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A Comparative Study of Healthcare Quality Management Systems: Examining the Effects on Patient Communication, Service Accessibility, and Decision-making Autonomy in Poland and Lebanon

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A – Development of the concept and methodology of the study; B – Query – a review and analysis of the literature; C – Submission of the application to the appropriate Bioethics Committee; D – Collection of research material; E – Analysis of the research material; F – Preparation of draft version of manuscript; G – Critical analysis of manuscript draft version; H – Statistical analysis of the research material; I – Interpretation of the performed statistical analysis; K – Technical preparation of manuscript in accordance with the journal regulations; L – Supervision of the research and preparation of the manuscript

Abstract

Introduction. Quality Management systems enable healthcare organizations to deliver services ensuring patient safety, operational efficiency, and process standardization. This study examines healthcare quality management in Poland and Lebanon, comparing patient interactions, service availability, and decision-making autonomy between centralized public and decentralized private healthcare models.

Methods. A mixed-method cross-sectional study was conducted at Mount Lebanon Hospital (Lebanon) and the University Hospital of Lord's Transfiguration (Szpital Kliniczny Przemienienia Pańskiego w Poznaniu) from October 2023 to March 2024. Structured surveys were administered to 88 respondents (44 patients, 44 doctors) regarding their perception of healthcare quality. Quantitative data was analyzed using descriptive statistics in R, while qualitative data underwent thematic analysis using ATLAS.ti.

Results. Notable differences emerged in service accessibility, communication effectiveness, and autonomy in treatment decision. Lebanese participants rated service accessibility higher with fewer barriers to healthcare access. Communication scores were comparable; Lebanon emphasised provider-patient interpersonal dynamics while Poland focused on staff information transparency. Poland demonstrated significantly higher decision autonomy, reflecting greater patient engagement in healthcare decisions.

Conclusions. Both healthcare systems show distinct strengths and improvement opportunities. Lebanon's private system ensures efficiency and patient interaction, while Poland's public system promotes patient autonomy and care uniformity. Systems can enhance service delivery by adopting each other's best practices.

Keywords: decision making, quality management system, cross-cultural comparison, patient cantered care, healthcare accessibility, service accessibility.

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INTRODUCTION

Achieving high-quality treatment has become a top priority for healthcare systems around the world in response to changing global healthcare problems. These initiatives rely heavily on Quality Management Systems (QMS), which offer organised frameworks to improve operational effectiveness, safety and care quality. The origins of QMS arose from the need to maintain production standards within the industrial sector [1,13], but with time, these concepts have been embraced in healthcare, where they are essential in the provision of safe, effective, and patient-centered care [2].

The QMS creates an environment where healthcare organisations may reliably provide patient-centered, evidence-based treatment by supporting process standardisation, ongoing staff training, and adherence to safety regulations [3]. Total Quality Management (TQM), which is part of QMS, has become popular in integrated healthcare, fostering customer satisfaction, worker participation, and best practices through methodologies including the Plan-Do-Study-Act (PDSA), Six Sigma, and Lean techniques [4]. To resolve differences in the way care is delivered and guarantee that everyone has fair access to safe and efficient services, regardless of institutional or socioeconomic limitations, QMS implementation in the healthcare industry is crucial.

The cornerstones of every successful QMS relies on safety procedures, process standardisation, and employee training. These elements are essential to dealing with the complexity of contemporary healthcare systems and cannot be independent from one another. Staff training guarantees that medical personnel are capable of implementing modern technology and following evidence-based protocols, ensuring high-quality treatment even situations where resources are limited.[5,3]. Process standardisation ensures uniform care delivery across various healthcare settings by minimizing variability, improving workflow efficiency, reducing errors, and standardising the most appropriate means of carrying out activities [6,12]. Safety procedures act as protections, reducing risks to employees

and patients by encouraging a continuous improvement culture and focusing on error prevention, adverse event management, and evidence-based best practices [7]. These components work together to create a robust and flexible healthcare system that can address contemporary issues as they arise.

Comparisons of healthcare systems, such as those in Poland and Lebanon, offer important insights into how QMS are applied in various cultural and socioeconomic circumstances. The Polish healthcare system, which combines worldwide accreditation requirements with EU legislation, features a centralised and standardised approach to QMS implementation. The nation's centralised governance structure has enabled widespread adoption of standardized clinical recommendations, extensive staff training programs, and robust safety protocols [8]. Polish hospitals are progressively implementing ISO 9001, a widely accepted standard for quality management, to improve organisational performance and conform to global best practices [5]. A great example of this is the University Hospital of Lord's Transfiguration in Poznań, which has adopted the ISO 9001:2015.This certification reflects their commitment to key principles like strong leadership, a well-organized process approach, continuous quality management system improvement, and making decisions based on solid evidence.

