (Shan et al., 2016). Moreover, by knowing their needs, it will guide the hospital administrators on how to meet them and perform them properly (Bastas & Liyanage, 2018).

## **2.3 Healthcare Service Quality**

Healthcare service quality plays a crucial role in ensuring that patients receive the best possible care and treatment. It encompasses various aspects, including the accessibility, effectiveness, safety, and patient-centeredness of healthcare services. Accessible healthcare services ensure that individuals can easily obtain the care they need, regardless of their geographical location, socioeconomic status, or other barriers (Alumran et al., 2021). Effective healthcare services are those that achieve the desired outcomes and improve the health of patients, while also considering the cost-effectiveness of interventions. Safety is another vital component, as patients should be protected from harm and adverse events during their healthcare journey (Upadhyai et al., 2020). Additionally, patient-centered care focuses on meeting patients' needs and preferences, involving them in decision-making, and fostering a compassionate and respectful healthcare environment (Moshood et al., 2022). In other words, healthcare service quality is a multifaceted concept that aims to provide the highest standard of care to individuals, promoting better health outcomes and patient satisfaction, e.g. Fatima et al. (2019) reported that the dimensions of service quality in healthcare help the leaders of hospitals to assess service quality. To ensure healthcare service quality, it is important to have well-trained and competent healthcare professionals who can deliver evidence-based care. This includes healthcare providers who stay up-to-date with the latest research and guidelines, and who continuously improve their skills through professional development (Asnawi et al., 2019). Moreover, healthcare organizations need to have efficient systems and processes in place to ensure timely access to care, minimize waiting times, and reduce administrative burdens for patients (Syam & Achmadi, 2022). By addressing all these aspects of healthcare service quality, healthcare providers can work towards



achieving their ultimate goal of improving the overall health and well-being of individuals and communities (Woo & Choi, 2021).

Hospitals need to focus on their service quality for several important reasons. Firstly, the quality of healthcare services directly impacts patient outcomes and satisfaction. When hospitals prioritize service quality, they can provide better medical care, reduce medical errors, and improve patient safety. A focus on service quality enhances the overall patient experience, leading to higher patient satisfaction and increased loyalty. This, in turn, can positively impact the hospital's reputation and help attract new patients (Upadhyai et al., 2020). Furthermore, with the rising competition in the healthcare industry, hospitals that excel in service quality are more likely to stand out and gain a competitive edge. These hospitals can differentiate themselves from others by offering exceptional patient-centered care and personalized services. Patients are more likely to choose a hospital that values their needs and preferences, which can result in increased patient volume and revenue for the hospital (Fiakpa et al., 2022). To that end, a commitment to service quality can also lead to improved staff morale and engagement, as employees take pride in delivering excellent care. This can contribute to a positive work environment and ultimately improve the overall performance and success of the hospital (Syam & Achmadi, 2022). We conclude that hospitals that prioritize patient-centered care and personalized services often receive positive feedback and reviews from patients. This can further enhance their reputation and attract even more patients seeking high-quality healthcare. Furthermore, a focus on exceptional care can also lead to better health outcomes for patients, reducing the chances of readmissions or complications. Ultimately, by prioritizing patient-centered care, hospitals can establish themselves as leaders in the industry and maintain a loyal patient base.

## 2.4 The Relationship between TQM and Healthcare Service Quality

The influence of Total Quality Management (TQM) on healthcare service quality cannot be understated. TQM is a management philosophy that focuses on continuous improvement, customer satisfaction, and employee involvement. In the healthcare industry, implementing TQM principles has led to significant improvements in patient outcomes, safety, and overall service delivery. Furthermore, TQM has enhanced communication and collaboration among healthcare professionals, leading to a more coordinated and efficient healthcare system. By prioritizing quality improvement, TQM has also played a role in reducing medical errors and enhancing patient trust in healthcare providers. Overall, the influence of TQM on healthcare service quality has revolutionized the way healthcare organizations operate, ultimately resulting in better patient care and improved healthcare outcomes. In other words, the substantial role of TQM in enhancing the quality of private and public healthcare services in Jordan and UAE was reported and approved (Alshourah, 2021; Daqar & Constantinovits, 2020). As

TQM is a management framework based on a principle that an organization can establish long-term success and satisfy the stakeholders by having all its employees, from low-level to its highest-ranking workforce, focus on improving quality and, thus, significantly impact service quality in any industry, and this applies to healthcare organizations, e.g., Aburayya et al. (2020) found the positive effects of TQM practice on service quality, specifically continuous improvement, organization culture, customer focus, process management, teamwork and participation, and top management commitment. The literature indicates that TQM plays a major role in boosting service quality in any health services improvement. In this regard, Ali et al. (2022) examined the relationship between TQM and quality of healthcare services in Yemen. The employee's responses for sixth study dimensions were the top manager's commitment 80.46%, customers focusing 81.55%, continuous improvement 82.32%, training 71.51%, and strategic planning 74.76%, health services quality improvement (HSQI) 74.25%. The result of Ali's study shows a significant relationship between TQM and healthcare service quality in Yemeni hospitals. In the healthcare sector of UAE, the implementation of TQM philosophy can help hospitals in this country to enhance patient safety to highest level and help hospitals to improve performance and adopt cost-effective management practices which contribute to service quality (Aburayya et al., 2020). It is evident that a vital quality improvement process, i.e., TQM being utilized by numerous organisations worldwide as well as hospitals and healthcare institutions to foster service quality. The literature reports that hospitals that adopted TQM always be successful in being recognized with significant service quality (Daqar & Constantinovits, 2020; Alshourah, 2021; Aljasmī et al., 2021; Abu-Rumman et al., 2021; Nasution & Absah, 2022). Based on the aforementioned arguments and findings, we assume that TQM has a significant effect on healthcare service quality, and this relationship is valid in Jordanian and UAE hospitals.

