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Quality Systems and Their Impact on Institutional Management in the Healthcare Sector: A Systematic Literature Review

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Abstract. In recent years, academic interest in analyzing the impact of quality systems on institutional management within the healthcare sector has grown considerably, accentuated by the COVID-19 pandemic, which exposed the need for more resilient and continuously improving structures. This paper conducts a Systematic Literature Review (SLR) on the implementation of quality systems and their influence on institutional management in the healthcare sector, aiming to identify trends, conceptual gaps, and emerging research lines. A Systematic Literature Review was applied under the PRISMA approach. The search was carried out in five academic databases using rigorous selection criteria. Sixty-nine papers published between 2019 and 2025 were analyzed, considering bibliometric variables, quality indicators, journal quartiles, thematic co-occurrences, polarity, and objectivity of conclusions. The results reveal a steady increase in studies between 2023 and 2024, mainly in Q1 journals. Indicators such as job satisfaction and staff turnover predominate, highlighting the role of human resources. China leads in publications but exhibits limited international collaboration. The conclusions display high objectivity and neutral polarity. Quality systems emerge as key pillars in the institutional transformation of the healthcare sector, producing positive effects on staff well-being and operational efficiency. However, challenges persist in incorporating user-centered indicators, promoting knowledge internationalization, and implementing these systems in resource-limited contexts. This paper provides a current framework to guide future research and strategic decision-making.

Keywords. Quality systems, institutional management, healthcare sector, human resources in health, systematic literature review.

1 Introduction

Improving institutional management within the healthcare sector remains a constant challenge in contexts characterized by health crises, structural limitations, and inequalities in access to quality services. In this scenario, the implementation of quality systems has become a key strategy to strengthen organizational efficiency, standardize processes, and ensure the timely and safe delivery of healthcare services.

However, the adoption of these systems does not always lead to sustainable institutional improvements due to gaps in planning, evaluation, and coordination among system actors. This situation highlights the need to systematically review existing evidence on the relationship between quality systems and institutional management in healthcare, identifying effective approaches and contextual conditions that facilitate their implementation.

Several studies have addressed the need to strengthen institutional management in healthcare environments through effective organizational structures and adaptive strategic frameworks. For instance, it has been demonstrated that poor governance and the lack of strategic planning weaken institutional effectiveness in fragile or emergency contexts, underscoring the importance of enhancing coordination capacity, legitimacy, and transparency [2,5,8]. This need is even more evident in settings where health systems are in crisis, such as areas affected by conflict or pandemics, where data and analytical capacity

must align with national strategies to achieve an effective institutional response [7,8,19].

In the framework of improving quality in healthcare services, several authors have proposed structured approaches such as Best Practice Benchmarking (BPB), the PDCA cycle, and Lean models, which enhance internal processes, increase efficiency, and reduce adverse events [3,10,11,14]. These models have proven effective not only in process standardization but also in improving staff satisfaction and patient safety, leading to sustainable institutional improvements.

From the perspective of quality systems, standards and methodologies have been developed and applied in specialized areas such as dissection rooms or specific hospital departments, allowing the creation of evaluative and corrective structures that promote continuous improvement [12,13,14,15]. In this regard, interventions to prevent medication errors, strengthen clinical protocols, and reduce pressure ulcers demonstrate that quality management systems are effective tools for enhancing institutional quality in healthcare [12,15,18].

On the other hand, the impact of digitalization and technologies applied to medical documentation and consultations has been analyzed in different contexts. Studies have shown that digitalization can improve continuity of care, although it can also fragment it when operational management is prioritized over professional standards [4,18,19]. Likewise, the implementation of video consultations and technological strategies has optimized healthcare networks and reduced patient travel time, reinforcing institutional efficiency [4,10].

Regarding education and training in health, both in clinical and academic contexts, the importance of planning, organizational culture, and institutional support has been emphasized as key elements to enhance educational and professional quality [5,16,17]. This is directly related to institutional capacity to implement policies of inclusion, continuous training, and curricular adaptation in response to changing environments.

