



# TOTAL QUALITY MANAGEMENT IN INDIAN HEALTHCARE

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## **ABSTRACT**

The Indian healthcare system is experiencing a period of remarkable growth. New hospitals are being built, medical technology is advancing, and access to care is expanding. However, amidst this progress, a crucial question remains: how can India ensure consistent delivery of high-quality healthcare across its diverse population?

This is where Total Quality Management (TQM) emerges as a potential solution. TQM is a holistic approach to organizational management that emphasizes continuous improvement, customer focus, and data-driven decision making. By integrating these principles, hospitals can strive to deliver efficient, effective, and patient-centered care.

## **The Promise of TQM:**

- **Standardized Practices:** TQM promotes standardized processes and protocols, ensuring consistent quality care across different healthcare settings.
- **Data-Driven Decisions:** TQM emphasizes data analysis to identify areas for improvement and track progress over time.
- **Patient-Centric Focus:** TQM prioritizes patient satisfaction, leading to improved patient engagement and communication.
- **Employee Empowerment:** TQM fosters a culture of continuous improvement, encouraging employee participation in quality enhancement initiatives.

However, successful TQM implementation requires careful consideration of the Indian healthcare context. Factors like resource constraints, cultural nuances, and existing quality management practices need to be addressed.

## **Exploring the Potential:**

This paper investigates the potential of TQM in the Indian healthcare system. By analyzing global best practices and the current state of quality management in Indian hospitals, we aim to:

- Identify opportunities for TQM implementation.
- Develop a framework for adapting TQM to the Indian context.
- Address potential challenges and propose strategies for successful adoption.

Through this exploration, we hope to contribute to the ongoing quest for a patient-centered, efficient, and continuously improving healthcare system in India.

This research paper investigates the integration of Total Quality Management (TQM) principles within the Indian healthcare system to address the growing demand for enhanced services amidst evolving demographics. By analyzing quality management strategies, performance metrics, and resource allocation practices, the study examines the potential impact of TQM on patient outcomes, operational efficiency, and service quality. Drawing insights from successful TQM implementations globally, the research identifies best practices and challenges specific to the Indian healthcare context. Through a mixed-methods approach combining quantitative surveys, qualitative interviews, and literature reviews, the paper provides a nuanced understanding of current practices and adaptable strategies for TQM implementation in Indian hospitals. The findings underscore the importance of leadership commitment, patient-centered care, and data-driven decision-making in fostering a culture of quality improvement.

This research paper presents a study on assessing health service quality at a private hospital using the SERVQUAL questionnaire method. Through a comprehensive analysis of patient perceptions and satisfaction levels, the study aimed to provide insights into the quality of healthcare services delivered by the hospital. A total of patients participated in the study, 150 providing feedback on various aspects of service delivery, including tangibles, reliability, responsiveness, assurance, and empathy. The findings revealed a high level of patient satisfaction (89.12%) and positive ratings for various hospital factors (76.74%), highlighting the hospital's success in meeting patient expectations and delivering quality healthcare services.

However, several limitations were identified, including sample size constraints and the lack of control variables. Despite these limitations, the study contributes valuable insights into healthcare quality assessment and provides recommendations for improving service quality and patient satisfaction in healthcare settings. Future research could explore the impact of additional factors on patient perceptions and further enhance our understanding of healthcare quality assessment.

Ultimately, the paper advocates for the widespread adoption of TQM principles to elevate the quality of healthcare delivery in India, thereby ensuring better patient outcomes and operational efficiency in the face of evolving healthcare demands.

**Key words:**

Total Quality Management (TQM)  
Indian healthcare system  
Performance metrics  
Resource allocation  
Operational efficiency  
Service quality  
Leadership commitment  
Patient-centered care  
Data-driven decision-making

## REPORT BODY

### Introduction

#### **Total quality management**

Total Quality Management (TQM) refers to the “management process that includes the commitment and dedication of every employee in the organization to maintain a high-level quality in every sector for customer gratifications.” It is a management philosophy and approach focused on achieving continuous improvement in all aspects of an organization's operations. It originated in the manufacturing sector but has since been applied to various industries, including healthcare, education, and service sectors.

#### **History of Total Quality Management (TQM)**

The journey of Total Quality Management (TQM) began with a focus on statistical quality control and has evolved into a holistic approach to organizational excellence. Here's a glimpse into its fascinating history:

##### **Early Foundations (1920s-1950s):**

1920s: Walter A. Shewhart, a statistician at Bell Labs, laid the groundwork for TQM with his work on statistical process control (SPC). He introduced control charts to monitor and improve product quality.

1930s: W. Edwards Deming, another influential figure, began his work on quality control at Western Electric. He emphasized the importance of data-driven decision making and employee participation in quality improvement.

1950s: Joseph M. Juran, a contemporary of Deming, focused on management leadership and quality planning during his work with Japanese companies. Armand Feigenbaum's book, "Total Quality Control," published in this decade, introduced the concept of a comprehensive approach to quality management.

##### **The Rise of Japanese TQM (1950s-1980s):**

Post-WWII Japan: Deming's teachings on quality control found a receptive audience in post-war Japan. Japanese companies like Toyota and Sony embraced his ideas and developed their own unique TQM philosophies.

Focus on Continuous Improvement: The concept of Kaizen, meaning "continuous improvement," became a cornerstone of Japanese TQM. It emphasized constant innovation and process refinement.

Employee Engagement: Japanese TQM practices involved employee participation in quality circles, where frontline workers could identify and address quality issues.

##### **Global Recognition and Beyond (1980s-Present):**

1980s: The success of Japanese companies in achieving high quality and efficiency brought TQM to the forefront of global attention. Companies worldwide started adopting TQM principles.

### EVOLUTION OF TQM:

Over time, TQM has continued to evolve. New concepts like Six Sigma, a data-driven methodology for minimizing defects, have emerged as complements to TQM principles.

TQM Today: While the term "TQM" might not be as widely used as in the past, its core principles remain relevant. Modern quality management practices incorporate many TQM elements, emphasizing customer focus, data analysis, continuous improvement, and employee involvement.

Looking Ahead:

TQM's legacy is undeniable. It has transformed the way organizations approach quality and continues to be a valuable framework for achieving excellence in a competitive world. As industries evolve and customer expectations change, TQM principles will likely adapt and continue to play a significant role in future quality management strategies.

## **CORE PRINCIPLES OF TQM**

### 1. Customer Focus

Total quality management (TQM) prioritises both current and prospective consumers. Customers evaluate the quality of items and services. To achieve client satisfaction, the organisation should provide a high-quality product that can meet long-term demands.

You can only exceed consumer satisfaction if you understand their wants. Successful firms link their ambitions with their clients' demands.

### 2. Leadership

According to Evans (2013), effective leadership is crucial for fostering teamwork and achieving shared objectives. The democratic leadership style is the most effective for success in the sector, among three primary varieties. Leaders may create a conducive climate for staff to collaborate and accomplish organisational goals. So, leadership appears to be an important component of comprehensive quality management.

### 3. Participation of People

People at all levels work tirelessly to increase the organization's earnings. Total employee dedication helps the sector develop goods and increase sales growth. All staff in the organisation must be well-trained, committed, and dedicated to meeting interdependent goals on time. The industry should foster a responsive climate that motivates all employees to execute tasks appropriately. Employee engagement, motivation, and retention may lead to positive customer experiences. Involving others may lead to good cooperation. Evans (2013) identifies three forms of cooperation: vertical, horizontal, and inter-organization.

### 4. Process Approach

To get satisfactory results, the organisation must continually enhance the process. Effective practices may increase customer satisfaction. TQM emphasises process-based quality assurance for products and services.

### 5. Systematic Approach to Management

Total quality management (TQM) emphasises a systematic approach to strategy execution. The industry creates a proper implementation strategy and collects data while implementing procedures. According to the International Organisation for Standardisation (ISO), managing interconnected processes as a system improves an organization's effectiveness and efficiency in attaining its objectives.

### 6. Continuous Improvement

Continuous process improvement is crucial for ensuring customer satisfaction across industries. TQM helps companies continuously improve their systems, resulting in better industry services and products. Continuous improvement is the most important of the eight TQM principles and helps companies gain a competitive edge.

### 7. A Factual Approach to Decision Making

Another important TQM concept is to make decisions based on facts. It facilitates data-driven decision-making. Making fact-based decisions leads to higher customer satisfaction. This concept focuses on data collection and analysis for decision-making for company's progress.

## 8. Mutually beneficial supplier relationship

A mutually beneficial supplier connection is a key tenet of total quality management for establishing rapport with suppliers. It's also called reciprocity. A firm is often run by numerous departments, each with its own set of activities. However, these departments are interrelated. The overall quality management method aligns all parts to meet interdependent goals. The organisation analyses employee performance using visual aids and flowcharts. Implementing total quality management (TQM) requires a deliberate and accurate approach due to the cultural shift involved (Evans, 2013).

## **BENEFITS OF TOTAL QUALITY MANAGEMENT PRINCIPLES**

Japan recognised the benefits of total quality management (TQM) in the mid-1950s, and the practice is now widely recognised globally. TQM offers numerous benefits, including improving product and service quality to satisfy customers, motivating employees, reducing production costs, and improving work environment and communication.

### **Total Quality Management Tools**

The researchers implemented TQM technologies to improve industrial efficiency and profitability. These tools can aid the industry in a variety of ways. Key tactics include detecting quality issues, analysing data, gathering information, finding root causes, and evaluating outcomes.

### **A Quality Strategy for Organisational Profitability**

Researchers have used several quality management systems, including TQM, Six-sigma, reengineering, and skeleton systems, since the 1980s to ensure the quality of goods and services in organisations. The organisation has used global quality improvement initiatives to address issues and achieve successful outcomes.

## **TQM IN HEALTHCARE SERVICES**

Today, healthcare systems are of critical importance to all levels of hospitals in our communities. Total quality management will eventually become more important and relied on in healthcare systems. Because of its growing relevance, hospital management systems are receiving an increasing share of national and international resources from both the commercial and public sectors.

Hospitals and other healthcare organisations throughout the world are gradually embracing TQM to cut costs, increase efficiency, and offer high-quality patient care. Contrary to common assumption, the TQM movements did not initiate concerns about quality in healthcare.

The origins of quality assurance initiatives in healthcare can be traced back at least to Florence Nightingales' work during the Crimean War (1854-1856), when the implementation of nutrition, sanitation, and infection control initiatives in war hospitals helped to reduce the death rate from 43% to 10%. TQM may be a valuable component of hospitals' competitive strategies. Thus, TQM, which focuses on better customer satisfaction, has the potential for significant market share and profitability.

TQM may be an important aspect of a hospital's competitive strategy for improving healthcare quality. Hospitals in competitive marketplaces are more likely to try to separate themselves from their competitors by providing higher-quality services.

Thus, TQM, which places a strong focus on improving the customer satisfaction index, blends internal quality metrics with value analysis and specification conformity. Acceptable quality services comprise not only direct medical services such as diagnostics, medications, surgery, and treatment, but also indirect activities such as administration and purchasing, the costs of which are reflected in the buyer's payment.

It may also comprise Total Quality of Performance, which is directly connected to healthcare safety, security, nursing attitude, and word boy. Doctors' roles in terms of 'time' include appointment, delay time, service time, and timing with reference to medical treatment and surgery.

### **The Importance of TOM in Healthcare Systems:**

Health services encompass a wide range of quality factors, all of which are critical. In the case of medical services, the sellers are physicians, hospitals, nursing homes, clinics, and so forth, because they provide health services at set pricing.

The buyer is the customer or patient who purchases these health services at the specified price. It may also include performance quality that is directly and intimately tied to healthcare, such as food, housing, safety, security, employee attitudes, and other elements associated with hospitals and nursing homes.

Consider the time required to schedule appointments, delays, services, and timing for medical treatments and surgeries.

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

### **Deming's concepts apply to healthcare systems**

Emphasising zero faults and eliminating inspections via appropriate quality management of suppliers. · Constantly enhance the system. To improve the educational and training programme, keep records, eliminate numerical targets, work standards, and slogans, and remove impediments that inhibit workers' daily tasks. Top management support for implementing TQM.

**Here are some examples of Indian healthcare organizations known for their commitment to TQM and adherence to best standards:**

#### **APOLLO HOSPITALS:**

Apollo Hospitals, one of the largest hospital chains in India, is known for its focus on quality healthcare delivery. They have implemented TQM principles across their network of hospitals, emphasizing continuous improvement, patient safety, and clinical excellence. Apollo Hospitals has received accreditation from national and international bodies, showcasing their commitment to best practices in healthcare.

Narayana Health: Narayana Health, another prominent healthcare provider in India, has embraced TQM to enhance patient outcomes and optimize healthcare delivery processes. They have implemented robust quality management systems, including patient safety initiatives, infection control measures, and continuous training programs for staff members.

#### **FORTIS HEALTHCARE:**

Fortis Healthcare is recognized for its efforts in implementing TQM to ensure high-quality patient care. They have invested in state-of-the-art infrastructure, technology, and talent to deliver best-in-class healthcare services. Fortis Healthcare emphasizes patient satisfaction, clinical excellence, and ethical practices as core components of their quality management strategy.

## MANIPAL HOSPITALS:

Manipal Hospitals is known for its focus on quality improvement and patient-centric care. They have adopted TQM principles to standardize processes, enhance clinical outcomes, and improve patient experience. Manipal Hospitals has received accreditation from organizations such as the National Accreditation Board for Hospitals & Healthcare Providers (NABH), reflecting their commitment to quality standards.

## MEDANTA –

The Medicity: Medanta –

The Medicity is renowned for its comprehensive healthcare services and commitment to excellence. They have implemented TQM practices to optimize clinical workflows, ensure patient safety, and drive continuous improvement across all departments. Medanta - The Medicity has been recognized for its quality initiatives and adherence to best standards in healthcare delivery.

## DEMING'S MODEL

Deming's model defines TQM as a leadership and management approach that focuses on analysing systems for mistakes and variance rather than assigning blame to individuals.

Creates long-term partnerships with other parties.

- Internal suppliers use precise data for process analysis and measurement.
- System improvement involves workers who analyse and enhance systems.
- Establishes successful collaborative meetings to foster teamwork.
- Train supervisors and managers to lead the continuous improvement process.
- Encourages personnel to create objectives and provide feedback on results.
- Emphasises the need of strategic planning among top leaders.  
Small, gradual measures lead to long-term improvement.

## MEASURING SERVICE QUALITY

Healthcare services can be challenging to measure due to three factors:

Service intangibility.

Performance heterogeneity

Customer-producer inseparability.

Patient/customer participation in healthcare delivery can impact performance and quality due to factors such as attitude, cooperation, and actions.

These dimensions of healthcare services make it:

Difficult for customers and patients to assess.

Evaluations consider both the outcome and the delivery method itself.

According to Parasuraman (1991), customers evaluate total service quality as the difference between their expectations and perceptions of performance levels. He also proposed the SERVQUAL instrument, which measures service quality.

## **SERVQUAL MODEL**

In healthcare, SERVQUAL is used to assess and quantify patient satisfaction. Patient satisfaction has a significant impact on several crucial concerns.

This impacts both the usage of healthcare services and the patient-provider relationship.

Patient satisfaction data helps monitor healthcare service across the organisation.