In contrast, Lebanon's healthcare system is decentralised and fragmented, with a heavy reliance on private healthcare providers. External accreditation systems like those offered by Accreditation Canada and the Joint Commission International (JCI) are crucial to supporting quality standards in this privatised healthcare environment [9,10]. Research has indicated that accreditation of diverse hospitals in Lebanon has been successful in promoting better quality of patient care, particularly from healthcare workers' perspectives [11]. The Mount Lebanon Hospital University Medical Center (MLH UMC) exemplifies this approach, having been accredited by Joint Commission International (JCI) since 2016, which demonstrates its commitment to international standards of safety and patient satisfaction. However, the lack of centralised control makes it difficult to expand these improvements nationally.

Not with standing these systemic variations, both healthcare systems face similar difficulties in guaranteeing comprehensive employee training, reliable safety protocols, and uniform standardisation. These quality systems share common principles of continuous improvement, patient safety, and standardised care delivery, while their implementation differs in administrative structures and healthcare priorities.

This article focuses on the three pillars of staff training, process standardisation, and safety, and seeks to investigate how the QMS might enhance the quality of healthcare. This study examines the advantages and disadvantages of QMS adoption in Poland and Lebanon using a comparative approach,,and offers practical insights to improve healthcare delivery. By exploring these important elements and comparing the two healthcare systems, this study contributes to the global conversation on healthcare quality improvement. It sheds light on why it matters to tailor strategies to local needs and circumstances, while still keeping in line with international standards and all with the aim of uncovering best practices and practical recommendations that can help improve healthcare quality around the world.

METHODS

Study Design

This research used a mixed-methods, cross-sectional approach to explore and contrast perceptions about the quality management systems in healthcare in Poland and Lebanon, with special attention to patient interaction, service availability, and autonomy in participation. These areas were chosen after analysis of existing literature,as well as consultation with specialists in healthcare quality. These areas have received considerable attention as a result of their fundamental in assessing the effectiveness and responsiveness of healthcare delivery systems within diverse cultures and institutions.

Study Setting

The data were collected at Mount Lebanon Hospital and The University Hospital of Lord's Transfiguration in Poznań from October 2023 to March 2024. Mount Lebanon Hospital is one of the leading private hospitals in Lebanon, while The University Hospital of Lord's Transfiguration in Poznań is a third-level public clinical hospital in Poland. These hospitals were purposefully selected because they represent different systemic models like public vs private, yet are considered benchmarks in high-quality healthcare service delivery within their regions.

The study involved 88 people: 44 patients and 44 doctors. In Poland 21 patients and 26 doctors took part in the study, while Lebanon had 23 patients and 18 doctors were involoved. (Table 1). The participants were selected on purpose to get different viewpoints and to hear opinions from both healthcare providers and recipients. To jointhe study, participants had to be at least 18 years old, have first-hand experience with hospital services, and agree to take part.

TABLE 1. Summary of the Survey Responses.

Country	Patients	Doctors	Total Participants
Lebanon	23	18	41
Poland	21	26	47

Source: Study based on own empirical research conducted between October 2023 and February 2024 in Poland and Lebanon

Data Collection and Analysis

The study utilised two separate, multilingual surveys as the primary data collection tools: one for patients (Appendix 1) and one for doctors (Appendix 2). Both surveys were initially developed in English and then translated into Arabic and Polish by native speakers. To ensure cross-cultural validity, the translations were back translated and reviewed by bilingual experts for conceptual equivalence. This rigorous process guaranteed that the survey items retained their intended meaning across all language versions.

The patient survey (Appendix 1) focused on three key domains: Service Accessibility and Availability, Communication and Patient-Centered Care, and Autonomy and Decision-Making. The doctors' survey (Appendix 2) addressed Service Accessibility and Availability, Autonomy and Decision-Making, and Communication and Patient Involvement, with questions tailored to the perspectives of healthcare providers. Both surveys included closed-ended questions rated on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree) and open-ended questions to capture qualitative insights.

The survey questions were developed based on a comprehensive review of the existing literature on healthcare quality, patient-centered care, and Quality Management Systems (QMS) implementation. The three domains (patient communication, service accessibility, and decision autonomy) were selected because they are widely recognised as critical indicators of healthcare quality. Closed-ended questions allowed for quantitative comparison, while open-ended questions captured contextual nuances and participants' perspectives that might not be fully addressed by standardised items. Finally, this study gave researchers a chance to learn more about what people expected from their healthcare and how they view its quality.

Descriptive statistics in the R programming language were used to analyse quantitative data. To find patterns across nations and respondent groups, measures of central tendency and dispersion, including means, standard deviations, and frequency distributions, were calculated. Furthermore, statistical differences between countries for each domain were evaluated using Mann-Whitney U tests, with significance value at $p<0.05$. No inferential statistical tests (such as regression or ANOVA) were performed because of the study's exploratory nature and small sample size.