Furthermore, research on postoperative and rehabilitation processes highlights the importance of interinstitutional coordination (hospital–community–family), noting that comprehensive and collaborative management can significantly improve clinical outcomes, especially in vulnerable patients [1,9,21].

Although numerous studies have documented improvements in healthcare processes through the implementation of quality systems, significant gaps persist regarding their direct impact on institutional management, particularly in public health contexts and in countries with limited resources.

The available evidence tends to focus on clinical outcomes or isolated quality indicators, without holistically addressing organizational aspects such as governance, strategic planning, or institutional sustainability.

Moreover, there is little systematization of successful experiences integrating quality models with participatory, intersectoral, or equity-based management approaches. This thematic and methodological dispersion hinders the consolidation of common reference frameworks to guide decision-making in health policies.

Given the fragmentation of evidence and the growing demand to strengthen institutional capacities in the healthcare sector, it is relevant to conduct a systematic review that synthesizes the theoretical and empirical contributions available on the relationship between quality systems and institutional management.

This review will identify consistent patterns, approaches, and outcomes while highlighting knowledge gaps that may guide future research or interventions. It will also provide policymakers and healthcare managers with a clearer understanding of the conditions under which quality systems effectively contribute to improving organizational performance and healthcare governance.

This paper aims to analyze, through a Systematic Literature Review, how quality systems contribute to improving institutional management within the healthcare sector. Specifically, it seeks to identify relevant approaches, methodologies, and outcomes that help understand the mechanisms through which these systems strengthen organizational processes, promote a culture of continuous improvement, and enhance the efficiency and sustainability of healthcare institutions.

2 Theoretical Background

2.1 Quality Systems

Quality systems in the healthcare sector are conceived as organizational and methodological structures aimed at improving efficiency, safety, and healthcare outcomes through continuous improvement processes. During the COVID-19 pandemic, their relevance intensified, consolidating them as key tools for strengthening institutional responses to health crises. According to Yin and colleagues [62], continuous improvement methodologies such as PDSA cycles, SWOT analysis, and After-Action Reviews (AAR) have been widely applied in public health agencies to manage emergencies and optimize processes. Nevertheless, their full integration into organizational culture remains an unmet goal in many contexts.

Similarly, Murphy and co-authors [55] demonstrated that strengthening leadership and management capacities, including the application of quality standards through star rating systems (BRN Star Rating), can significantly enhance organizational performance in maternal and neonatal services.

2.2 Institutional Management in the Healthcare Sector

Institutional management in the healthcare sector encompasses the planning, organization, direction, and control of human, financial, and material resources to ensure accessible, efficient, and high-quality services. Its effectiveness largely depends on the presence of technical leadership, staff stability, functional information systems, and well-defined accountability processes.

The study by Worku and colleagues [60] in primary hospitals in Ethiopia shows how factors such as lack of performance evaluation, weak organizational identification, and family separation increase the intention of healthcare personnel to leave, compromising service continuity and institutional sustainability. In turn, Murphy and collaborators [55] provide evidence that strengthening managerial and leadership capacities can improve the organizational climate, role clarity, and job satisfaction, elements that positively influence productivity and service quality.

3 Research Methodology

This paper was developed under the framework of a Systematic Literature Review (SLR), methodologically grounded in the guidelines formulated by Kitchenham [70], which are widely applied in research focused on engineering, public management, and applied disciplines. This approach provides a rigorous and reproducible structure for identifying, filtering, and analyzing relevant studies, which is particularly pertinent given the fragmented evidence concerning the influence of quality systems on institutional management in the healthcare sector.

The applied methodology was structured into three main phases: design, development, and synthesis (Figura 1). In the design phase, the review's objective, research questions, and inclusion and exclusion criteria were clearly defined. Additionally, a specialized search equation was constructed, and high-impact scientific databases such as Scopus, SpringerLink, and Wiley Online Library were selected.