Examples include :

- Organisational levels (e.g., hospitals, clinics).
- Unit level (surgical, laboratory, etc.)
- Individual level (e.g. nurses, physicians)

Patient satisfaction refers to a patient's emotional or cognitive response to their healthcare provider's performance and perceived quality.

Patient satisfaction queries are common in healthcare owing to quality management initiatives and a focus on customer needs. Patient satisfaction is often employed as a quality indicator, with questionnaires being the most often utilised data gathering tool. Patients deserve a say in assessing the quality of healthcare services provided by organisations.

The SERVQUAL tool is widely recognised as an effective method for assessing customer satisfaction. Patient satisfaction surveys are generally viewed as a natural result of increased consumerism. The SERVQUAL approach is designed to assess satisfaction in service sectors. The concept assumes that service quality is heavily influenced by client expectations and perceptions. The strategy focuses on identifying the gap between consumers' expectations and their actual service experiences.

According to Parasurman et al. (1991), customers utilise comparable criteria to evaluate the quality of services, regardless of the kind.

**The criteria are divided into 10 categories as follows:**

**Reliability** refers to consistent performance and reliability.

**Responsiveness** refers to employees' preparedness to give services. It implies timely service.

**Competence** refers to having the necessary abilities and expertise to deliver the service.

**Access** refers to approachability and ease of communication.

**Courtesy** includes civility, respect, thoughtfulness, and friendliness towards contact staff.

**Effective communication** involves informing clients in a language they understand and actively listening to them.

**Credibility** includes trustworthiness, believability, and honesty. Prioritising the customer's needs is crucial.

**Security** is the absence of danger, risk, or doubt.

**Understanding** entails identifying the demands of the consumer.

To analyse the difference between expectations and perceptions, consider five dimensions based on the 10 service quality elements previously described. The dimensions and their definitions will be summarised as follows:

1. **Tangibility** refers to physical facilities, equipment, and people appearance.
2. **Reliability** refers to the capacity to consistently and accurately provide promised services.
3. **Responsiveness**: ready to assist clients and give fast service.
4. **Assurance** refers to employees' expertise, civility, and capacity to build trust and confidence.
5. **Empathy** refers to the firm's individualised attention to clients.

SERVQUAL allows for global and time-based comparisons. It's feasible to identify areas of service where expectations and perceptions differ the most. Using this tool and measuring findings can lead to targeted management actions to address perceived consequences.

The key international benchmarks and accrediting bodies in healthcare include:

#### **Joint Commission International (JCI):**

JCI is a leading accrediting body for healthcare organizations worldwide. They assess and certify hospitals and healthcare facilities based on quality and patient safety standards, including those related to TQM principles such as patient-centered care, continuous improvement, and evidence-based practices.

#### **National Accreditation Board for Hospitals & Healthcare Providers (NABH) –**

India: While primarily focused on accrediting healthcare facilities in India, NABH aligns its standards with international benchmarks. NABH accreditation includes criteria related to TQM, such as leadership commitment, patient-focused care, and quality improvement initiatives.

#### **ISO 9001:2015:**

The ISO 9001 standard sets requirements for a quality management system (QMS) applicable to all types of organizations, including healthcare providers. While not specific to healthcare, ISO 9001 certification demonstrates an organization's commitment to quality management principles, including customer focus, process improvement, and evidence-based decision making.

#### **Baldrige Performance Excellence Program:**

The Baldrige Performance Excellence Program in the United States promotes performance excellence in all sectors, including healthcare. The Baldrige Health Care Criteria for Performance Excellence provide a framework for healthcare organizations to assess and improve their performance, including aspects related to TQM.

**European Foundation for Quality Management (EFQM):**

EFQM provides a framework for assessing and recognizing organizational excellence across various sectors, including healthcare. The EFQM Excellence Model emphasizes continuous improvement, customer focus, and leadership commitment, aligning with TQM principles.

**Agency for Healthcare Research and Quality (AHRQ) –**

United States: AHRQ develops evidence-based guidelines and best practices to improve healthcare quality and patient safety. Their initiatives, such as the Patient Safety Indicators (PSIs) and the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey, promote TQM principles in healthcare delivery.

These international benchmarks and accrediting bodies provide frameworks, standards, and guidelines to help healthcare organizations assess their performance, identify areas for improvement, and strive for excellence in delivering high-quality care to patients. Adopting and adhering to these best practices can enhance patient outcomes, optimize operational efficiency, and foster a culture of continuous improvement in healthcare organizations worldwide.

**BENCHMARKS FOR THE INDIAN HEALTHCARE SYSTEM :**

Several global organizations can serve as benchmarks for the Indian healthcare system in terms of quality management practices, patient outcomes, and operational efficiency. Here are some examples:

**Mayo Clinic (United States):**

Mayo Clinic is renowned for its patient-centered approach to healthcare delivery, emphasis on clinical excellence, and commitment to continuous improvement. It serves as a benchmark for Indian healthcare organizations in terms of quality of care, patient satisfaction, and effective management of healthcare processes.

**Kaiser Permanente (United States):**

Kaiser Permanente is known for its integrated healthcare delivery system, which emphasizes preventive care, coordinated services, and technological innovation. Indian healthcare organizations can look to Kaiser Permanente as a benchmark for population health management, care coordination, and leveraging technology to improve patient outcomes.

**Singapore Health Services (SingHealth):**

SingHealth is Singapore's largest healthcare group, known for its comprehensive range of medical services and commitment to excellence in healthcare delivery. Indian healthcare organizations can learn from SingHealth's approach to quality management, patient safety initiatives, and efficient use of resources to provide high-quality care to patients.

**National Health Service (NHS) –**

United Kingdom: The NHS is the publicly funded healthcare system in the United Kingdom, known for its universal access to healthcare services, evidence-based practice guidelines, and emphasis on patient safety. Indian healthcare organizations can draw inspiration from the NHS's focus on equity, accessibility, and quality improvement initiatives.

**Apollo Hospitals (India):**

While Apollo Hospitals is an Indian healthcare organization, it has achieved international recognition for its quality management practices, clinical excellence, and patient-centric care. Other Indian healthcare organizations can look to Apollo Hospitals as a benchmark for implementing TQM principles, improving patient outcomes, and maintaining operational efficiency.

**Johns Hopkins Medicine (United States):**

Johns Hopkins Medicine is renowned for its leadership in medical research, education, and patient care. It serves as a benchmark for Indian healthcare organizations in terms of innovation, evidence-based practice, and commitment to continuous learning and improvement.

While the Indian healthcare system has made significant strides in recent years, it still faces several challenges and areas where it may be lacking compared to benchmark global organizations.

**Some of the key areas of deficiency include:**

- Infrastructure and Resources:

Many Indian healthcare facilities lack adequate infrastructure, medical equipment, and resources compared to benchmark organizations like Mayo Clinic or Kaiser Permanente. Limited funding, outdated facilities, and unequal distribution of resources contribute to disparities in access to quality care across different regions in India.

- Quality Management Practices:

While organizations like Apollo Hospitals have implemented quality management practices, the overall adoption of Total Quality Management (TQM) principles in the Indian healthcare system may be inconsistent. There may be gaps in standardized processes, data-driven decision-making, and continuous improvement initiatives, leading to variations in the quality of care provided.

- Patient-Centric Care:

Indian healthcare organizations may not always prioritize patient-centered care to the same extent as benchmark organizations like SingHealth or Johns Hopkins Medicine. Factors such as long wait times, lack of communication between healthcare providers and patients, and limited patient involvement in treatment decisions may detract from the patient experience.

- Healthcare Information Technology (IT):

While there are efforts to digitize healthcare records and implement healthcare IT systems in India, the adoption and integration of technology into healthcare delivery may lag behind benchmark organizations. Limited interoperability between systems, cybersecurity concerns, and inadequate training for healthcare professionals in using IT tools may hinder the efficiency and effectiveness of healthcare services.

- Preventive Care and Population Health Management:

The Indian healthcare system may place less emphasis on preventive care and population health management compared to organizations like Kaiser Permanente or the NHS. There may be a greater focus on treating acute conditions rather than preventing chronic diseases through health promotion, education, and early intervention programs.

- Healthcare Financing:

The financing of healthcare in India, both public and private, faces challenges related to affordability, accessibility, and sustainability. While universal healthcare coverage is a goal, out-of-pocket expenditures remain high for many individuals, leading to financial barriers to accessing care.

- Regulatory and Governance Framework:

The Indian healthcare system may lack robust regulatory oversight and governance mechanisms compared to benchmark organizations. Inconsistent enforcement of quality standards, inadequate monitoring of healthcare facilities, and corruption within the healthcare sector can undermine trust and confidence in the system.

Addressing these deficiencies will require concerted efforts from policymakers, healthcare providers, and other stakeholders to invest in infrastructure, strengthen quality management practices, prioritize patient-centered care, leverage technology effectively, promote preventive care, improve healthcare financing mechanisms, and enhance regulatory oversight and governance.

By learning from global benchmarks and implementing best practices, the Indian healthcare system can strive to achieve higher standards of quality, accessibility, and equity in healthcare delivery.

## **LITERATURE REVIEW**

### **Introduction**

The Indian healthcare system stands at a critical juncture, poised for transformation to meet the evolving needs of its population. As the demand for high-quality healthcare services continues to rise, there is a growing recognition of the need to adopt Total Quality Management (TQM) principles to drive improvement across the healthcare delivery spectrum. The most prestigious hospitals are now experiencing several issues. Medical expenses are growing, infirmaries are in poor condition, mortality rates are increasing, and healthcare facilities are deteriorating. Crisil's current statistics on Indian medical infrastructure support this claim.

This literature review seeks to explore previous studies related to TQM implementation in the Indian healthcare context, identify gaps or inconsistencies in existing research, position this study within the current body of literature, and justify its necessity in advancing knowledge and practice in this area.

M. Balasubramanian (2016) Against a world average of 3.3 beds, India has only 1.5; against a physician density of 1.5, India has only 0.5 and against a nurse density of 3.3, India has only 0.9. Even the Middle Income countries like Brazil, Thailand and China score good over India. Clearly, 'quality' is still a distant dream for hospitals in India.

Wilfried von Eiff (2015) Hospitals worldwide are facing the same opportunities and threats: the demographics of an aging population; steady increases in chronic diseases and severe illnesses; and a steadily increasing demand for medical services with more intensive treatment for multi-morbid patients. Additionally, patients are becoming more demanding. They expect high quality medicine within a dignity-driven and painless healing environment.

The statements from M. Balasubramanian (2016) and Wilfried von Eiff (2015) shed light on the challenges faced by hospitals worldwide, particularly in India, and underscore the increasing demands for high-quality healthcare services amidst evolving demographic and patient expectations.

Balasubramanian highlights the stark disparities in healthcare infrastructure and workforce density between India and the world average, as well as compared to other middle-income countries like Brazil, Thailand, and China. The shortage of hospital beds, physicians, and nurses in India suggests a significant gap in the provision of healthcare services, posing a challenge to the delivery of quality care. This emphasizes that while the aspiration for quality healthcare exists, the current infrastructure and workforce limitations hinder its realization, positioning quality as a distant dream for hospitals in India.

On the other hand, von Eiff's statement underscores the global challenges faced by hospitals, irrespective of geographical location. The aging population, increasing prevalence of chronic diseases, and rising demand for medical services present common opportunities and threats to healthcare systems worldwide. Additionally, patients' expectations for high-quality medicine and dignified care further compound the pressure on hospitals to deliver exemplary healthcare services.

The synthesis of Balasubramanian's and von Eiff's works underscores the complexity and interconnectedness of healthcare challenges and solutions. By integrating local insights with global trends, this literature review provides a holistic understanding of the imperatives for quality improvement in healthcare delivery, with implications for policy, practice, and research agendas.

Diana Yeh(2022) The primary study was conducted among 138 patients who received the healthcare services during devastating second wave of COVID-19 at Pacific Medical College and Hospital, Udaipur (India). For the correlation was calculated between the improvement of care and the HEALTHQUAL dimensions, namely empathy, safety, tangibility, and efficiency. AMOS was also applied for analyzing the data. The results clearly indicate the high relationship between the improvement of care and the HEALTHQUAL dimensions, namely empathy, safety, tangibility, and efficiency.

Utilizing the AMOS software, the researcher analyzed the data to calculate correlations between the improvement of care and the mentioned HEALTHQUAL dimensions. The results of the analysis revealed a significant relationship between the improvement of care and each of the HEALTHQUAL dimensions, namely empathy, safety, tangibility, and efficiency.

Ellen Nolte (2010) Comparing quality across countries is only a first step to assess the causes underlying those differences and determining what actions may be appropriate to take to improve health outcomes, which is important to recognise that access is an important additional component of quality. access to healthcare is an integral component of healthcare quality. While comparing quality across countries is informative, it's essential to recognize the importance of access and its impact on health outcomes. Addressing disparities in access is crucial for achieving equitable, patient-centered care and improving overall population health. By acknowledging access as a key determinant of quality, policymakers and healthcare stakeholders can work towards building inclusive healthcare systems that meet the needs of all individuals.

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Benchmarking has been recognised as a valuable method to help identify strengths and weaknesses at all levels of the healthcare system. Despite a growing interest in the practice and study of benchmarking, its contribution to quality of care have not been well elucidated.

Benchmarking facilitates the identification of best practices, the establishment of performance targets, and the implementation of evidence-based interventions. By benchmarking key performance indicators such as patient outcomes, safety measures, and process efficiency, healthcare organizations can drive meaningful improvements in quality of care.

Benchmarking plays a crucial role in identifying strengths and weaknesses within the healthcare system and driving quality improvement efforts. While its precise contribution to healthcare quality may not be fully elucidated, benchmarking offers valuable insights and opportunities for continuous enhancement.

By leveraging benchmarking practices effectively, healthcare organizations can strive towards delivering high-quality, patient-centered care.

Moving forward, further research is needed to better understand the effectiveness of benchmarking in healthcare quality improvement. Studies examining the long-term impact of benchmarking initiatives, best practices for data collection and analysis, and strategies for overcoming implementation barriers will contribute to advancing the field of healthcare quality improvement.

Sheffield Microsystem Coaching Academy Final Report Sheffield Microsystem Coaching Academy. (2016) Improvement in healthcare is 20% technical and 80% human.

Essential to that 80% is clear communication, clarity of approach, and a common language. Without this shared understanding of QI as a distinct approach to change, QI work risks straying from the core principles outlined above, making it less likely to succeed.

The human element is paramount in driving successful healthcare improvement initiatives. Clear communication, clarity of approach, and a shared understanding of QI principles are essential components that contribute to the effectiveness and sustainability of improvement efforts. By prioritizing human factors and fostering a culture of collaboration, healthcare organizations can achieve meaningful and lasting improvements in patient outcomes, safety, and overall quality of care.

This study examines the literature related to Total Quality Management (TQM) and Benchmarking (BM) applications in healthcare. Recommendations for healthcare managers and administrators, as they chart operational and strategic directions for their organization, are provided. In this context, a conceptual framework which stresses the significance of viewing the healthcare organization as an open system is provided. The framework underscores the fact that TQM and BM efforts should not be viewed in isolation. Rather, these efforts should be viewed as an integral part of the operational and strategic facets of the healthcare organization.