ATLAS.ti software was used to perform a thematic analysis of the qualitative responses. The process of thematic coding was inductive, starting with open coding and moving through axial and focused coding stages. In order to guarantee the consistency and interpretive reliability of the interpretation, themes were developed iteratively, and coder agreement was established through continuous communication. Through the contextualisation of statistical patterns with rich participant-generated insights, this qualitative part gave the quantitative findings more depth and nuance.

The study aimed to shed light on how various healthcare systems are structured and provide quality services from the perspective of patients and healthcare providers who are most directly involved, using a methodologically sound and context-sensitive approach. The study enabled cross-cultural comparisons and provided a solid grasp of the difficulties and best practices in healthcare quality management both domestically and internationally.

Ethical Issues/Statement

Ethical approval for the research was obtained from the relevant ethics committees in both Lebanon and Poland. Participation was voluntary, and all responses were anonymised to protect the confidentiality and privacy of the participants.

RESULTS

This study examined perceptions of the healthcare quality in Poland and Lebanon, with the focus on three principal areas: service accessibility, patient communication, and decision autonomy. The analysis was based on responses from all participants across both countries. In order to assess differences between Poland and Lebanon, Mann-Whitney U tests were conducted for each domain. This non-parametric approach was selected due to the small sample size and the non-normal distribution of the data. The results revealed significant differences in service accessibility ($p = 0.032$) and decision autonomy ($p = 0.001$), while communication quality showed no significant difference between the two countries ($p = 0.421$).

Service Accessibility

The analysis for service accessibility showed exact differences between the countries, as shown in Table 2.

TABLE 2. Descriptive Statistics for Service Accessibility.

Country	Mean	Median	Standard Deviation	Minimum	Maximum
Lebanon	7.05	7.13	0.92	5.25	8.72
Poland	6.61	6.50	1.19	4.08	9.46

Source: Study based on own empirical research conducted between October 2023 and February 2024 in Poland and Lebanon

Statistical analysis showed a significant difference between the countries (Mann-Whitney $U = 734.5$, $p = 0.032$). Lebanese participants gave service accessibility higher ratings than those from Poland. Lebanese respondents may have faced fewer obstacles to receiving healthcare services, as shown by the fact that their mean score (7.05) was higher than that of Poland (6.61). Polish responses were far more variable, with some participants reporting extremely high accessibility (9.46) and others reporting significant difficulties (4.08). Potential disparities in service accessibility that were less noticeable in the Lebanese healthcare system are suggested by the greater variety of experiences in Poland.

Patient Communication

Proper communication between healthcare practicioners and patients is a crucial aspect of providing hight quality care. The findings for this domain are presented in Table 3.

TABLE 3. Descriptive Statistics for Patient Communication.

Country	Mean	Median	Standard Deviation	Minimum	Maximum
Lebanon	7.18	7.26	1.02	5.41	9.75
Poland	7.09	7.21	0.96	5.02	9.53

Source: Study based on own empirical research conducted between October 2023 and February 2024 in Poland and Lebanon

The Mann-Whitney U test showed no significant difference between countries ($U = 891.2$, $p = 0.421$).With extremely comparable scores, both nations did well in the communication domain. Lebanon's average was marginally higher (7.18) than Poland's (7.09). The similarity in communication experiences between the two healthcare systems is further highlighted by the nearly identical median values (7.26 vs. 7.21). This implies that both nations have established similar provider-patient communication practices in spite of their disparate cultural backgrounds and healthcare systems.

Decision-makeing Autonomy

Table 4 illustrates how the two healthcare systems differed most noticeably in the area of decision makeing autonomy.

TABLE 4. Descriptive Statistics for Decision-makeing Autonomy.

Country	Mean	Median	Standard Deviation	Minimum	Maximum
Lebanon	6.51	6.31	1.16	4.31	8.85
Poland	7.41	7.51	0.95	4.94	9.61

Source: Study based on own empirical research conducted between October 2023 and February 2024 in Poland and Lebanon

The statistical comparison revealed a highly significant difference between countries (Mann-Whitney U = 512.3, p = 0.001). The data showed a pronounced difference in the perceptions of decision-making authority. Compared to their Lebanese counterparts (6.51), Polish participants reported substantially higher levels of autonomy (7.41). This significant disparity points to essentially different strategies for patient involvement and shared decision-making in the two healthcare systems. This finding is supported by Poland's higher median value (7.51 versus 6.31). Involvement in healthcare decisions was consistently higher among Polish participants, which may be a reflection of deeper structural or cultural differences in the distribution and exercise of medical authority.

In summary, an intriguing pattern appears when all three domains are collectively examined. Poland showed a clear advantage in decision-makeing autonomy, even though Lebanese participants reported better access to services, and both nations displayed comparable strengths in communication practices. This implies that every healthcare system has evolved unique strengths that might help guide advancements in the other healthcare systems.