## 3 RESEARCH METHODOLOGY

This study applied quantitative methods to analyze relationships between TQM and healthcare service quality. The population consists of doctors, medical workers, administrative staff from different departments working in six hospitals in Jordan and UAE. Data instrument is self-administrated questionnaire. The data collection has been conducted on a sample of 450 participants. Simple random sampling technique has been applied in the survey procedure. SPSS software is deployed to conduct data analysis. Whereas SEM is principal approach used to conduct data analysis and test the hypothesis of this study.

## 4 RESULT AND DISCUSSIONS

For the purpose of marking the overall perceptions of respondents, the descriptive data is used to identify the perspectives of respondents in UAE and Jordanian hospitals. For validation purposes, a mean value of 2.9 was fixed as the cut-off point, meaning that a construct would be considered "agreed" if it received a mean score

of 2.9 or more. The following sections describe the descriptive statistics associated with each construct. Reading the data in Table-1 reveals that the magnitudes of mean values of TQM = 3.68, and service quality = 3.53. This result indicates that the respondents in the

hospitals have indicated moderate agreement to the questions during the survey. With respect to Skewness, the result reveals that TQM data is negatively skewed (skewness = -0.69), and service quality data is fairly symmetrical (skewness = -0.33).

**Tabl-1: Descriptive Statistics of constructs**

		Min.	Max	Mean	St. Deviation	Skewness	Kurtosis
1	TQM	1.54	5.23	3.68	0.55	-0.69	0.99
2	Service quality	1.35	5.10	3.53	0.66	-0.33	0.10

A simple linear regression was used to test the relationship between TQM and healthcare service quality. The evaluation of direct relationships is made through R-square, ANOVA, and Regression Coefficients. The model summary provides the initial information related to the regression strength between two variables. The data in Table-2 reveals details about the strength of relationships between the two variables.

**Table-2: Summary of regression analysis.**

Relationships	ANOVA (F-value)	R-Square	Unstandardized Coefficients B	Standardized Coefficients Beta	Sig. p-value
TQM → Healthcare service quality	272.805	0.409	0.764	0.639	0.00

The initial evaluation to the values in the model summary table enables the author to know how well the regression model predicts the variability between TQM and healthcare service quality. It is found the magnitude of  $R^2$  varies between 0.409. This value indicates the percentage of total variation in healthcare service quality which can be explained by the predictors (TQM). In other words, the change in TQM explains (40.90%) of the change in healthcare service quality in UAE and Jordanian hospitals. Reading the level of significance of this relationship in Table-1 indicates that this relationship is statistically significant ( $\text{Sig.} = 0.000 \leq 0.05$ ), whereas the strength of this relationship is relatively high ( $\text{Beta} = 0.639$ ). Last, the outcome from ANOVA analysis reports the degree of regression model fit between each pair of variables. Interpretation the output data in ANOVA table specifies that the degree of correlation between TQM and healthcare service quality. Examining the magnitude of (F) in Table-2 which is equal to the ratio of two mean square values related to each relationship. This ration should be large enough and greater than (1) in order to consider the variation between TQM and healthcare service quality statistically significant.

## 5 CONCLUSIONS

The finding of this paper demonstrates that TQM in the healthcare business is widely acknowledged as an important technique to enhancing service quality. TQM is a holistic method that emphasizes continuous improvement, customer happiness, and staff involvement to improve the overall quality of products or services. Strategic management, on the other hand, provides a framework for establishing objectives, making decisions, and allocating resources to achieve them. By incorporating TQM principles into hospital strategic plans, management may successfully link their quality improvement initiatives with their overall

strategic goals. This alignment ultimately leads to enhanced healthcare service quality, since TQM aids in identifying areas for improvement, implementing evidence-based procedures, and continuously monitoring and assessing performance. There are several recommendations for hospitals to effectively implement TQM and achieve high-quality healthcare. Firstly, hospital leadership should prioritize a culture of continuous improvement and patient-centered care. This involves fostering a supportive environment where staff are encouraged to identify and address areas for improvement, while also valuing patient feedback and incorporating it into the decision-making process. Additionally, hospitals should invest in robust training and education programs to ensure that all staff members are equipped with the necessary skills and knowledge to deliver quality care based on the principles of TQM.

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