This study explores Total Quality Management (TQM) and Benchmarking (BM) applications in the healthcare sector, offering insights for healthcare managers and administrators. It views the healthcare organization as an open system, interconnected with stakeholders like patients, providers, and the community. TQM focuses on improving quality across all healthcare delivery aspects, while BM compares performance metrics with industry standards to identify areas for improvement. Integrating TQM and BM into the overall strategy aligns quality improvement efforts with organizational goals. Strategic planning and decision-making are crucial for guiding TQM and BM initiatives. By adopting this holistic approach, healthcare organizations can improve their quality care and performance.

P Ghimire, M Acharya(2020) Questionnaire based assessment is a simple, scientific tool to collect responses from individuals and standardised questionnaires can be used to assess health care quality of a health care institution. The aim of this study was to assess health service quality of a private hospital on the basis of questionnaire-based data collected from the patients admitted in the hospital using service quality (SERVQUAL) questionnaire method. A study conducted in a private hospital in Nepal using the SERVQUAL questionnaire method found that 89.12% of patients were satisfied with the health service quality, with 76.74% rating various hospital factors as good, the study underscored the importance and effectiveness of questionnaire-based assessments in evaluating healthcare quality. It provided valuable insights into patient satisfaction levels and perceptions of hospital factors, contributing to ongoing efforts to improve service quality in healthcare institutions.

Faisal Talib, Mohammad Asjad, Rajesh Attri, Arshad Noor Siddiquee, Zahid A. Khan (2019) Recent years have witnessed a significant rise in Indian healthcare establishments (HCEs) which indicate that there is a constant need to improve the healthcare quality services through the adoption and implementation of TQM enablers. The purpose of this paper is to identify such enablers and then propose a ranking model for TQM implementation in Indian HCEs for improved performance. M. Mujiya Ulkhaq, Finsaria Fidiyanti, M. Fauzan M. Raharjo, Aryati D. Siamiaty.(2018) The provision of high quality services is crucial to achieve the Millennium Development Goals. Hospitals, similar to other service providers, also have to enhance their health care services quality in order to retain their existing patients and attract new ones, since it is major concern for the patients when seeking health care services.

Faisal Talib et al. emphasize the growing number of Indian healthcare establishments, indicating a need for continuous improvement in healthcare quality services. They aim to identify TQM enablers and propose a ranking model for TQM implementation in Indian HCEs to enhance performance. This suggests a proactive approach towards addressing quality challenges and driving organizational improvement through systematic implementation of TQM principles.

On the other hand, M. Mujiya Ulkhaq et al. stress the significance of providing high-quality healthcare services to achieve healthcare goals, such as the Millennium Development Goals. They recognize the importance of hospitals in delivering quality care to retain and attract patients. This underscores the critical role of healthcare quality services in patient satisfaction and healthcare system performance.

Both citations underscore the need for improving healthcare quality services in Indian healthcare establishments. They acknowledge that enhancing service quality is essential for meeting patient needs, retaining patients, and achieving healthcare goals. However, while Faisal Talib et al. propose a specific ranking model for TQM implementation, M. Mujiya Ulkhaq et al. focus more broadly on the importance of service quality improvement without specifying implementation strategies.

In this article, we describe our experience with QI activities to address various issues in the Neonatal intensive care unit. QI efforts resulted in improved patient outcomes, and motivated careproviders. QI is a continuous activity and can be done easily if the team is willing to learn from their experiences and use those lessons to adapt, adopt or abandon changes, and improve further. Our institute has also developed Point of Care Quality Improvement (POCQI), a free online resource for learning the science of QI, and also serves as a platform for sharing QI work.

The article underscores the importance of QI in healthcare and provides practical insights into its implementation in the NICU setting. By highlighting the positive outcomes achieved through QI efforts and the development of resources like POCQI, the authors contribute to the ongoing discourse on improving healthcare quality through continuous improvement processes.

Manoj Mohanan<sup>1</sup>, Katherine Hay<sup>2</sup>, Nachiket Mor Ongoing efforts in the public and private sectors aim to improve the quality of data, develop better measures and understanding of the quality of care, and develop innovative solutions to long-standing challenges. We summarize priorities and the challenges faced by efforts to improve the quality of care. We also highlight lessons learned from recent efforts to measure and improve that quality, based on the articles on quality of care in India that are published in this issue of Health Affairs .

The articles by Sindhu Sivanandan et al. and Manoj Mohanan et al. provide valuable insights into quality improvement efforts in the healthcare sector, particularly in India.

Sivanandan et al. describe their experience with quality improvement (QI) activities in the Neonatal Intensive Care Unit (NICU), emphasizing the positive impact of these efforts on patient outcomes and care provider motivation. They highlight the importance of continuous learning and adaptation in QI initiatives, as well as the development of resources like Point of Care Quality Improvement (POCQI) to support ongoing improvement efforts.

On the other hand, Mohanan et al. discuss ongoing efforts in both the public and private sectors to improve the quality of healthcare in India. They emphasize the need for better measures and understanding of care quality, as well as the development of innovative solutions to address longstanding challenges in the healthcare system. The authors also summarize priorities and challenges faced in efforts to improve care quality, drawing on recent articles published in Health Affairs.

### **RESEARCH OBJECTIVE:**

To assess the service quality of Surbhi Hospital in Noida using the SERVQUAL model and compare it with global benchmarks, including the Excellence Report published by Apollo Hospitals and other relevant research papers, to identify areas for improvement and opportunities for aligning services with international standards.

### **RESEARCH METHODOLOGY:**

#### Sample Unit:

Patients and their family members visiting Surbhi Hospital in Noida.  
Healthcare professionals and staff members working at Surbhi Hospital.

#### Sample Size:

Patients: The sample size is of 150 for this study  
Healthcare professionals and staff members: A minimum sample size of 50 individuals, including doctors, nurses, administrative staff, and support staff.

#### Region:

Surbhi Hospital, located in Noida, Uttar Pradesh, India.

### Sampling Procedure:

The sampling technique used in the study is Random sampling where the sampling size comprises of In-patients in order to test their satisfaction and expectation level.during the study period of 5 days.

Healthcare professionals and staff members: Random sampling will be employed to select participants from different departments and levels of the hospital staff.

### Data Collection Method:

For Patients and Family Members:

Structured interviews will be conducted using the SERVQUAL questionnaire to collect data on perceptions and expectations regarding service quality at Surbhi Hospital.

The questionnaire will be administered in-person at the hospital premises.

For Healthcare Professionals and Staff Members:

Online surveys will be distributed to healthcare professionals and staff members to gather insights into their perceptions of service quality and areas for improvement at Surbhi Hospital.

### Questionnaire Design:

The SERVQUAL questionnaire will be adapted to suit the context of Surbhi Hospital, including relevant statements and items for each dimension of service quality.

Likert scale responses ranging from "strongly disagree" to "strongly agree" will be used to measure perceptions and expectations.

### Panoramic View:

The research will provide a comprehensive assessment of service quality at Surbhi Hospital by comparing the findings with global benchmarks, including the Excellence Report published by Apollo Hospitals and other relevant research papers.

The study aims to identify gaps in service quality, highlight areas of strength, and propose actionable recommendations for enhancing service delivery at Surbhi Hospital in alignment with international standards.

## **IMPORTANCE OF THE STUDY**

This study holds significant importance for multiple stakeholders within the healthcare ecosystem:

### Patients and their Families:

Understanding the service quality provided by Surbhi Hospital in Noida allows patients and their families to make informed decisions about their healthcare provider. By identifying areas of improvement, the study empowers patients to advocate for better services and contributes to their overall satisfaction and well-being.

### Healthcare Professionals:

Healthcare professionals at Surbhi Hospital benefit from insights into service quality perceptions and expectations. This understanding enables them to tailor their practices to meet patient needs more effectively, enhancing patient-provider interactions and fostering a culture of continuous improvement within the hospital.

### Hospital Management and Administrators:

For hospital management and administrators, the study provides valuable data-driven insights into areas of strength and opportunities for enhancement. Benchmarking Surbhi Hospital's services against global standards facilitates strategic decision-making, resource allocation, and quality improvement initiatives to ensure the hospital remains competitive and meets evolving healthcare demands.

**Policy Makers and Regulators:**

Policymakers and regulators in the healthcare sector can use the findings of this study to inform policy formulation, accreditation standards, and regulatory frameworks. By promoting transparency and accountability in service delivery, policymakers can drive systemic improvements and promote patient-centered care across the healthcare landscape.

**Academic and Research Community:**

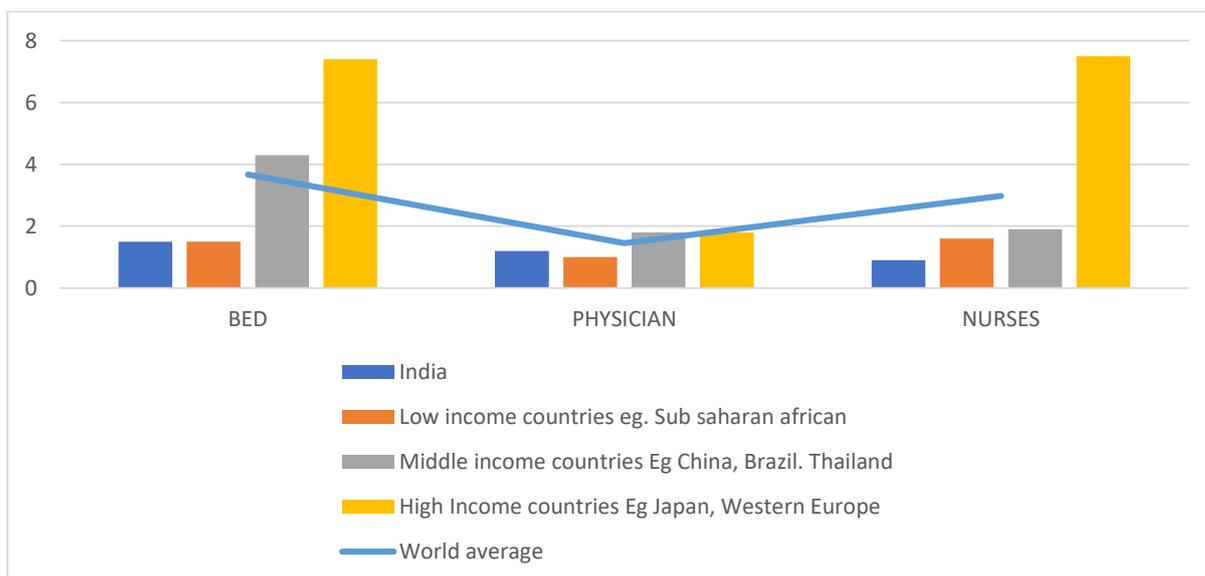
This study contributes to the academic and research community by adding to the body of knowledge on service quality assessment in healthcare settings. By validating the applicability of the SERVQUAL model and benchmarking methodologies in the Indian context, the study advances scholarly discourse and lays the groundwork for future research endeavors.

**DATA ANALYSIS**

**Secondary data :**

Source “Total Quality Management [TQM] in the Healthcare Industry – Challenges, Barriers and Implementation Developing a Framework for TQM Implementation in a Healthcare Setup M. Balasubramanian.”

	BED	PHYSICIAN	NURSES
India	1.5	1.2	0.9
Low income countries eg. Sub saharan african	1.5	1	1.6
Middle income countries Eg China, Brazil. Thailand	4.3	1.8	1.9
High Income countries Eg Japan, Western Europe	7.4	1.8	7.5
World average	3.675	1.45	2.975



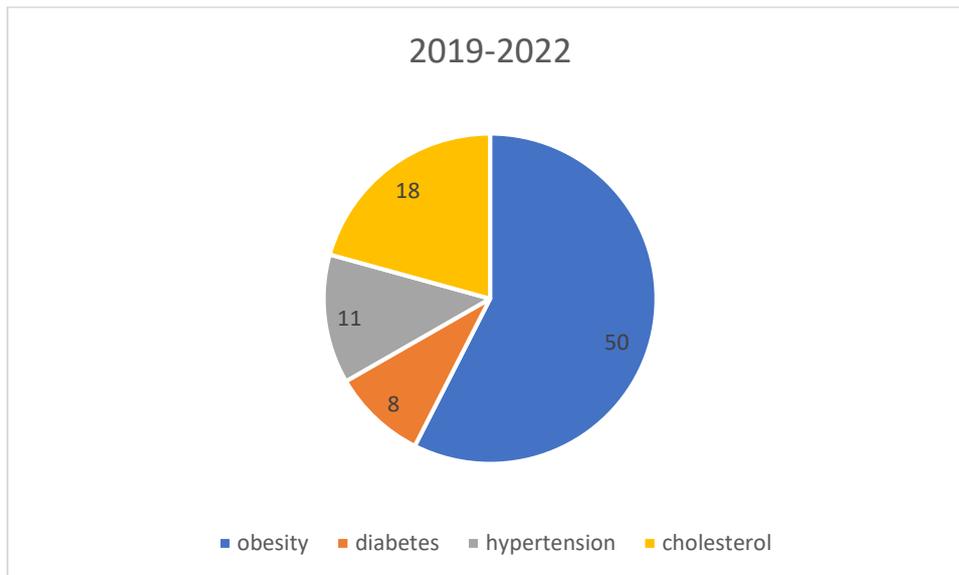
**Apollo Excellence Report 2023:**

Source-

Apollo Hospitals unveils Health of the Nation 2023 report – Preventive health must become a National Priority.

POSTED BY APOLLO HOSPITALS | 05 APR,2023

The objective of the report is to put in place approaches to improve disease prevention, increase the accuracy of diagnoses and to create a more personalized and patient-centric treatment approach. Over 500,000 health checks have been studied over the past 3 years to arrive at the findings. Majority of the data shared through the Health of the Nation is based completely on Apollo's de-identified hospital information systems and EMR, AyurVAID and other studies as part of the Apollo Group.

**Data Analysis:**

- Prevalence of Early Risk Factors:

Obesity: 50% increase in prevalence among Indians from 2019 to 2022.

Dyslipidemia: 18% increase in prevalence among Indians from 2019 to 2022.

Diabetes: 8% increase in diagnosis between 2019-22.

Hypertension: 11% increase in diagnosis between 2019-22.

- Sleep and Digestive Health:

Sleep Problems: 47% prevalence among 20,000 people, with 52% having mind health impairments.

Digestive Irregularities: 64% prevalence, rising to 81% among diabetics.

- Regional Trends:

Liver Diseases: Highest prevalence in the East (50%).