The difference in how decision-making is experienced in these two situations is the most noteworthy discovery. The ideal balance probably depends on institutional structures and cultural expectations, even though Poland's higher autonomy scores might seem better at first sight. These distinctions point to possible avenues for cross-border collaboration in education: Poland could gain from studying Lebanon's strategies for service accessibility, and Lebanon could investigate Poland's policies regarding patient and provider autonomy.

These findings lay the groundwork for understanding how quality is perceived differently in these healthcare settings and provide specific instances where each system could capitalise on the advantages of the other.

DISCUSSION

The Quality Management Systems (QMS) in Poland and Lebanon were compared in the present study. This study highlights key differences in patient communication, decision-makeing autonomy, and service accessibility. It also provides important insights into how systemic structures and cultural priorities influence stakeholder experiences and their implications for healthcare equity, vulnerable patient groups, and long-term public health outcomes.

Service Accessibility: Efficiency vs. Equity

The private sector's emphasis on efficient, patient-centered care is in line with Lebanon's higher mean score for service accessibility (7.05 vs. Poland's 6.61), which is probably the result of competitive pressure to put convenience and wait times first. However, this efficiency seems to be concentrated in urban areas, such as Mount Lebanon Hospital, which suggests a structural bias in favor of populations with greater resources. While Lebanon's scores show a relatively consistent accessibility in urban areas with a lower standard deviation (0.92), which poses the risk of ignoring disparities in rural areas where private healthcare penetration is lower. On the other hand, Poland's public system strives for equal access for all demographic groups, as demonstrated by its tertiary referral hospital. There are systemic inconsistencies that are highlighted by the wider variability in Poland's scores (SD=1.19). These outcomes highlight a critical public health issue where both systems struggle with the tension between personal achievement and social fairness. Increased emergency department visits and poorly managed chronic diseases result from Lebanon's socially costly, market-driven, two-tier system. Poland's more equitable system is vulnerable to delays in providing timely care for those with higher needs, especially disadvantaged populations, who are heavily reliant on public health care and social services. For European health policy, this indicates that universal coverage requires administrative streamlining to maintain the balance between equity and efficiency. Meanwhile, health systems in the Middle East need to integrate private sector innovations with regulatory mechanisms that ensure comprehensive coverage for the whole population.

Patient Communication: Universal Strengths, Contextual Nuances

Both nations achieved comparable communication quality (Lebanon: 7.18; Poland: 7.09), but this equivalence obscures critical public health implications for vulnerable patient populations. While patients in the public sector, such as the elderly, the disabled and low-income groups, may face communication barriers that jeopardise health literacy and treatment adherence, in Lebanon's private system of healthcare, excellent communication is concentrated among patients who can afford premium care. Standardised communication protocols in Poland guarantee uniform delivery of information to all demographic groups, upholding the principles of health equity but possibly ignoring the culturally particular communication requirements of ethnic minorities and immigrant populations.

These findings are further contextualised by qualitative insights: Polish respondents valued "clear explanations of treatment risks and benefits," while Lebanese participants often emphasszed the "approachability" and "time spent listening" of providers. This discrepancy implies that although communication quality is always valued, it takes on distinct forms depending on systemic incentives, such as Poland's public framework, which prioritizes informational rigor, while Lebanon's market-driven model cultivates relational warmth.

Furthermore, the reported differences in communication style have broader public health consequences. Poland's emphasis on informational rigor supports evidence-based decision-making and may improve treatment compliance across diverse populations, contributing to better population health outcomes. Lebanon's relational approach, while enhancing individual patient satisfaction, may not adequately address health literacy gaps that disproportionately affect vulnerable populations, potentially perpetuating health inequalities.

Decision-making Autonomy: Structural Empowerment and Cultural Realities

The significant difference in decision autonomy (Poland: 7.41; Lebanon: 6.51) represents a critical public health disparity with measurable population health consequences. Poland's systematic approach to patient empowerment, embedded within its centralised legal framework, ensures that vulnerable populations including the elderly, people with disability and low-income patients maintain decision-making rights that protect them from medical paternalism. This structural empowerment contributes to better health outcomes by increasing treatment adherence and reducing medical errors through patient participation in care planning.

Lebanon's lower autonomy scores indicate systemic barriers that disproportionately affect vulnerable populations. Fee-for-service incentives may pressure clinicians to prioritize efficiency over patient involvement, while cultural hierarchies can silence marginalized voices, including women, elderly patients, and those from lower socioeconomic backgrounds. The wider variability in Lebanon's autonomy scores (SD=1.16) suggests that patient empowerment depends on individual provider's attitudes and the patient's social status rather than on systematic protections, creating health equity concerns.