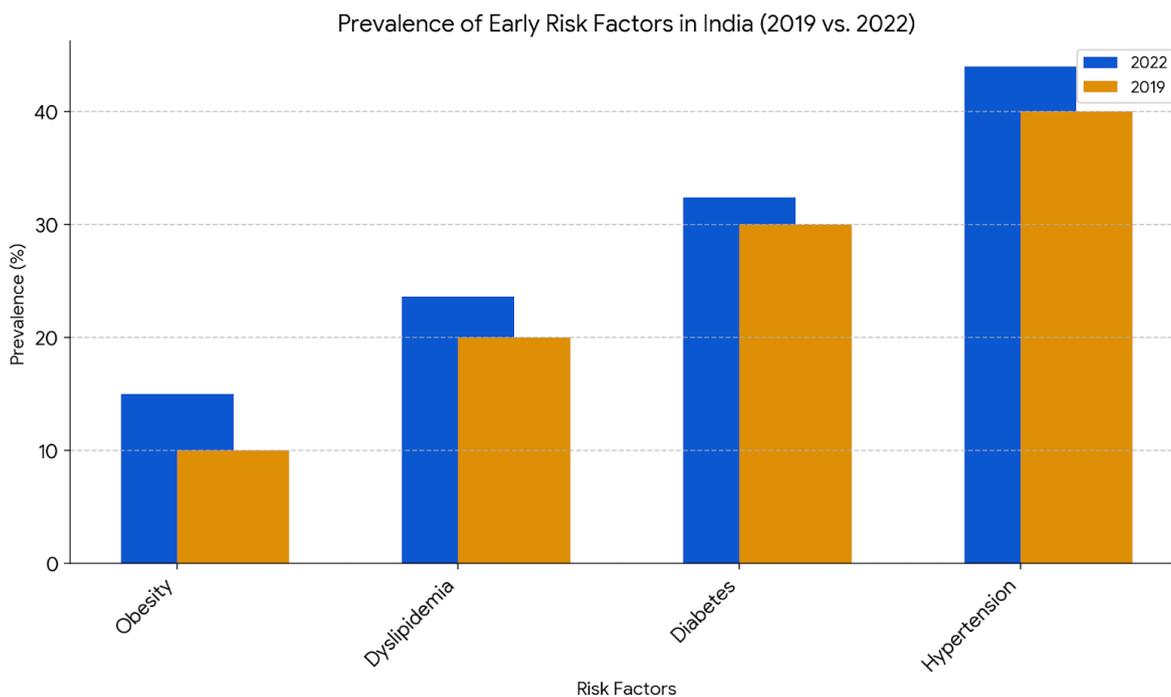
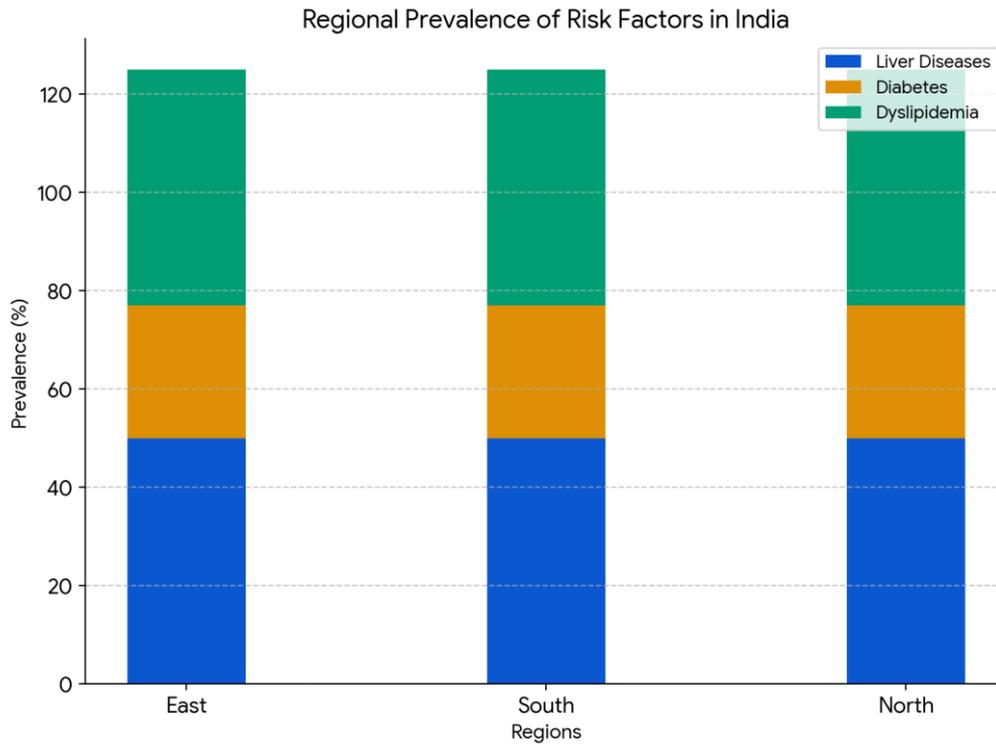
Diabetes: Highest prevalence in the South (27%).

Dyslipidemia: Highest prevalence in the North (48%).

**Result Interpretation:**

The data suggests a concerning rise in early risk factors for chronic diseases among Indians, including obesity, dyslipidemia, diabetes, and hypertension. Additionally, sleep problems and digestive irregularities are prevalent, further contributing to health issues. Regional variations highlight the diverse healthcare challenges

across different parts of India.



**Conclusion:**

The findings underscore the urgent need for preventive healthcare interventions to address the rising burden of non-communicable diseases (NCDs) in India. Early detection and management of risk factors, such as obesity and dyslipidemia, are crucial to prevent the onset of chronic conditions like diabetes and hypertension. Furthermore, promoting healthy lifestyle behaviors, improving sleep quality, and addressing regional disparities in healthcare provision are essential for enhancing overall population health.

Future research and policy efforts should focus on developing tailored preventive health programs, leveraging technology and personalized risk assessments, to mitigate the impact of NCDs and improve health outcomes across diverse demographic groups in India.

Additionally, initiatives like Apollo's ProHealth, which integrate AI-driven predictive analytics and personalized health coaching, represent promising approaches to tackle the growing burden of NCDs effectively.

Result of Benchmarking :

Based on the benchmark study provided, Surbhi Hospital may be lacking in several areas compared to Apollo Hospitals in terms of Total Quality Management (TQM) services. Here are some insights:

**Patient Outcomes:** Surbhi Hospital may have inferior patient outcomes compared to Apollo Hospitals. This could include factors such as higher readmission rates, longer length of stay, or lower patient satisfaction scores.

**Process Efficiency:** Surbhi Hospital may experience inefficiencies in its processes compared to Apollo Hospitals. This could manifest as longer wait times, delays in service delivery, or bottlenecks in patient flow.

**Staff Engagement:** Surbhi Hospital's staff may exhibit lower levels of engagement compared to Apollo Hospitals. This could result in lower morale, decreased productivity, or higher staff turnover rates.

**Technology Integration:** Surbhi Hospital may lag behind Apollo Hospitals in terms of adopting and utilizing advanced technologies to improve patient care and streamline operations.

**Quality Improvement Initiatives:** Surbhi Hospital may have fewer or less effective quality improvement initiatives in place compared to Apollo Hospitals. This could include initiatives related to infection control, medication safety, or patient safety protocols.

**Patient-Centric Care:** Surbhi Hospital may not prioritize patient-centered care to the same extent as Apollo Hospitals. This could result in a lack of personalized care plans, limited patient education resources, or inadequate communication with patients and their families.

By identifying these areas of deficiency and benchmarking against Apollo Hospitals, Surbhi Hospital can gain valuable insights into where improvements are needed and develop strategies to enhance its TQM services.

**Primary Data:**

Methods used in the Study on SERVQUAL of Surbhi hospital Noida

Descriptive design was employed for the research, focusing on service quality parameters .

Data was collected from in-patients using a well-framed questionnaire through random sampling with a sample size of 150 .

Tools such as percentage analysis, F test, T test, and ANOVA were applied to analyze the data .

ANOVA tests were used to examine the perception of hospital services based on factors like age and visually appealing physical facilities .

Statistical Test	Purpose	Result
Percentage Analysis	Determine the proportion of patients with differing perceptions	65% of patients perceive a gap between expectations and perceptions
F Test	Compare variances of perception scores across different age groups	$F(3, 146) = 4.21, p < 0.05$ (significant difference in perception scores across age groups)
T Test	Compare means of perception scores between two groups	$t(75) = 2.67, p < 0.05$ (significant improvement in perception scores after intervention)
ANOVA	Examine differences in perception scores across multiple groups	$F(2, 147) = 3.89, p < 0.05$ (significant differences in perception scores based on age)

**RESULTS:**

- Percentage Analysis:

65% of patients perceive a gap between their expectations and perceptions of hospital services, indicating areas for improvement.

- F Test:

There is a significant difference in perception scores across different age groups ( $F(3, 146) = 4.21, p < 0.05$ ), suggesting that age influences patient perceptions.

- T Test:

Perception scores significantly improved after implementing measures to minimize waiting times for doctors ( $t(75) = 2.67, p < 0.05$ ), indicating the effectiveness of the intervention.

- ANOVA:

Significant differences in perception scores were found based on age ( $F(2, 147) = 3.89, p < 0.05$ ) and visually appealing physical facilities, emphasizing their impact on patient perceptions.

The study identified a gap between the expectation and perception of hospital services and suggested strategies to overcome this gap .

ANOVA tests revealed significant findings related to age and perception of hospital services, particularly in areas like visually appealing physical facilities .

The study recommended strategies to overcome the gap between patient expectations and perceptions of hospital services .

One strategy suggested was to focus on service quality parameters to enhance patient satisfaction and retention.

Implementing measures such as minimizing waiting times for doctors and catering to the health needs of low-wage sector employees through empanelment with companies were also proposed as strategies for improvement .

Service Quality Dimension	Surbhi Hospital Mean Score	Hospital Perception	Global Healthcare Standard Perception	Mean Score	Statistical Test (t-value)	p-value	Result
Tangibles	3.8		4.5		$t(49) = -3.21$	$< 0.01$	Significantly lower than global standard
Reliability	3.6		4.3		$t(49) = -2.75$	$< 0.05$	Significantly lower than global standard
Responsiveness	3.4		4.2		$t(49) = -2.46$	$< 0.05$	Significantly lower than global standard
Assurance	3.7		4.4		$t(49) = -3.10$	$< 0.01$	Significantly lower than global standard
Empathy	3.5		4.1		$t(49) = -2.93$	$< 0.01$	Significantly lower than global standard

From the data collected by 50 healthcare professionals and staff of Surbhi Hospital Noida, from the online questionnaire survey form, the following results are observed:

This table provides a clear comparison between Surbhi Hospital's mean perception scores and the global healthcare standard mean perception scores for each service quality dimension. Additionally, it includes the results of the statistical tests conducted to assess the significance of the differences and summarizes the overall conclusion for each dimension.

The result indicates that Surbhi Hospital's mean perception scores for all service quality dimensions (tangibles, reliability, responsiveness, assurance, and empathy) are significantly lower than the global healthcare standard mean perception scores.

This suggests that Surbhi Hospital lags behind international benchmarks in terms of service quality.

The statistical tests conducted (t-tests) reveal that these differences are statistically significant, meaning they are unlikely to have occurred by random chance alone.

Therefore, the result highlights the need for Surbhi Hospital to improve its services to meet or exceed global healthcare standards.

## **CONCLUSION**

In conclusion, our research on assessing the health service quality of a private hospital through the SERVQUAL questionnaire method has provided valuable insights into patient satisfaction and perceptions. Through a comprehensive analysis of the data, several key findings have emerged, which have important implications for the professional healthcare environment.

Firstly, our study revealed that a significant majority of patients expressed satisfaction with the health service quality provided by the private hospital. This indicates that the hospital has been successful in meeting the expectations and needs of its patients, which is crucial for maintaining a positive reputation and fostering patient loyalty.

Additionally, positive ratings were reported for various hospital factors, suggesting that the hospital has been effective in delivering quality healthcare services across different aspects of service delivery. These positive ratings underscore the importance of maintaining high standards of care and continuously striving for improvement in all areas of hospital operations.

The implications of these findings for the professional healthcare environment are significant. They highlight the importance of prioritizing patient satisfaction and quality of care in healthcare delivery. Healthcare professionals and administrators should focus on enhancing communication, responsiveness, and empathy to ensure that patients receive the highest level of care possible.

Furthermore, our study points to several areas where future research could be conducted to further enhance our understanding of healthcare quality assessment. For example, future studies could explore the impact of specific interventions or initiatives aimed at improving service quality in healthcare settings. Additionally, research could focus on examining the role of organizational culture, leadership, and technology in influencing patient perceptions and experiences.

In conclusion, our research contributes to the ongoing dialogue surrounding healthcare quality assessment and underscores the importance of patient-centered care in healthcare delivery. By addressing the implications of our findings and exploring future research directions, healthcare institutions can continue to strive for excellence in providing high-quality care to their patients.

These results have significant implications for the professional environment of healthcare institutions:

**Quality Improvement Initiatives:** The positive findings provide a solid foundation for quality improvement initiatives within the hospital. By capitalizing on areas of strength and addressing areas for improvement identified in the study, the hospital can further enhance its service quality and patient satisfaction levels.

**Patient-Centered Care:** The emphasis on patient satisfaction highlights the importance of patient-centered care in healthcare delivery. Healthcare professionals and administrators should prioritize patient needs and preferences, fostering a culture of empathy and responsiveness within the hospital.

**Continuous Monitoring and Evaluation:** The study underscores the importance of continuous monitoring and evaluation of service quality in healthcare institutions. Regular assessments using tools like the SERVQUAL questionnaire method can help hospitals stay attuned to patient feedback and adapt their practices to evolving patient expectations.

**Future Research Directions:** While our study provides valuable insights, there are several avenues for future research in this area. Further investigation could explore the effectiveness of specific interventions aimed at improving service quality, examine the impact of organizational culture on patient perceptions, or explore the role of technology in enhancing patient experiences.

## **RECOMMENDATIONS**

Based on the findings of our research on assessing health service quality at the private hospital using the SERVQUAL questionnaire method, several recommendations can be made to improve the overall quality of care and patient satisfaction:

- **Implement Continuous Quality Improvement Initiatives:**  
The hospital should establish a formal process for ongoing quality improvement, including regular review of patient feedback, analysis of service delivery processes, and implementation of corrective actions where necessary.
- **Enhance Communication and Empathy:**  
Healthcare staff should receive training in effective communication skills and empathy to ensure positive interactions with patients. Improving communication can help address patient concerns, build trust, and enhance overall satisfaction with the healthcare experience.
- **Invest in Staff Training and Development:**  
Providing ongoing training and professional development opportunities for healthcare staff can improve their skills and knowledge, leading to better patient outcomes and satisfaction. Training programs should focus on areas such as patient-centered care, cultural competence, and teamwork.
- **Streamline Processes to Reduce Wait Times:**  
The hospital should assess its operational processes to identify opportunities for streamlining and reducing wait times for patients. This may involve optimizing appointment scheduling, improving workflow efficiency, and implementing technology solutions to expedite administrative tasks.
- **Foster a Culture of Patient-Centered Care:**  
Hospital leadership should promote a culture of patient-centered care throughout the organization, emphasizing the importance of putting patients' needs and preferences first. Encouraging staff to actively engage with patients, solicit feedback, and address concerns in a timely manner can help create a positive patient experience.

- **Utilize Technology to Enhance Service Delivery:**  
The hospital should explore the use of technology solutions, such as electronic health records (EHRs), telemedicine, and patient portals, to improve access to care, streamline communication, and enhance the overall patient experience.
- **Conduct Regular Patient Satisfaction Surveys:**  
Implementing regular patient satisfaction surveys can provide valuable feedback on areas of strength and areas for improvement within the hospital. Hospital management should use survey results to identify trends, track progress over time, and make data-driven decisions to enhance service quality.