Implications for Quality Management Systems (QMS)

There are important ramifications for healthcare policy, practice, and future research from the comparison of the quality management systems in Poland and Lebanon. The study's findings emphasise how important it is to adapt QMS to different healthcare systems' particular needs. Whereas Poland benefits from a more integrated, publicly-run healthcare system that ensures practice standarisation and regulatory monitoring, Lebanon's decentralised, privatised healthcare system makes it challenging to maintain consistent healthcare quality across regions and institutions. This systemic divergence has significant implications for health equity and population health outcomes, particularly for vulnerable groups who may experience disparities in care quality. Therefore, there are several key areas to improve the quality of care in both countries. This study shows several specific ways to improve the quality management system through:

1. **Training Programs:** Training programs should be standardised to ensure that all medical personnel in Poland and Lebanon possess the skills necessary to deliver high-quality care. These should include quality management type skills, including ISO implementation, quality assurance and quality control, ongoing professional education, and a patient-centered approach with a focus on patient's voice and feedback. This training should specifically address the needs of marginalised population groups, including cultural competency, health literacy and communication strategies for diverse patient groups. While these programs might be expanded to emphasise patient-centered communication to a greater extent in Poland, more consistent staff training across public and private institutions is essential in Lebanon.
2. **Process Standardisation:** The standardisation of processes can reduce errors and boost productivity in both countries across multiple areas:
   i) Administrative Procedures: The effectiveness of purchasing procedures, resource allocation, scheduling and records management systems to allow for ongoing operations. These standardised administrative processes should particularly focus on reducing disparities in care access and ensuring equitable resource distribution.
   ii) Clinical procedures: Routine treatment procedures such as ongoing assessment of the patient, all patient care, infection control (hands disinfecting), laboratory rights and procedures, drug rights, gastroenterological assessments, nutritional rights, interventions for the patient safety, interventions for the safe assessment of the patient's needs for ongoing treatment. Standardised clinical procedures are particularly relevant for ensuring consistent care quality across different patient populations and healthcare settings.

Initiatives in Poland might focus on ensuring uniformity in the application of clinical guidelines and reducing regional variations in service delivery, while in Lebanon, this would require greater collaboration across the healthcare system to harmonise standards between the private and public sectors.

3. **Patient Safety Procedure:** Lebanon and Poland both have put a high priority to patient safety. However, complex safety procedures should be implemented across all aspects of healthcare. This includes the above identification of clinical procedures that ensure effective infection control, patient assessment related to safety, drug rights and drug safety precautions, gastroenterology assessment safety considerations, and nutritional rights and assessments. These comprehensive safety procedures are vital for preventing medical errors and ensuring patient well-being, particularly for vulnerable populations. Poland can benefit from a more private system that is more comprehensive in terms of safety activities under quality management for its private efforts. Lebanon needs to have quality management activities in all private and public sensitivity to safety endeavors so that consistent applications exist and no activities are missed that end up frustrating or complicating patient efforts. Consistent safety standards across all healthcare settings are crucial for protecting public health and reducing preventable harm. These safety activities need to be included within the extensive confines of clinically determined procedures.

Practice Implications

Cross-system learning can help healthcare workers in several ways. While upholding their strict informational standards, Polish healthcare practitioners could embrace Lebanon's relationship-building communication techniques. This adoption could particularly benefit vulnerable patient groups who may require more personalised care. On the other hand, Lebanese healthcare professionals would gain from adopting Poland's organised decision-making autonomy procedures to improve patient empowerment without sacrificing clinical effectiveness. Enhancing patient empowerment is particularly important for improving health outcomes and treatment adherence among chronically ill and elderly patients.

This study emphasises the significance of contextualising QMS implementations for hospital administrators. According to the data, importing quality frameworks, alone without modifying them to fit local structural and cultural realities, may not produce the best results. This contextualisation is crucial for addressing local health problems and reducing health disparities. Whether the focus is on individual service excellence, as in Lebanon, or collective equity, as in Poland, successful QMS implementation needs alignment with societal values. This alignment is essential for creating healthcare systems that effectively serve all population groups and promote health equity.

Practical Application

This study provides several practical insights for healthcare organisations looking to enhance their quality management systems:

1. **Cultural Contextualisation:** QMS deployments need to be modified to conform to regional norms and values. This modification should consider local health priorities and the specific needs of diverse patient populations. Structured rights and standardizsed procedures may be more appealing to stakeholders in situations like Poland, whereas frameworks

that focus on the relationship quality and service effectiveness may be more advantageous in situations like Lebanon. Both approaches should incorporate mechanisms for addressing health inequities and improving access to care.

2. **Balanced Scorecard Approach:** Since strengths in one area (e.g., communication) may offset weaknesses in another (e.g., accessibility), organisations should create measurement systems that capture both objective quality metrics and subjective stakeholder experiences across multiple dimensions. These measurement systems should specifically include indicators for health equity and patient-centered care.
3. **Targeted Innovation Transfer:** Healthcare executives should choose particular high-performing components from other models. Lebanese facilities, for example, may incorporate Poland's autonomous frameworks, which could particularly benefit patient groups that traditionally have less decision-making power, while Polish hospitals may embrace Lebanon's efficient appointment systems. Such transfers should prioritise innovations that address specific public health challenges and improve health outcomes for vulnerable populations.