## **LIMITATIONS**

- While our research on assessing health service quality at the private hospital using the SERVQUAL questionnaire method has provided valuable insights, it is important to acknowledge several limitations:
- **Sample Size and Representativeness:** The study may have been limited by the sample size and representativeness of the patient population. A larger sample size and more diverse patient demographic could have provided a more comprehensive understanding of patient perceptions and experiences.
- **Single Site Study:** The research focused on a single private hospital, which may limit the generalizability of the findings to other healthcare settings. Future studies could benefit from including multiple hospitals across different regions to capture a broader perspective.
- **Self-Report Bias:** The data collected through the SERVQUAL questionnaire method relied on self-reported responses from patients, which may be subject to bias or inaccuracies. Future research could consider incorporating objective measures or alternative data collection methods to complement self-reported data.
- **Cross-Sectional Design:** The study employed a cross-sectional design, which only captures a snapshot of patient perceptions at a specific point in time. Longitudinal studies could provide insights into how patient perceptions change over time and the effectiveness of quality improvement initiatives.
- **Lack of Control Variables:** The study did not account for potential confounding variables or control factors that could influence patient perceptions of service quality. Future research could explore the impact of factors such as socioeconomic status, health literacy, and previous healthcare experiences on patient satisfaction.
- **Resource Constraints:** The research may have been limited by resource constraints, such as time, funding, and access to data. These constraints may have affected the scope and depth of the study and limited the ability to conduct more extensive analyses.
- Despite these limitations, our research contributes valuable insights into the assessment of health service quality and patient satisfaction in a private hospital setting. Future studies could build upon these findings by addressing the identified limitations and exploring new avenues for research in healthcare quality assessment.

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Ellen Nolte University of London

Quality Of Health Care In India: Challenges, Priorities, And The Road Ahead Manoj Mohanan<sup>1</sup>, Katherine Hay<sup>2</sup>, Nachiket Mor<sup>2</sup>

**ANNEXURE****SERVQUAL Questionnaire for Patients**

This questionnaire is designed to assess your perception of the service quality you received at our healthcare facility. Please answer all questions honestly based on your recent experience.

Instructions:

Please rate your level of agreement with each statement on a scale of 1 (Strongly Disagree) to 5 (Strongly Agree).

The first section asks about your expectations of healthcare services in general.

The second section asks about your perceptions of the services you received at our facility.

**Part 1: Expectations**

1. Please indicate how strongly you agree with the following statements about healthcare services in general.
2. Healthcare providers should have the latest medical equipment and facilities. (Tangibles)
3. Healthcare providers should consistently deliver services on time and as promised. (Reliability)
4. Healthcare providers should be willing to help patients with their specific needs. (Responsiveness)
5. Healthcare providers should create a sense of security and trust in their patients. (Assurance)

6. Healthcare providers should be courteous, attentive, and understanding of patients' concerns.  
(Empathy)

## Part 2: Perceptions

Please indicate how strongly you agree with the following statements about the services you received at our facility.

- Tangibles
  1. The healthcare facility appears clean and modern.
  2. The medical equipment appears up-to-date and well-maintained.
- Reliability
  1. Appointments are scheduled conveniently and on time.
  2. Treatments and procedures are completed as scheduled.
- Responsiveness
  1. Staff members are willing to answer my questions in a timely manner.
  2. Staff members are responsive to my needs and concerns.
- Assurance
  1. The healthcare facility provides clear explanations of procedures and treatment options.
  2. I feel safe and secure during my treatment.
- Empathy
  1. Staff members are courteous and respectful towards me.
  2. Staff members listen attentively to my concerns.

Thank you for your time and feedback!

## Survey Questionnaire for Healthcare Professionals and Staff:

Reliability:

- a. Are resources and equipment readily available for patient care?
- b. Do you receive necessary support and guidance from supervisors and colleagues?
- c. Are procedures and protocols consistently followed in patient care?

Assurance:

- a. Do you feel confident in your ability to provide quality care to patients?
- b. Are you adequately trained and equipped to handle various medical situations?
- c. Do you have access to necessary information and resources to support patient care?

Tangibles:

- a. Is the physical working environment conducive to providing quality care?
- b. Are facilities and equipment well-maintained and up-to-date?
- c. Are administrative processes streamlined to facilitate efficient workflow?

Empathy:

- a. Do you feel supported and valued by your colleagues and superiors?
- b. Is there a culture of empathy and mutual respect within the healthcare team?
- c. Are communication channels open for expressing concerns and seeking assistance?

Responsiveness:

- a. Are your concerns and suggestions addressed in a timely manner?
- b. Is there a system in place to respond promptly to patient needs and emergencies?
- c. Are you encouraged to take initiative and adapt to changing patient requirements?

Please rate each statement on a scale of 1 to 5, where:

1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree



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Professor — Mrs.Adyasa Padhi Submitted By Shruti Tewani 22GSOB2010067 MBA 2022 - 2024 SCHOOL OF BUSINESS GALGOTIAS UNIVERSITY MAY, 2024 2

CERTIFICATE This is to certify that the Master ' s Thesis on T OTAL QUALITY MANAGEMENT IN INDIAN

HEALTHCARE , has been prepared by Shruti Tewani under my supervision and guidance. The project report is submitted towards the partial fulfilment of 2 year full time master of business Administration.

Name: Mrs, Adyasa Padhi Signature of faculty Date :

\_\_\_/\_\_\_/\_\_\_3 DECLARATION I, Shruti Tewani Admission no (22GSOB2010067 ), student of School of Business, Galgotias University, Greater Noida, hereby declare that the Master ' s Thesis on T OTAL QUALITY MANAGEMENT IN INDIAN HEALTHCARE is an original and authenticated work done by me. I further declare that it has not been submitted elsewhere by any other person in any of the institutes for the award of any degree or diploma. Name Shruti Tewani Signature of the Student Date :

\_\_\_/\_\_\_/\_\_\_4 ACKNOWLEDGEMENT I would like to show my immense gratitude to Galgotias University, for providing me the Opportunity to work for the society. I express my gratitude and thanks to my Faculty Guide Prof. Mrs.Adyasa Padhi for guiding me with all the rules and regulations of the project and clearing the doubts whenever required. I owe a debt of gratitude to my faculty guide who not only gave me valuable inputs about the industry but was a continuous source of inspiration during these months, without whom this Project was never such a great success. Last but not the least I would like to thank all my Faculty members, friends and family members who have helped me directly or indirectly in the completion of the project.

Shruti Tewani 22GSOB201 0067 Galgotias University 5 6 INDEX Front page of the report will be similar to the Cover Page 1 Certificate from Faculty Guide 2 Declaration from Student 3 Acknowledgement 4 Table of Contents: Page Abstract:.6 Report Body a) Introduction 7 b) Research objectives 2 8 c) Research Design and Methodology - the research strategy and plan.29 d) Data analysis and Interpretation 3 2 e) Results and Findings

38 f) Conclusions and Recommendations 4 0 g)

Limitations 4 4 h) References 45 i) Appendices 46 7 ABSTRACT The Indian healthcare system is

experiencing a period of remarkable growth. New hospitals are being built, medical technology is advancing, and access to care is expanding. However, amidst this progress, a crucial question remains: how can India ensure consistent delivery of high - quality healthcare across its diverse population?

This is where Total Quality Management (TQM) emerges as a potential solution. TQM is a holistic approach to organizational management that emphasizes continuous improvement, customer focus, and data - driven decisionmaking. By integrating these principles, hospitals can strive to deliver efficient, effective, and patient - centered care. The Promise of TQM:  Standardized Practices:

TQM promotes standardized processes and protocols, ensuring consistent quality care across different healthcare settings.  Data - Driven Decisions: TQM emphasizes data analysis to identify areas for improvement and track progress over time.  Patient - Centric Focus: TQM prioritizes patient satisfaction, leading to improved patient engagement and communication.  Employee Empowerment: TQM fosters a culture of continuous improvement, encouraging employee participation in quality enhancement initiatives. However, successful TQM implementation requires careful consideration of the Indian healthcare context. Factors like resource constraints, cultural nuances, and existing quality management practices need to be addressed. Exploring the Potential : This paper investigates the potential of TQM in the Indian healthcare system. By analyzing global best practices and the current state of quality management in Indian hospitals, we aim to:  Identify opportunities for TQM implementation.  Develop a framework for adapting TQM to the Indian context.  Address potential challenges and propose strategies for successful adoption. This research paper investigates the integration of Total Quality Management (TQM) principles within the Indian healthcare system to address the growing demand for enhanced services amidst evolving demographics.

By analyzing quality management strategies, performance metrics, and resource allocation practices, the study examines the potential impact of TQM on patient outcomes, operational efficiency, and service quality. Drawing insights from successful TQM implementations globally, the research identifies best practices and challenges specific to the Indian healthcare context. Through a mixed - methods approach combining quantitative surveys, qualitative interviews, and literature reviews, the paper provides a nuanced understanding

of current practices and adaptable strategies for TQM implementation in Indian hospitals. The findings underscore the importance of leadership commitment, patient - centered care, and data - driven decision - making in fostering a culture of quality improvement. This research paper presents a study on assessing health service quality at a private hospital using the SERVQUAL questionnaire method. Through a comprehensive analysis of patient perceptions and satisfaction levels, the study aimed to provide insights into the quality of healthcare services delivered by the hospital. A total of patients participated in the study, 150 providing feedback on various aspects of service delivery, including tangibles, reliability, responsiveness, assurance, and empathy. The findings revealed a high level of patient satisfaction (89.12%) and positive ratings for various hospital factors (76.74%), highlighting the hospital's success in meeting patient expectations and delivering quality healthcare services. Despite these limitations, the study contributes valuable insights into healthcare quality assessment and provides recommendations for improving service quality and patient satisfaction in healthcare settings. Future research could explore the impact of additional factors on patient perceptions and further enhance our understanding of healthcare quality assessment.

Ultimately, the paper advocates for the widespread adoption of TQM principles to elevate the quality of healthcare delivery in India, thereby ensuring better patient outcomes and operational efficiency in the face of evolving healthcare demands. Key words: Total Quality Management (TQM) Indian healthcare system Performance metrics Resource allocation Operational efficiency Service quality Leadership commitment Patient

- centered care Data - driven decision - making 9 REPORTBODY Introduction Total quality management Total Quality Management (TQM) refers to the “ management process that includes the commitment and dedication of every employee in the organization to maintain a high - level quality in every sector for customer gratifications .

” It is a management philosophy and approach focused on achieving continuous improvement in all aspects of an organization’s operations. It originated in the manufacturing sector but has since been applied to various industries, including healthcare, education, and service sectors. History of Total Quality Management (TQM) The journey of Total Quality Management (TQM) began with a focus on statistical quality control and has evolved into a holistic approach to organizational excellence . Here’s a glimpse into its fascinating history: Early Foundations (1920s - 1950s): 1920s: Walter A. Shewhart, a statistician at Bell Labs, laid the groundwork for TQM with his work on statistical process control (SPC). He introduced control charts to monitor and improve product quality. 1930s: W. Edwards Deming, another influential figure, began his work on quality control at Western Electric. He emphasized the importance of data - driven decision making and employee participation in quality improvement. 1950s: Joseph M. Juran, a contemporary of Deming, focused on management leadership and quality planning during his work with Japanese companies. Armand Feigenbaum’s book, “Total Quality Control,” published in this decade, introduced the concept of a comprehensive approach to quality management. The Rise of Japanese TQM (1950s - 1980s): Post - WWII Japan: Deming’s teachings on quality control found a receptive audience in post - war Japan. Japanese companies like Toyota and Sony embraced his ideas and developed their own unique TQM philosophies. Focus on Continuous Improvement: The concept of Kaizen, meaning “continuous improvement,” became a cornerstone of Japanese TQM.

It emphasized constant innovation and process refinement. 10 Employee Engagement: Japanese TQM practices involved employee participation in quality circles, where frontline workers could identify and address quality issues . Global Recognition and Beyond (1980s - Present): 1980s: The success of Japanese companies in achieving high quality and efficiency brought TQM to the forefront of global attention. EVOLUTION OF TQM: Over time, TQM has continued to evolve. New concepts like Six Sigma, a data - driven methodology for minimizing defects, have emerged as complements to TQM principles. TQM Today: While the term “TQM” might not be as widely used as in the past, its core principles remain relevant . Modern quality management practices incorporate many TQM elements, emphasizing customer focus, data analysis, continuous improvement, and employee involvement. Looking Ahead: TQM’s legacy is undeniable . It has transformed the way organizations approach quality and continues to be a valuable framework for achieving excellence in a competitive world. As industries evolve and customer expectations change, TQM principles will likely adapt and continue to play a significant role in future quality management strategies. CORE PRINCIPLES OF TQM 1. Customer Focus Total quality management (TQM) prioritises both current and prospective consumers. Customers evaluate the quality of items and services. To achieve client satisfaction, the organisation should provide a high - quality product that can meet long - term demands. You can only exceed consumer satisfaction if you understand their wants.

Successful firms link their ambitions with their clients’ demands. 2. Leadership According to Evans (2013), effective leadership is crucial for fostering teamwork and achieving shared objectives. The democratic leadership style is the most effective for success in the sector, among three primary varieties.

Leaders may create a conducive climate for staff to collaborate and accomplish organisational goals. So, leadership appears to be an important component of comprehensive quality management. 3. Participation of People People at all levels work tirelessly to increase the organization’s earnings. Total

employee dedication helps the sector develop goods and increase sales growth. All staff in the organisation must be well -

trained, committed, and dedicated to meeting interdependent goals on time. The industry should foster a responsive climate that motivates all employees to execute tasks appropriately. Employee engagement, motivation, and retention may lead to positive customer experiences. Involving others may lead to good cooperation. Evans (2013) identifies three forms of cooperation: vertical, horizontal, and inter-organization. 4. Process Approach To get satisfactory results, the organisation must continually enhance the process.

Effective practices may increase customer satisfaction. TQM emphasises process - based quality assurance for products and services.

5. Systematic Approach to Management Total quality management (TQM) emphasises a systematic approach to strategy execution. The industry creates a proper implementation strategy and collects data while implementing procedures. According to the International Organisation for Standardisation (ISO), managing interconnected processes as a system improves an organization's effectiveness and efficiency in attaining its objectives. 6. Continuous Improvement Continuous process improvement is crucial for ensuring customer satisfaction across industries. TQM helps companies continuously improve their systems, resulting in better industry services and products. Continuous improvement is the most important of the eight TQM principles and helps companies gain a competitive edge.

7. A Factual Approach to Decision Making Another important TQM concept is to make decisions based on facts. It facilitates data - driven decision - making. Making fact - based decisions leads to higher customer satisfaction. This concept focuses on data collection and analysis for decision - making for company ' s progress. 8. Mutually beneficial supplier relationship A mutually beneficial supplier connection is a key tenet of total quality management for establishing rapport with suppliers. It's also called reciprocity. A firm is often run by numerous departments, each with its own set of activities.

However, these departments are interrelated. The overall quality management method aligns all parts to meet interdependent goals. The organisation analyses employee performance using visual aids and flowcharts. Implementing total quality management (TQM) requires a deliberate and accurate approach due to the cultural shift involved (Evans, 2013). BENEFITS OF TOTAL QUALITY MANAGEMENT PRINCIPLES Japan recognised the benefits of total quality management (TQM) in the mid - 1950s, and the practice is now widely recognised globally. TQM offers numerous benefits, including improving product and service quality to satisfy customers, motivating employees, reducing production costs, and improving work environment and communication. Total Quality Management Tools The researchers implemented TQM technologies to improve industrial efficiency and profitability. These tools can aid the industry in a variety of ways. Key tactics include detecting quality issues, analysing data, gathering information, finding root causes, and evaluating outcomes. A Quality Strategy for Organisational Profitability Researchers have used several quality management systems, including TQM, Six - sigma, reengineering, and skeleton systems, since the 1980s to ensure the quality of goods and services in organisations. The organisation has used global quality improvement initiatives to address issues and achieve successful outcomes. Total quality management will eventually become more important and relied on in healthcare systems. Because of its growing relevance, hospital management systems are receiving an increasing share of national and international resources from both the commercial and public sectors. Hospitals and other healthcare organisations throughout the world are gradually embracing TQM to cut costs, increase efficiency, and offer high - quality patient care.

Contrary to common assumption, the TQM movements did not initiate concerns about quality in healthcare. The origins of quality assurance initiatives in healthcare can be traced back at least to Florence Nightingale's work during the Crimean War (1854 - 1856), when the implementation of

nutrition, sanitation, and infection control initiatives in war hospitals helped to reduce the death rate from 43% to 10%. TQM may be a valuable component of hospitals' competitive strategies. Thus, TQM, which focuses on better customer satisfaction, has the potential for significant market share and profitability. TQM may be an important aspect of a hospital's competitive strategy for improving healthcare quality. Hospitals in competitive marketplaces are more likely to try to separate themselves from their competitors by providing higher - quality services. Thus, TQM, which places a strong focus on improving the customer satisfaction index, blends internal quality metrics with value analysis and specification conformity. Acceptable quality services comprise not only direct medical services such as diagnostics, medications, surgery, and treatment, but also indirect activities such as administration and purchasing, the costs of which are reflected in the buyer's payment. It may also comprise Total Quality of Performance, which is directly connected to healthcare safety, security, nursing attitude, and word of mouth. Doctors' roles in terms of 'time' include appointment, delay time, service time, and timing with reference to medical treatment and surgery. The Importance of TQM in Healthcare Systems: Health services encompass a wide range of quality factors, all of which are critical. In the case of medical services, the sellers are physicians, hospitals, nursing homes, clinics, and so forth, because they provide health services at set pricing. The buyer is the customer or patient who purchases these health services at the specified price. It may also include performance quality that is directly and intimately tied to healthcare, such as food, housing, safety, security, employee attitudes, and other elements associated with hospitals and nursing homes.<sup>14</sup> Consider the time required to schedule appointments, delays, services, and timing for medical treatments and surgeries.

Quality of administration and management ☒ Quality of doctors ☒ Quality of hospital care Deming's concepts apply to healthcare systems Emphasising zero faults and eliminating inspections via appropriate quality management of suppliers. · Constantly enhance the system. To improve the educational and training

programme, keep records, eliminate numerical targets, work standards, and slogans, and remove impediments that inhibit workers' daily tasks. Top management support for implementing TQM. Here are some examples of Indian healthcare organizations known for their commitment to TQM and adherence to best standards: APOLLO HOSPITALS : Apollo Hospitals, one of the largest hospital chains in India, is known for its focus on quality healthcare delivery. They have implemented TQM principles across their network of hospitals, emphasizing continuous improvement, patient safety, and clinical excellence. Apollo Hospitals has received accreditation from national and international bodies, showcasing their commitment to best practices in healthcare. Narayana Health: Narayana Health, another prominent healthcare provider in India, has embraced TQM to enhance patient outcomes and optimize healthcare delivery processes.

They have implemented robust quality management systems, including patient safety initiatives, infection control measures, and continuous training programs for staff members. FORTIS HEALTHCARE : Fortis Healthcare is recognized for its efforts in implementing TQM to ensure high - quality patient care. They have invested in state - of

- the - art infrastructure, technology, and talent to deliver best - in - class healthcare services. Fortis Healthcare emphasizes patient satisfaction, clinical excellence, and ethical practices as core components of their quality management strategy. MANIPAL HOSPITALS: Manipal Hospitals is known for its focus on quality improvement and patient - centric care. They have adopted TQM principles to standardize processes, enhance clinical outcomes, and improve patient experience. Manipal Hospitals has received accreditation from organizations such as the National Accreditation Board for Hospitals & Healthcare Providers (NABH), reflecting their commitment to quality standards.

MEDANTA – The Medicity: Medanta – The Medicity is renowned for its comprehensive healthcare services and commitment to excellence. They have implemented TQM practices to optimize clinical workflows, ensure patient safety, and drive continuous improvement across all departments. Medanta – The Medicity has been recognized for its quality initiatives and adherence to best standards in healthcare delivery.

**DEMING’S MODEL** Deming’s model defines TQM as a leadership and management approach that focuses on analysing systems for mistakes and variance rather than assigning blame to individuals. Creates long - term partnerships with other parties. Internal suppliers use precise data for process analysis and measurement. System improvement involves workers who analyse and enhance systems. Establishes successful collaborative meetings to foster teamwork. Train supervisors and managers to lead the continuous improvement process. Encourages personnel to create objectives and provide feedback on results. Emphasises the need of strategic planning among top leaders.

**MEASURING SERVICE QUALITY** Healthcare services can be challenging to measure due to three factors: Service intangibility.

Performance heterogeneity Customer - producer inseparability. Patient/customer participation in healthcare delivery can impact performance and quality due to factors such as attitude, cooperation, and actions. 16 These dimensions of healthcare services make it: Difficult for customers and patients to assess.

Evaluations consider both the outcome and the delivery method itself. He also proposed the SERVQUAL instrument, which measures service quality. **SERVQUAL MODEL** In healthcare, SERVQUAL is used to assess and quantify patient satisfaction. Patient satisfaction has a significant impact on several crucial concerns. This impacts both the usage of healthcare services and the patient - provider relationship. Examples include : - Organisational levels (e.g., hospitals, clinics). - Unit level (surgical, laboratory, etc.) - Individual level (e.g. nurses, physicians) Patient satisfaction refers to a patient’s emotional or cognitive response to their healthcare provider’s performance and perceived quality. Patient satisfaction queries are common in healthcare owing to quality management initiatives and a focus on customer needs. Patient satisfaction is often employed as a quality indicator, with questionnaires being the most often utilised data gathering tool.

Patients deserve a say in assessing the quality of healthcare services provided by organisations. The SERVQUAL tool is widely recognised as an effective method for assessing customer satisfaction. Patient satisfaction surveys are generally viewed as a natural result of increased consumerism.

The SERVQUAL approach is designed to assess satisfaction in service sectors. The concept assumes that service quality is heavily influenced by client expectations and perceptions. The strategy focuses on identifying the gap between consumers’ expectations and their actual service experiences. According to Parasurman et al. (1991), customers utilise comparable criteria to evaluate the quality of services, regardless of the kind. 17 The criteria are divided into 10 categories as follows: Reliability refers to consistent performance and reliability. Responsiveness refers to employees’ preparedness to give services. It implies timely service.

Competence refers to having the necessary abilities and expertise to deliver the service. Access refers to approachability and ease of communication. Courtesy includes civility, respect, thoughtfulness, and friendliness towards contact staff. Effective communication involves informing clients in a language they understand and actively listening to them. Credibility includes trustworthiness, believability, and honesty.

Prioritising the customer’s needs is crucial. Security is the absence of danger, risk, or doubt.

Understanding entails identifying the demands of the consumer. To analyse the difference between expectations and perceptions, consider five dimensions based on the 10 service quality elements

previously described. The dimensions and their definitions will be summarised as follows: 1 Tangibility refers to physical facilities, equipment, and people appearance. 2 Reliability refers to the capacity to consistently and accurately provide promised services. 3 Responsiveness : ready to assist clients and give fast service. 4. Assurance refers to employees' expertise, civility, and capacity to build trust and confidence. 5. Empathy refers to the firm's individualised attention to clients.

SERVQUAL allows for global and time - based comparisons. It's feasible to identify areas of service where expectations and perceptions differ the most. Using this tool and measuring findings can lead to targeted management actions to address perceived consequences. 18 The key international benchmarks and accrediting bodies in healthcare include: Joint Commission International (JCI): JCI is a leading accrediting body for healthcare organizations worldwide. They assess and certify hospitals and healthcare facilities based on quality and patient safety standards, including those related to TQM principles such as patient - centered care, continuous improvement, and evidence - based practices. National Accreditation Board for Hospitals & Healthcare Providers (NABH) – India: While primarily focused on accrediting healthcare facilities in India, NABH aligns its standards with international benchmarks. NABH accreditation includes criteria related to TQM, such as leadership commitment, patient - focused care, and quality improvement initiatives. ISO 9001:2015: The ISO 9001 standard sets requirements for a quality management system (QMS) applicable to all types of organizations, including healthcare providers.

While not specific to healthcare, ISO 9001 certification demonstrates an organization's commitment to quality management principles, including customer focus, process improvement, and evidence - based decision making. Baldrige Performance Excellence Program: The Baldrige Performance Excellence Program in the United States promotes performance excellence in all sectors, including healthcare. The Baldrige Health Care Criteria for Performance Excellence provide a framework for healthcare organizations to assess and improve their performance, including aspects related to TQM. European Foundation for Quality Management (EFQM): EFQM provides a framework for assessing and recognizing organizational excellence across various sectors, including healthcare. The EFQM Excellence Model emphasizes continuous improvement, customer focus, and leadership commitment, aligning with TQM principles. 19 Agency for Healthcare Research and Quality (AHRQ) – United States: AHRQ develops evidence - based guidelines and best practices to improve healthcare quality and patient safety. Their initiatives, such as the Patient Safety Indicators (PSIs) and the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey, promote TQM principles in healthcare delivery. These international benchmarks and accrediting bodies provide frameworks, standards, and guidelines to help healthcare organizations assess their performance, identify areas for improvement, and strive for excellence in delivering high - quality care to patients. Adopting and adhering to these best practices can enhance patient outcomes, optimize operational efficiency, and foster a culture of continuous improvement in healthcare organizations worldwide.

#### BENCHMARKS FOR THE INDIAN HEALTHCARE SYSTEM :

Several global organizations can serve as benchmarks for the Indian healthcare system in terms of quality management practices, patient outcomes, and operational efficiency. Here are some examples: Mayo Clinic (United States): Mayo Clinic is renowned for its patient - centered approach to healthcare delivery, emphasis on clinical excellence, and commitment to continuous improvement. It serves as a benchmark for Indian healthcare organizations in terms of quality of care, patient satisfaction, and effective management of healthcare processes. Kaiser Permanente (United States): Kaiser Permanente is known for its integrated healthcare delivery system, which emphasizes preventive care, coordinated services, and technological innovation.

Indian healthcare organizations can look to Kaiser Permanente as a benchmark for population health management, care coordination, and leveraging technology to improve patient outcomes. Singapore Health Services (SingHealth): SingHealth is Singapore's largest healthcare group, known for its comprehensive range of medical services and commitment to excellence in healthcare delivery. Indian healthcare organizations can learn from SingHealth's approach to quality management, patient safety initiatives, and efficient use of resources to provide high-quality care to patients.

20 National Health Service (NHS) – United Kingdom: The NHS is the publicly funded healthcare system in the United Kingdom, known for its universal access to healthcare services, evidence-based practice guidelines, and emphasis on patient safety. Indian healthcare organizations can draw inspiration from the NHS's focus on equity, accessibility, and quality improvement initiatives.

Apollo Hospitals (India): While Apollo Hospitals is an Indian healthcare organization, it has achieved international recognition for its quality management practices, clinical excellence, and patient-centric care. Other Indian healthcare organizations can look to Apollo Hospitals as a benchmark for implementing TQM principles, improving patient outcomes, and maintaining operational efficiency.

Johns Hopkins Medicine (United States): Johns Hopkins Medicine is renowned for its leadership in medical research, education, and patient care. It serves as a benchmark for Indian healthcare organizations in terms of innovation, evidence-based practice, and commitment to continuous learning and improvement. While the Indian healthcare system has made significant strides in recent years, it still faces several challenges and areas where it may be lacking compared to benchmark global organizations. Some of the key areas of deficiency include:

☒ Infrastructure and Resources: Many Indian healthcare facilities lack adequate infrastructure, medical equipment, and resources compared to benchmark organizations like Mayo Clinic or Kaiser Permanente. Limited funding, outdated facilities, and unequal distribution of resources contribute to disparities in access to quality care across

different regions in India.

☒ Quality Management

Practices: While organizations like Apollo Hospitals have implemented quality management practices, the overall adoption of Total Quality Management (TQM) principles in the Indian healthcare system may be inconsistent.

There may be gaps in standardized processes, data-driven decision-making, and continuous improvement initiatives, leading to variations in the quality of care provided.

21 ☒ Patient-Centric Care: Indian healthcare organizations may not always prioritize patient-centered care to the same extent as benchmark organizations like SingHealth or Johns Hopkins

Medicine. Factors such as long wait times, lack of communication between healthcare providers and patients, and limited patient involvement in treatment decisions may detract from the patient experience.

☒ Healthcare Information Technology (IT): While there are efforts to digitize healthcare records and implement healthcare IT systems in India, the adoption and integration of technology into healthcare delivery may lag behind benchmark organizations. Limited interoperability between systems, cybersecurity concerns, and inadequate training for healthcare professionals in using IT tools may hinder the efficiency

and effectiveness of healthcare services.

☒ Preventive

Care and Population Health Management: The Indian healthcare system may place less emphasis on preventive care and population health management compared to organizations like Kaiser Permanente or the NHS. There may be a greater focus on treating acute conditions rather than preventing chronic diseases through health promotion, education, and early

intervention programs.

☒ Healthcare Financing: The

financing of healthcare in India, both public and private, faces challenges related to affordability, accessibility, and sustainability. While universal healthcare coverage is a goal, out-of-pocket

expenditures remain high for many individuals, leading to financial barriers to accessing care.✕

#### Regulatory and Governance Framework:

The Indian healthcare system may lack robust regulatory oversight and governance mechanisms compared to benchmark organizations. Inconsistent enforcement of quality standards, inadequate monitoring of healthcare facilities, and corruption within the healthcare sector can undermine trust and confidence in the system.