Study Limitation

A number of important limitations should be considered when assessing the results of this study. First, the sample size is relatively small. This naturally limits the generalisability of the findings and reduces the statistical power available to detect subtle differences between groups. While these results provide a useful "snapshot" of the Polish and Lebanese healthcare contexts, larger-scale studies are necessary to confirm if these trends hold true across broader populations. Second, the data were collected from only two institutions. Because these specific hospitals were chosen for their high performance, a degree of selection bias is likely. Our findings may reflect an idealised version of quality perception rather than the "average" experience in either country's broader healthcare system. Third, the cross-sectional design means we can only observe correlations, not confirm causes. We cannot definitively say that the quality management systems caused the observed outcomes; longitudinal research is needed to track these effects over time and establish a clear causal link. Fourth, the study's exploratory nature and reliance on basic inferential statistics (such as the Mann-Whitney U test) mean our conclusions should be treated as foundational, rather than definitive. Without advanced regression or multivariate modeling, we are limited in how deeply we can interpret the relationships between complex variables. Fifth, we must consider cultural response bias. It is well-documented that participants from different cultural backgrounds may use rating scales differently, some being more conservative, and others more expressive which can complicate direct cross-country comparisons. Finally, we did not control for confounding variables like socioeconomic status or specific medical conditions. These factors are known to shape how patients perceive care. Future research should integrate these variables to provide a more nuanced and comprehensive picture. Despite these constraints, this study serves as a necessary starting point for understanding how quality management affects communication, accessibility, and patient autonomy in Poland and Lebanon. Moving forward, the field would benefit from larger, more diverse samples and robust longitudinal designs to strengthen the evidence base.

CONCLUSION

The importance of Quality Management Systems (QMS) in raising the level of care in healthcare facilities is highlighted in this study, which focuses on essential elements such as staff training, process standardisation, and safety protocols. By comparing the healthcare systems in Poland and Lebanon, the study offers important current information about how healthcare policies, cultural factors, and systemic architecture affect QMS effectiveness.

This comparative study of Quality Management Systems in Poland and Lebanon reveals significant statistical differences in service accessibility ($p = 0.032$) and decision-makeing autonomy ($p = 0.001$), while communication quality remained equivalent across both systems ($p = 0.421$). These findings, strengthened by Mann-Whitney U tests, demonstrate that healthcare QMS effectiveness is fundamentally shaped by systemic architecture, cultural contexts, and policy frameworks.

Poland's centralised public system features patient autonomy and standardised processes, reflecting post-communist governance emphasising individual empowerment and evidence-based care. Lebanon's privatised system achieves superior accessibility through market-driven efficiency, but at the cost of systematic exclusion of vulnerable populations. Both systems maintain equivalent communication standards despite fundamentally different operational philosophies.

To bridge these systemic gaps and enhance healthcare quality, the following health policy recommendationsare proposed:

1. **Implementation of Communication Standardisation Programs:**
   - Mandatory evidence-based communication training for all healthcare providers with competency assessments.
   - Development of culturally adapted communication protocols that address health literacy variations.
   - Establishment of communication quality indicators specifically measuring vulnerable population interactions.
2. **Legislative Changes to Promote Patient Autonomy:**
   - Enactment of informed consent legislation requiring decision-support tools for complex medical choices.
   - Mandatory patient advocacy services in all healthcare facilities, particularly for vulnerable community populations.
   - Legal frameworks requiring healthcare providers to accommodate different health literacy levels in decision-making processes.
3. **Regulations on equitable access to healthcare:**
   - For privatised systems: Regulatory mandates requiring minimum accessibility standards across all facilities, with financial penalties for non-compliance
   - For public systems: Administrative streamlining initiatives that reduce bureaucratic delays while maintaining universal coverage
   - Implementation of equity-based quality indicators that penalise systems for excellent individual care that excludes vulnerable populations
4. **Cross-System Learning Mechanisms:**
   - Establishment of international QMS frameworks that maintain core quality principles while allowing governance model flexibility
   - Development of hybrid public-private models leveraging market efficiency with population coverage guarantees

- Creation of regional healthcare policy integration networks facilitating best practice transfer without cultural disruption

These recommendations aim to balance individual care excellence with population-level equity, addressing systemic design flaws that prioritise one at the expense of the other.

Future research should explore several areas, such as longitudinal studies with robust statistical analyses examining QMS implementation outcomes across diverse healthcare contexts, Cost-effectiveness analyses comparing public versus private QMS approaches with explicit equity measurements, and the development and validation of equity-focused quality indicators that capture particulary vulnerable population experiences and outcomes.

The fundamental conclusion is that healthcare QMS must evolve beyond individual patient satisfaction metrics to encompass population health equity, vulnerable group outcomes, and healthcare system sustainability. The Poland-Lebanon comparison provides empirical evidence that excellent individual care quality can coexist with poor population health governance, necessitating a complete reconceptualisation of healthcare quality frameworks for the 21st century. Finally, the healthcare industry can create creative, culturally sensitive quality management strategies that successfully tackle systemic and structural issues while upholding core quality standards by following these research directions.