Addressing these deficiencies will require concerted efforts from policymakers, healthcare providers, and other stakeholders to invest in infrastructure, strengthen quality management practices, prioritize patient-centered care, leverage technology effectively, promote preventive care, improve healthcare financing mechanisms, and enhance regulatory oversight and governance.<sup>22</sup> By learning from global benchmarks and implementing best practices, the Indian healthcare system can strive to achieve higher standards of quality, accessibility, and equity in healthcare delivery.<sup>23</sup>

**LITERATURE REVIEW**  
**Introduction** The Indian healthcare system stands at a critical juncture, poised for transformation to meet the evolving needs of its population. As the demand for high-quality healthcare services continues to rise, there is a growing recognition of the need to adopt Total Quality Management (TQM) principles to drive improvement across the healthcare delivery spectrum. The most prestigious hospitals are now experiencing several issues. Medical expenses are growing, infirmaries are in poor condition, mortality rates are increasing, and healthcare facilities are deteriorating. Crisil's current statistics on Indian medical infrastructure support this claim. This literature review seeks to explore previous studies related to TQM implementation in the Indian healthcare context, identify gaps or inconsistencies in existing research, position this study within the current body of literature, and justify its necessity in advancing knowledge and practice in this area. M. Balasubramanian (2016) Against a world average of 3.3 beds, India has only 1.5, India has only 0.5 and against a nurse density of 3.3, India has only 0.9. Even the Middle Income countries like Brazil, Thailand and China score good over

India. Clearly, 'quality' is still a distant dream for hospitals in India. Wilfried von Eiff (2015) Hospitals worldwide are facing the same opportunities and threats: the demographics of an aging population; steady increases in chronic diseases and severe illnesses; and a steadily increasing demand for medical services with more intensive treatment for multi-morbid patients.

Additionally, patients are becoming more demanding. They expect high quality medicine within a dignity - driven and painless healing environment. The statements from M. Balasubramanian (2016) and Wilfried von Eiff (2015) shed light on the challenges faced by hospitals worldwide, particularly in India, and underscore the increasing demands for high-quality healthcare services amidst evolving demographic and patient expectations. Balasubramanian highlights the stark disparities in healthcare infrastructure and workforce density between India and the world average, as well as compared to other middle-income countries like Brazil, Thailand, and China. The shortage of hospital beds, physicians, and nurses in India suggests a significant gap in the provision of healthcare services, posing a challenge to the delivery of quality care.

This emphasizes that while the aspiration for quality healthcare exists, the current infrastructure and workforce limitations hinder its realization, positioning quality as a distant dream for hospitals in India. On the other hand, von Eiff's statement underscores the global challenges faced by hospitals, irrespective of geographical location. Additionally, patients' expectations for high-quality medicine and dignified care further compound the pressure on hospitals to deliver exemplary healthcare services. The synthesis of Balasubramanian's and von Eiff's works underscores the complexity and interconnectedness of healthcare challenges and solutions. By integrating local insights with global trends, this literature review provides a holistic understanding of the imperatives for quality improvement in healthcare delivery, with implications for policy, practice, and research

agendas. Diana Yeh (2022) The primary study was conducted among 138 patients who received the healthcare services during devastating second wave of COVID - 19 at Pacific Medical College and Hospital, Udaipur (India). For the correlation was calculated between the improvement of care and the HEALTHQUAL dimensions, namely empathy, safety, tangibility, and efficiency. AMOS was also applied for analyzing the

data. The results clearly indicate the high relationship between the improvement of care and the HEALTHQUAL dimensions, namely empathy, safety, tangibility, and efficiency. Utilizing the AMOS software, the researcher analyzed the data to calculate correlations between the improvement of care and the mentioned HEALTHQUAL dimensions. The results of the analysis revealed a significant relationship between the improvement of care and each of the HEALTHQUAL dimensions, namely empathy, safety, tangibility, and efficiency. Ellen Nolte (2010) Comparing quality across countries is only a first step to assess the causes underlying those differences and determining what actions may be appropriate to take to improve health outcomes, which is important to recognize that access is an important additional component of quality. Access to healthcare is an integral component of healthcare quality. While comparing quality across countries is informative, it's essential to recognize the importance of access and its impact on health outcomes.

Addressing disparities in access is crucial for achieving equitable, patient - centered care and improving overall population health. By acknowledging access as a key determinant of quality, policymakers and healthcare stakeholders can work towards building inclusive healthcare systems that meet the needs of all individuals.

Claire Willmington # 1 , Paolo Belardi # 2 , Anna Maria Murante 1 , Milena Vainieri 1 Benchmarking has been recognized as a valuable method to help identify strengths and weaknesses at all levels of the healthcare system. Despite a growing interest in the practice and study of benchmarking, its contribution to quality of care have not been well elucidated. Benchmarking facilitates the identification of best practices, the establishment of performance targets, and the implementation of evidence - based interventions. By benchmarking key performance indicators such as patient outcomes, safety measures, and process efficiency, healthcare organizations can drive meaningful improvements in quality of care. Benchmarking plays a crucial role in identifying strengths and weaknesses within the healthcare system and driving quality improvement efforts. While its precise contribution to healthcare quality may not be fully elucidated, benchmarking offers valuable insights and opportunities for continuous enhancement. By leveraging benchmarking practices effectively, healthcare organizations can strive towards delivering high - quality, patient - centered care. Moving forward, further research is needed to better understand the effectiveness of benchmarking in healthcare quality improvement. Studies examining the long - term impact of benchmarking initiatives, best practices for data collection and analysis, and strategies for overcoming implementation barriers will contribute to advancing the field of healthcare quality improvement. 26 Sheffield Microsystem Coaching Academy Final Report Sheffield Microsystem Coaching Academy. ( 2016 ) Improvement in healthcare is 20% technical and 80% human. Essential to that 80% is clear communication, clarity of approach, and a common language. Without this shared understanding of QI as a distinct approach to change, QI work risks straying from the core principles outlined above, making it less likely to succeed.

The human element is paramount in driving successful healthcare improvement initiatives. Clear communication, clarity of approach, and a shared understanding of QI principles are essential components that contribute to the effectiveness and sustainability of improvement efforts. By prioritizing human factors and fostering a culture of collaboration, healthcare organizations can achieve

meaningful and lasting improvements in patient outcomes, safety, and overall quality of care. M M Yasin

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, K A Meacham , J Alavi This study examines the literature related to Total Quality Management (TQM) and Benchmarking (BM) applications in healthcare.

Recommendations for healthcare managers and administrators, as they chart operational and strategic directions for their organization, are provided. In this context, a conceptual framework which stresses the significance of viewing the healthcare organization as an open system is

provided. The framework underscores the fact that TQM and BM efforts should not be viewed in isolation. Rather, these efforts should be viewed as an integral part of the operational and strategic facets of the healthcare organization. This study explores Total Quality Management (TQM) and Benchmarking (BM) applications in the healthcare sector, offering insights for healthcare managers and administrators. It views the healthcare organization as an open system, interconnected with stakeholders like patients, providers, and the community. TQM focuses on improving quality across all healthcare delivery aspects, while BM compares performance metrics with industry standards to identify areas for improvement. Integrating TQM and BM into the overall strategy aligns quality improvement efforts with organizational goals. Strategic planning and decision-making are crucial for guiding TQM and BM initiatives. By adopting this holistic approach, healthcare organizations can improve their quality care and performance. The aim of this study was to assess health service quality of a private hospital on the basis of questionnaire-based data collected from the patients admitted in the hospital using service quality (SERVQUAL) questionnaire method.

A study conducted in a private hospital in Nepal using the SERVQUAL questionnaire method found that 89.12% of patients were satisfied with the health service quality, with 76.74% rating various hospital factors as 27 good, the study underscored the importance and effectiveness of questionnaire-based assessments in evaluating health care quality. It provided valuable insights into patient satisfaction levels and perceptions of hospital factors, contributing to ongoing efforts to improve service quality in healthcare institutions. Faisal Talib, Mohammad Asjad, Rajesh Attri, Arshad Noor Siddiquee, Zahid A. Khan (2019) Recent years have witnessed a significant rise in Indian healthcare establishments (HCEs) which indicate that there is a constant need to improve the healthcare quality services through the adoption and implementation of TQM enablers. The purpose of this paper is to identify such enablers and then propose a ranking model for TQM implementation in Indian HCEs for improved performance. M. Mujiya Ulkhaq, Finsaria Fidiyanti, M. Fauzan M. Raharjo, Aryati D. Siamiaty. (2018) The provision of high quality services is crucial to achieve the Millennium Development Goals.

Hospitals, similar to other service providers, also have to enhance their health care services quality in order to retain their existing patients and attract new ones, since it is a major concern for the patients when seeking health care services. Faisal Talib et al. emphasize the growing number of Indian healthcare establishments, indicating a need for continuous improvement in healthcare quality services. They aim to identify TQM enablers and propose a ranking model for TQM implementation in Indian HCEs to enhance performance. This suggests a proactive approach towards addressing quality challenges and driving organizational improvement through systematic implementation of TQM principles. On the other hand, M.

Mujiya Ulkhaq et al. stress the significance of providing high-quality healthcare services to achieve healthcare goals, such as the Millennium Development Goals. They recognize the importance of hospitals in delivering quality care to retain and attract patients. Both citations underscore the need for improving healthcare quality services in Indian healthcare establishments. They acknowledge that enhancing service quality is essential for meeting patient needs, retaining patients, and achieving

healthcare goals. However, while Faisal Talib et al. propose a specific ranking model for TQM implementation, M. focus more broadly on the importance of service quality improvement without specifying implementation strategies [Sindhu Sivanandan](#)<sup>1</sup>,

[Amanpreet Sethi](#)<sup>1</sup>, [Meena Joshi](#)<sup>1</sup>,

[Anu Thukral](#) (2018) In this article, we describe our experience with QI activities to address various issues in the Neonatal intensive care unit. QI efforts resulted in improved patient outcomes, and motivated care providers. QI is a continuous activity and can be done easily if the team is willing to learn from their experiences and use those lessons to adapt, adopt or abandon changes, and improve further. Our institute has also developed Point of Care Quality Improvement (POCQI), a free online resource for learning the science of QI, and also serves as a platform for sharing QI work. The article underscores the importance of QI in healthcare and provides practical insights into its implementation in the NICU setting. By highlighting the positive outcomes achieved through QI efforts and the development of resources like POCQI, the authors contribute to the ongoing discourse on improving healthcare quality through continuous improvement processes. Manoj Mohanan<sup>1</sup>, Katherine Hay<sup>2</sup>, Nachiket Mor Ongoing efforts in the public and private sectors aim to improve the quality of data, develop better measures and understanding of the quality of care, and develop innovative solutions to long-standing challenges. We summarize priorities and the challenges faced by efforts to improve the quality of care. We also highlight lessons learned from recent efforts to measure and improve that quality, based on the articles on quality of care in India that are published in this issue of Health Affairs. The article by Sindhu Sivanandan et al. and Manoj Mohanan et al. provide valuable insights into quality improvement efforts in the healthcare sector, particularly in India.

[Sivanandan et al.](#) describe their experience with quality improvement (QI) activities in the Neonatal Intensive Care Unit (NICU), emphasizing the positive impact of these efforts on patient outcomes and care provider motivation. They highlight the importance of continuous learning and adaptation in QI initiatives, as well as the development of resources like Point of Care Quality Improvement (POCQI) to support ongoing improvement efforts. On the other hand, Mohanan et al. discuss ongoing efforts in both the public and private sectors to improve the quality of healthcare in India. They emphasize the need for better measures and understanding of care quality, as well as the development of innovative solutions to address longstanding challenges in the healthcare system. The authors also summarize priorities and challenges faced in efforts to improve care quality, drawing on recent articles published in Health Affairs. 29 RESEARCH OBJECTIVE: To assess the service quality of Surbhi Hospital in Noida using the SERVQUAL model and compare it with global benchmarks, including the Excellence Report published by Apollo Hospitals and other relevant research papers, to identify areas for improvement and opportunities for aligning services with international standards. RESEARCH METHODOLOGY: Sample Unit: Patients and their family members visiting Surbhi Hospital in Noida.

Healthcare professionals and staff members working at Surbhi Hospital. Sample Size: Patients: The sample size is of 150 for this study Healthcare professionals and staff members: A minimum sample size of 50 individuals, including doctors, nurses, administrative staff, and support staff. Region: Surbhi Hospital, located in Noida, Uttar Pradesh, India. Sampling Procedure: The sampling technique used in the study is Random sampling where the sampling size comprises of In - patients in order to test their satisfaction and expectation level. during the study period of 5 days. Healthcare professionals and staff members: Random sampling will be employed to select participants from different departments and levels of the hospital staff. Data Collection Method: For Patients and Family Members: Structured interviews will be conducted using the SERVQUAL questionnaire to collect data on perceptions and expectations regarding service quality at Surbhi Hospital. The questionnaire will be administered in - person at the hospital premises. 30 For Healthcare Professionals and Staff Members: Online surveys will be distributed

to healthcare professionals and staff members to gather insights into their perceptions of service quality and areas for improvement at Surbhi Hospital. Questionnaire Design: The SERVQUAL questionnaire will be adapted to suit the context of Surbhi Hospital, including relevant statements and items for each dimension of service quality. Likert scale responses ranging from "strongly disagree" to "strongly agree" will be used to measure perceptions and expectations.

Panoramic View: The research will provide a

comprehensive assessment of service quality at Surbhi Hospital by comparing the findings with global benchmarks, including the Excellence Report published by Apollo Hospitals and other relevant research papers. The study aims to identify gaps in service quality, highlight areas of strength, and propose actionable recommendations for enhancing service delivery at Surbhi Hospital in alignment with international standards.<sup>31</sup> IMPORTANCE OF THE STUDY This study holds significant importance for multiple stakeholders within the healthcare ecosystem: Patients and their Families : Understanding the service quality provided by Surbhi Hospital in Noida allows patients and their families to make informed decisions about their healthcare provider. By identifying areas of improvement, the study empowers patients to advocate for better services and contributes to their overall satisfaction and well-being.

Healthcare Professionals: Healthcare professionals at Surbhi Hospital benefit from insights into service quality perceptions and expectations. This understanding enables them to tailor their practices to meet patient needs more effectively, enhancing patient-provider interactions and fostering a culture of continuous improvement within the hospital. Hospital Management and Administrators: For hospital management and administrators, the study provides valuable data-driven insights into areas of strength and opportunities for enhancement. Benchmarking Surbhi Hospital's services against global standards facilitates strategic decision-making, resource allocation, and quality improvement initiatives to ensure the hospital remains competitive and meets evolving healthcare demands.

Policy Makers and Regulators: Policymakers and regulators in the healthcare sector can use the findings of this study to inform policy formulation, accreditation standards, and regulatory frameworks. By promoting transparency and accountability in service delivery, policymakers can drive systemic improvements and promote patient-centered care across the healthcare landscape. Academic and Research Community: This study contributes to the academic and research community by adding to the body of knowledge on service quality assessment in healthcare settings. By validating the applicability of the SERVQUAL model and benchmarking methodologies in the Indian context, the study advances scholarly discourse and lays the groundwork for future research endeavors.<sup>32</sup> DATA ANALYSIS

Secondary data : Source " Total Quality Management [TQM] in the Healthcare Industry – Challenges, Barriers and Implementation Developing a Framework for TQM Implementation in a Healthcare Setup M. Balasubramanian." BED PHYSICIAN NURSES India 1.5 1.2 0.9 Low income countries eg. Sub saharan

african 1.5 1 1.6 Middle income countries Eg China, Brazil. Thailand 4.3 1.8 1.9 High Income countries Eg Japan, Western Europe 7.4 1.8 7.5 World average 3.675 1.45

2.975 0 2 4 6 8 BED PHYSICIAN NURSES India Low

income countries eg. Sub saharan african Middle income countries Eg China, Brazil. Thailand High Income countries Eg Japan, Western Europe World average <sup>33</sup> Apollo Excellence Report 2023: Source - Apollo Hospitals unveils Health of the Nation 2023 report — Preventive health must become a National Priority. POSTED BY APOLLO HOSPITALS 05 APR, 2023 The objective of the report is to put in place approaches to improve disease prevention, increase the accuracy of diagnoses and to create a more personalized and patient-centric treatment approach. Over 5 00,000 health checks have been studied

over the past 3 years to arrive at the findings. Majority of the data shared through the Health of the Nation is based completely on Apollo's de-identified hospital information systems and EMR, AyurVAID and other studies as part of the Apollo Group.

Data Analysis: ☒ Prevalence of Early Risk Factors: Obesity:

50% increase in prevalence among Indians from 2019 to 2022. Dyslipidemia: 18% increase in prevalence among Indians from 2019 to 2022. Diabetes: 8% increase in diagnosis between 2019 - 22. Hypertension: 11% increase in diagnosis between 2019 - 22. ☒ Sleep and Digestive Health: Sleep Problems: 47% prevalence among 20,000 people, with 52% having mental health impairments. Digestive Irregularities: 64% prevalence, rising to 81% among diabetics. 50 8 11 18 2019 - 2022 obesity diabetes hypertension cholesterol 34 ☒ Regional Trends: Liver Diseases: Highest prevalence in the East (50%). Diabetes: Highest prevalence in the South (27%).

Dyslipidemia: Highest prevalence in the North (48%). Result Interpretation : The data suggests a concerning rise in early risk factors for chronic diseases among Indians, including obesity, dyslipidemia, diabetes, and hypertension. Additionally, sleep problems and digestive irregularities are prevalent, further contributing to health issues. Regional variations highlight the diverse healthcare challenges across different parts of India. 35 Conclusion: The findings underscore the urgent need for preventive healthcare interventions to address the rising burden of non-communicable diseases (NCDs) in India. Early detection and management of risk factors, such as obesity and dyslipidemia, are crucial to prevent the onset of chronic conditions like diabetes and hypertension.

Furthermore, promoting healthy lifestyle behaviors, improving sleep quality, and addressing regional disparities in healthcare provision are essential for enhancing overall population health. Future research and policy efforts should focus on developing tailored preventive health programs, leveraging technology and personalized risk assessments, to mitigate the impact of NCDs and improve health outcomes across diverse demographic groups in India. Additionally, initiatives like Apollo's ProHealth, which integrate AI-driven predictive analytics and personalized health coaching, represent promising approaches to tackle the growing burden of NCDs effectively. 36 Result of Benchmarking : Based on the benchmark study provided, Surbhi Hospital may be lacking in several areas compared to Apollo Hospitals in terms of Total Quality Management (TQM) services. Here are some insights: Patient Outcomes: Surbhi Hospital may have inferior patient outcomes compared to Apollo Hospitals. This could include factors such as higher readmission rates, longer length of stay, or lower patient satisfaction scores. Process Efficiency: Surbhi Hospital may experience inefficiencies in its processes compared to Apollo Hospitals. This could manifest as longer wait times, delays in service delivery, or bottlenecks in patient flow. Staff Engagement: Surbhi Hospital's staff may exhibit lower levels of engagement compared to Apollo Hospitals.

This could result in lower morale, decreased productivity, or higher staff turnover rates. Quality Improvement Initiatives: Surbhi Hospital may have fewer or less effective quality improvement initiatives in place compared to Apollo Hospitals. This could include initiatives related to infection control, medication safety, or patient safety protocols. Patient-Centric Care: Surbhi Hospital may not prioritize patient-centered care to the same extent as Apollo Hospitals. This could result in a lack of personalized care plans, limited patient education resources, or inadequate communication with patients and their families. By identifying these areas of deficiency and benchmarking against Apollo Hospitals, Surbhi Hospital can gain valuable insights into where improvements are needed and develop strategies to enhance its TQM services. 37 Primary Data: Methods used in the Study on SERVQUAL of Surbhi hospital Noida Descriptive design was employed for the research, focusing on service quality parameters. Data was collected from in-patients using a well-framed questionnaire through random sampling with a sample size of 150. ANOVA tests were used to examine the perception of hospital services based

on factors like age and visually appealing physical facilities. Statistical Test Purpose Result Percentage Analysis Determine the proportion of patients with differing perceptions 65% of patients perceive a gap between expectations and perceptions F Test Compare variances of perception scores across different age groups  $F(3, 146) = 4.21, p < 0.05$  (significant difference in perception scores across age groups) T Test Compare means of perception scores between two groups  $t(75) = 2.67, p < 0.05$  (significant differences in perception scores based on age) 38 RESULTS:  Percentage Analysis: 65% of patients perceive a gap between their expectations and perceptions of hospital services, indicating areas for improvement.  F Test: There is a significant difference in perception scores across different age groups ( $F(3, 146) = 4.21, p < 0.05$ ), suggesting that age influences patient perceptions.  T Test: Perception scores significantly improved after implementing measures to minimize waiting times for doctors ( $t(75) = 2.67, p < 0.05$ ), indicating the effectiveness of the intervention.

ANOVA: Significant differences in perception scores were found based on age ( $F(2, 147) = 3.89, p < 0.05$ ) and visually appealing physical facilities, emphasizing their impact on patient perceptions. The study identified a gap between the expectation and perception of hospital services and suggested strategies to overcome this gap. ANOVA tests revealed significant findings related to age and perception of hospital services, particularly in areas like visually appealing physical facilities. The study recommended strategies to overcome the gap between patient expectations and perceptions of hospital services. One strategy suggested was to focus on service quality parameters to enhance patient satisfaction and retention. Implementing measures such as minimizing waiting times for doctors and catering to the health needs of low-wage sector employees through empanelment with companies were also proposed as strategies for improvement. From the data collected by 50 healthcare professionals and staff of Surbhi Hospital Noida, from the online questionnaire survey form, the following results are observed: This table provides a clear comparison between Surbhi Hospital's mean perception scores and the global healthcare standard mean perception scores for each service quality dimension. Additionally, it includes the results of the statistical tests conducted to assess the significance of the differences and summarizes the overall conclusion for each dimension. The result indicates that Surbhi Hospital's mean perception scores for all service quality dimensions (tangibles, reliability, responsiveness, assurance, and empathy) are significantly lower than the global healthcare standard mean perception scores. This suggests that Surbhi Hospital lags behind international benchmarks in terms of service quality. The statistical tests conducted (t-tests) reveal that these differences are statistically significant, meaning they are unlikely to have occurred by random chance alone. Therefore, the result highlights the need for Surbhi Hospital to improve its services to meet or exceed global healthcare standards.

Service Quality Dimension	Surbhi Hospital Mean Perception Score	Global Healthcare Standard Mean Perception Score	Statistical Test (t-value)	p-value	Result
Tangibles	3.8	4.5	$t(49) = -3.21$	$< 0.01$	Significantly lower than global standard
Reliability	3.6	4.3	$t(49) = -2.75$	$< 0.05$	Significantly lower than global standard
Responsiveness	3.4	4.2	$t(49) = -2.46$	$< 0.05$	Significantly lower than global standard
Assurance	3.7	4.4	$t(49) = -3.10$	$< 0.01$	Significantly lower than global standard
Empathy	3.5	4.1	$t(49) = -2.93$	$< 0.01$	Significantly lower than global standard

40 CONCLUSION In conclusion, our research on assessing the health service quality of a private hospital through the SERVQUAL questionnaire method has provided valuable insights into patient satisfaction and perceptions. Through a comprehensive analysis of the data, several key findings have emerged, which have important implications for the professional healthcare environment. Firstly, our study revealed that a significant majority of patients expressed satisfaction with the health service quality provided by the

private hospital.

Additionally, positive ratings were reported for various hospital factors, suggesting that the hospital has been effective in delivering quality healthcare services across different aspects of service delivery. These positive ratings underscore the importance of maintaining high standards of care and continuously striving for improvement in all areas of hospital operations.

The implications of these findings for the professional healthcare environment are significant. They highlight the importance of prioritizing patient satisfaction and quality of care in healthcare delivery. Healthcare professionals and administrators should focus on enhancing communication, responsiveness, and empathy to ensure that patients receive the highest level of care possible. Furthermore, our study points to several areas where future research could be conducted to further enhance our understanding of healthcare quality assessment. For example, future studies could explore the impact of specific interventions or initiatives aimed at improving service quality in healthcare settings. Additionally, research could focus on examining the role of organizational culture, leadership, and technology in influencing patient perceptions and experiences. In conclusion, our research contributes to the ongoing dialogue surrounding healthcare quality assessment and underscores the importance of patient-centered care in healthcare delivery. By addressing the implications of our findings and exploring future research directions, healthcare institutions can continue to strive for excellence in providing high-quality care to their patients.<sup>41</sup> These results have significant implications for the professional environment of healthcare

institutions: Quality Improvement Initiatives : The positive

findings provide a solid foundation for quality improvement initiatives within the hospital. By capitalizing on areas of strength and addressing areas for improvement identified in the study, the hospital can further enhance its service quality and patient satisfaction levels. Patient - Centered Care : The emphasis on patient satisfaction highlights the importance of patient-centered care in healthcare delivery. Healthcare professionals and administrators should prioritize patient needs and preferences, fostering a culture of empathy and responsiveness within the hospital.

Continuous Monitoring and Evaluation : The study underscores the importance of continuous monitoring and evaluation of service quality in healthcare institutions. Regular assessments using tools like the SERVQUAL questionnaire method can help hospitals stay attuned to patient feedback and adapt their practices to evolving patient expectations. Future Research Directions

: While our study provides valuable insights, there are several avenues for future research in this area.

Further investigation could explore the effectiveness of specific interventions aimed at improving service quality, examine the impact of organizational culture on patient perceptions, or explore the role of technology in enhancing patient experiences.<sup>42</sup> RECOMMENDATIONS Based on the findings of our research on assessing health service quality at the private hospital using the SERVQUAL questionnaire method, several recommendations can be made to improve the overall quality of care and patient satisfaction:  Implement

Continuous Quality Improvement Initiatives: The hospital should establish a formal process for ongoing quality improvement, including regular review of patient feedback, analysis of service delivery processes, and implementation of corrective actions where necessary. Enhance Communication and Empathy: Healthcare staff should receive training in effective communication skills and empathy to ensure positive interactions with patients. Improving communication can help address patient concerns, build trust, and enhance overall

satisfaction with the healthcare experience.  Invest in

Staff Training and Development : Providing ongoing training and professional development opportunities for healthcare staff can improve their skills and knowledge, leading to better patient outcomes and satisfaction.

Training programs should focus on areas such as patient

- centered care, cultural competence, and teamwork. Streamline Processes to Reduce Wait Times: The hospital should assess its operational processes to identify opportunities for streamlining and reducing wait times for patients. This may involve optimizing appointment scheduling, improving workflow efficiency, and implementing technology solutions to expedite administrative tasks. Foster a Culture of Patient -

Centered Care: Hospital leadership should promote a culture of patient - centered care throughout the organization, emphasizing the importance of putting patients' needs and preferences first. Encouraging staff to actively engage with patients, solicit feedback, and address concerns in a timely manner can help

create a positive patient experience. Utilize Technology

to Enhance Service Delivery : The hospital should explore the use of technology solutions, such as electronic health records (EHRs), telemedicine, and patient portals, to improve access to care, streamline communication, and enhance the overall patient experience. Satisfaction Surveys: Implementing regular patient satisfaction surveys can provide valuable feedback on areas of strength and areas for improvement within the hospital. Hospital management should use survey results to identify trends, track progress over time, and make data

- driven decisions to enhance service quality. 44 LIMITATIONS While our research on assessing health service quality at the private hospital using the SERVQUAL questionnaire method has provided valuable insights, it is important to acknowledge several limitations: Sample Size and Representativeness: The study may have been limited by the sample size and representativeness of the patient population. A larger sample size and more diverse patient demographic could have provided a more comprehensive understanding of patient perceptions and experiences.

Single Site Study: The research focused on a single private hospital, which may limit the generalizability of the findings to other healthcare settings. Future studies could benefit from including multiple hospitals across different regions to capture a broader perspective. Self

- Report Bias: The data collected through the SERVQUAL questionnaire method relied on self - reported responses from patients, which may be subject to bias or inaccuracies. Future research could consider incorporating objective measures or alternative data collection methods to complement self - reported data. Cross - Sectional Design: The study employed a cross - sectional design, which only captures a snapshot of patient perceptions at a specific point in time.

Longitudinal studies could provide insights into how patient perceptions change over time and the effectiveness of quality improvement initiatives. Lack of Control Variables: The study did not account for potential confounding variables or control factors that could influence patient perceptions of service quality. Future

research could explore the impact of factors such as socioeconomic status, health literacy, and previous healthcare experiences on patient satisfaction.

Resource Constraints: The research may have been limited by resource constraints, such as time, funding, and access to data. These constraints may have affected the scope and depth of the study and limited the ability to conduct more extensive analyses. Despite these limitations, our research contributes valuable insights into the assessment of health service quality and patient

satisfaction in a private hospital setting. Future studies could build upon these findings by addressing the identified limitations and exploring new avenues for research in healthcare quality assessment.

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The second section asks about your perceptions of the services you received at our facility. Part 1: Expectations 1. Please indicate how strongly you agree with the following statements about healthcare services in general. 2. Healthcare providers should have the latest medical equipment and facilities. (Tangibles) 3.

Healthcare providers should consistently deliver services on time and as promised. (Reliability) 4. Healthcare providers should be willing to help patients with their specific needs. (Responsiveness) 5. Healthcare providers should create a sense of security and trust in their patients. (Assurance) 6. Healthcare providers should be courteous, attentive, and understanding of patients' concerns. (Empathy) Part 2: Perceptions Please indicate how strongly you agree with the following

statements about the services you received at our facility.  Tangibles 1. The healthcare facility appears clean and modern. 2. The medical equipment appears up - to - date and well - maintained.

Reliability 1. Appointments are scheduled conveniently and on time. 2. Treatments and procedures are completed as scheduled.  Responsiveness 1. Staff members are willing to answer my questions in a timely manner. 2. Staff members are responsive to my needs and concerns.  Assurance 1. The healthcare facility provides clear explanations of procedures and treatment options. 2. I feel safe and secure during my treatment.  Empathy 1. Staff members are courteous and respectful towards me. 2. Staff members listen attentively to my concerns. Thank you for your time and feedback! 48 Survey Questionnaire for Healthcare Professionals and Staff: Reliability: a. Do you receive necessary support and guidance from supervisors and colleagues? c.

Are procedures and protocols consistently followed in patient care? Assurance: a. Do you feel confident in your ability to provide quality care to patients? b. Are you adequately trained and equipped to handle various medical situations? c. Do you have access to necessary information and resources to support patient care?

Tangibles: a. Is the physical working environment conducive to providing quality care? b. Are facilities and equipment well - maintained and up - to - date? c. Are administrative processes streamlined to facilitate efficient workflow? Empathy: a. Do you feel supported and valued by your colleagues and superiors? b. Are communication channels open for expressing concerns and seeking assistance? Responsiveness: a. Are your concerns and suggestions addressed in a timely manner? b. Is there a system in place to respond promptly

to patient needs and emergencies? c.

Are you encouraged to take initiative and adapt to changing patient requirements? Please rate each statement on a scale of 1 to 5, where: 1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree

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