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Appendix 1: Trilingual survey (English, Polish and Arabic) for the Patients.

Survey on "A Comparative Study of Healthcare Quality Management Systems: Examining the Effects on Patient Communication, Service Accessibility, and Decision Autonomy in Poland and Lebanon" {Patient Form}					
Dear Patient Thank you for participating in our research led by Samir Ahmad Dit Al Hakim, focusing on doctor-patient cooperation and its impact on healthcare management. This survey aims to understand the quality of cooperation between healthcare providers and patients and its influence on healthcare management. The form will be available in English, Polish and Arabic. Please rest assured, your responses will be kept strictly confidential and used solely for research purposes. Please provide your honest and detailed responses to the following questions. The survey should take approximately 15 minutes. Should you have any questions, please contact Samir Ahmad Dit Al Hakim at samir.ahmadditalhakim@outlook.com. Thank you for your participation!					
Which Language would you like to proceed in? /W jakim języku chciałbyś kontynuować? / بأي لغة تريد المتابعة؟ • English • Polish • Arabic					
Which country are you from? • Lebanon • Poland					
I – Service Accessibility and Availability					
1.1 Regarding geography and transit, how would you rank the accessibility of healthcare services?	1 Extremely Challenging to get to	2	3	4	5 Very Simple to get to
1.2. Please briefly provide any further insights or reasons for your rating in the space below:					
2.1 How much do you spend from your private funds on healthcare per a year?	• Less than $500 / €400 / 1500 PLN • $500 - $2000 / €400 - €1600 / 1500 PLN - 8000 PLN • $2000 - $5000 / €1600 - €4000 / 8000 PLN - 20000 PLN • $5000 - $10,000 / €4000 - €8000 / 20000 PLN - 40000 PLN • More than $10,000 / €8000 / 40000 PLN				
2.2 Please specify the type of healthcare expenses you spend on from private funds:	• Medication • Dental care • Specialist consultations • Preventive screenings • Hospitalisation • Medical equipment • Other: [Please specify]				
3. How satisfied are you with the accessibility of medical care during emergencies?	• Extremely dissatisfied - The accessibility of medical care during emergencies is severely limited , resulting in significant challenges or barriers to timely assistance. • Moderately dissatisfied - While some aspects of accessibility are adequate, there are notable areas for improvement that hinder the timely delivery of medical care during emergencies. • Neutral - I have mixed feelings about the accessibility of medical care during emergencies, recognising both strengths and areas that need enhancement. • Moderately satisfied - Overall, the accessibility of medical care during emergencies meets expectations, with minor room for improvement. • Extremely satisfied - The accessibility of medical care during emergencies is exceptional, providing timely and effective assistance when needed most.				
II – Communication and Patient-Centered Care					
4. How do you describe the healthcare practitioners' explanations of your diagnosis and available treatments in terms of their clarity and thoroughness?	• Extremely disappointed - Accessibility is severely limited , leading to significant dissatisfaction. • Unsatisfied - There are notable shortcomings in accessibility, resulting in dissatisfaction. • Indifferent - Feelings towards accessibility are neither positive nor negative. • Content - Accessibility meets expectations, resulting in overall satisfaction. • Extremely content - Accessibility exceeds expectations, leading to significant satisfaction.				
5. How much do you think medical professionals appreciate and value you during consultations?	1 Not at all	2	3	4	5 Completely
6. How much do you feel in the choices made for your medical care, including course of treatment and care plans?	1 Not at all Involved	2	3	4	5 Very Involved

cont. Appendix 1: Trilingual survey (English, Polish and Arabic) for the Patients.

III – Autonomy and Decision-making	
7. To what extent do you believe you are capable of making educated decisions regarding your medical care?	• No opportunity : I feel ignorant and unable to decide on my healthcare with any kind of conviction. • Minimal oppurtinty : I have limited access to resources and assistance to make informed decisions. • I feel I have some control of my healthcare decisions, but there are still some areas where I do not feel confident. I have access to some information and help. • I feel empowered: I feel well-informed and supported to make wise decisions regarding my medical treatment. • I feel extremely empowered: With the resources and assistance at my disposal, I feel completely confident and capable of making decisions regarding my healthcare.
8. How satisfied are you with the resources and help provided to help you manage your healthcare requirements and choices?	• Extremely unsatisfied: The resources and help offered are insufficient and do not satisfy my expectations. • Dissatisfied: I feel unsupported because of the serious limitations of the resources andprovided help. • Neutral: There are advantages and disadvantages to the resources and offered support, therefore my thoughts are conflicted. • Satisfied: There is space for improvement, but the resources and help offered satisfy my fundamental needs. • Extremely satisfied: I am really satisfied with the resources and help provided; they help me manage my healthcare requirements and choices in an efficient manner.
9. Please briefly describe any further insights or reasons for your rating in the space below:	

Appendix 2: Trilingual survey (English, Polish and Arabic) for the Doctors .

Survey on "A Comparative Study of Healthcare Quality Management Systems: Examining the Effects on Patient Communication, Service Accessibility, and Decision Autonomy in Poland and Lebanon" {Doctor's Form}					
Dear Doctor Thank you for participating in our research led by Samir Ahmad Dit Al Hakim, focusing on doctor-patient cooperation and its impact on healthcare management. This survey aims to understand the quality of cooperation between healthcare providers and patients and its influence on healthcare management. The form will be available in English, Polish and Arabic. Please rest assured, your responses will be kept strictly confidential and used solely for research purposes. Please provide your honest and thorough responses to the following questions. The survey should take approximately 15 minutes. Should you have any questions please contact Samir Ahmad Dit Al Hakim at samir.ahmadditalhakim@outlook.com. Thank you for your participation!					
Which Language would you like to proceed in? /W jakim języku chciałbyś kontynuować? • English • Polish					
Which country are you from? • Lebanon • Poland					
I – Service Accessibility and Availability					
1.1 How would you rank your nation's patient accessibility to healthcare services using the following scale:	1 Very Poor	2	3	4	5 Excellent
1.2. Please provide your rating along with an explanation of why you chose this rating.					
2.1 How often do patients have to wait a considerable period of time or encounter delays when attending appointments or procedures in **Admission Room**?	Up to 1 hour	2-3 hours		4 and more hours	
2.2 How often do patients have to wait a considerable period of time or encounter delays when attending appointments or procedures in **Laboratory area (Diagnostic Tests)**?	Up to 1 hour	2-3 hours		4 and more hours	
2.3 How often do patients have to wait a considerable period of time or encounter delays when attending appointments or procedures in **Outpatient Clinic Ward**?	Up to 1 hour	2-3 hours		4 and more hours	
3.1 On a scale of 1 to 5, where 1 is very dissatisfied and 5 is very satisfied, how would you rate the extent to which medical facilities in your nation provide accommodations for individuals with special needs or disabilities?	1 Very dissatisfied	2	3	4	5 Very Satisfied

cont. Appendix 2: Trilingual survey (English, Polish and Arabic) for the Doctors.

3.2 On the basis of your above rating, please explain the reason of the rating?					
4.1 Do you believe that the healthcare system requires additional resources to better accommodate individuals with special needs or disabilities?	• Yes • Maybe • No				
4.2 Based o On the basis of your above response, can you please explain the reason of your the rating?					
II - Autonomy and Decision-making					
5.1 Please state the extent to which you find yourself able to make clinical decisions on your own behalf? **I have full freedom to make medical decisions**	• Yes • No				
6.2 If you selected "No" in any of the question, please briefly explain what is missing.					
7.1 Please state the extent which you find yourself able to make decisions regarding administration and organisation of care? I have freedom of decision-making regarding administration and organization of care:	• Yes • No				
7.2 If you selected "No" in any of the question, please briefly explain what is missing.					
8.How familiar do you think patients are with their treatment plan and how do they participate in their development?	• Patients are fully informed and actively participate in decision-making. • Patients are somewhat informed and occasionally participate in decision-making. • Patients have limited knowledge and participation in decision-making. • Patients are mostly uninformed and rarely participate in decision-making. • Patients are completely uninformed and have no participation in decision-making.				
9.1 How satisfied are you with the resources and assistance offered to patients with complicated or long-term illnesses?	1 Fully Uninformed	2	3	4	5 Very Informed
9.2 Based on your answer in the above question; What improvements do you believe could be made to the resources and assistance offered to patients with complicated or long-term illnesses	1 Very Dissatisfied	2	3	4	5 Very Satisfied
III – Communication and Patient Involvement					
10.1 In terms of patient care, how would you rate the efficiency of collaboration and communication among medical professionals? Please select the option that best describes your opinion:	• Extremely Substandard - Communication and collaboration are very inadequate. • Unsatisfactory - Communication and collaboration are lacking. • - Communication and collaboration are average or adequate. • Good - Communication and collaboration are satisfactory. • Outstanding - Communication and collaboration are exceptional.				
10.2 Explain the reason of your above selected option:					
11. How confident are you that the treatment plans and diagnostic techniques used in your medical practice are accurate and effective?	1 Complete Lack of Confidence	2	3	4	5 Very Confident
12.1 How confident are that your nation's healthcare laws and policies contribute to providing patients with high-quality care?	1 Not at All	2	3	4	5 Totally
12.2 What organisational and legal solutions do you consider are missing in the current healthcare laws and policies to ensure high-quality patient care?					

Note: The above Appendixes (1-2) are translated into Polish and Arabic Languages by native speakers for data collection.