During the development phase, the systematic search was conducted across the selected sources, and the results were refined through the application of filters (language, document type, thematic relevance, and publication period). A critical reading of titles, abstracts, and full texts was then performed. Subsequently, a methodological evaluation was applied to the selected papers to ensure their validity and relevance.

Finally, in the synthesis phase, the extracted data were organized and categorized based on the defined variables, with quality systems as the independent variable and institutional management as the dependent one. This process enabled a structured discussion of the findings and the formulation of responses to the research questions.

3.1 Problems and Objectives

The strengthening of institutional management in the healthcare sector, particularly in contexts that demand efficiency, transparency, and

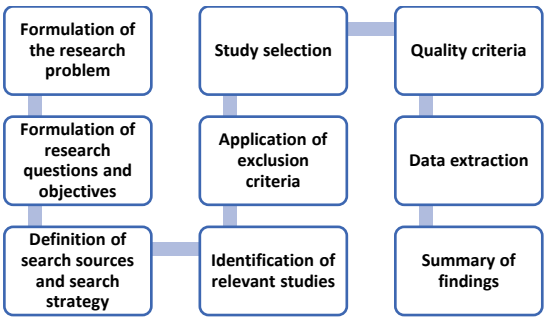

Fig. 1. Flow of the Systematic Literature Review (SLR)

sustainability, has driven the adoption of various quality-oriented approaches. However, evidence regarding the effect of quality systems on such management remains scattered, fragmented, and, in many cases, limited to local or sector-specific contexts. Given this situation, there is a need to systematize the available knowledge to better understand how this relationship is being addressed in the scientific literature.

To address this issue, a set of research questions has been formulated to guide this Systematic Literature Review (SLR), aimed at identifying patterns, approaches, and trends in studies that analyze the interaction between quality systems and institutional management in healthcare:

- **RQ1**: What indicators are used to evaluate quality systems?
- **RQ2**: What are the quartile levels per year of the journals where studies on the effect of quality systems on institutional management in the healthcare sector have been published?
- **RQ3**: What are the most frequently used and relevant keywords, by number of citations and by number of papers, in studies analyzing quality systems and their influence on institutional management in the healthcare sector?
- **RQ4**: What definitions, theoretical foundations, and conceptual models have been developed, applied, tested, or used in studies examining quality systems and their influence on institutional management in the healthcare sector?
- **RQ5**: What are the main thematic clusters identified in research on quality systems and their influence on institutional management in the healthcare sector?

3.2 Information Sources and Search Strategy

To gather relevant scientific studies on the influence of quality systems on institutional management within the healthcare sector, academically recognized databases were selected for their rigor, multidisciplinary coverage, and continuous updating. The selection of these sources responds to the need to ensure a comprehensive, reliable, and representative systematic review of the scientific production in the fields of public health and organizational management.

The databases consulted included Scopus, Springer Nature Link, Wiley Online Library, Taylor & Francis Online, and ACM Digital Library, as they host a large number of peer-reviewed papers and indexed publications addressing topics such as quality, institutional management, and health policies.

To guide the retrieval of relevant documents, a search equation was developed using Boolean operators and key terms in English, encompassing synonyms and equivalent expressions for the study variables. This strategy aimed to maximize both the sensitivity and specificity of the results obtained, considering the independent variable (quality systems) and the dependent variable (institutional management in healthcare).

3.2.1 General Search Equation Used

("quality systems" OR "quality management" OR "quality assurance" OR "quality control" OR "quality standards" OR "quality management systems" OR "continuous improvement") AND ("institutional management" OR "institutional governance" OR "organizational management") AND ("health sector" OR "healthcare services" OR "health system" OR "public health" OR "medical care").

3.3 Identified Studies

Figure 2 presents the initial distribution of the 1,260 studies identified across the five databases

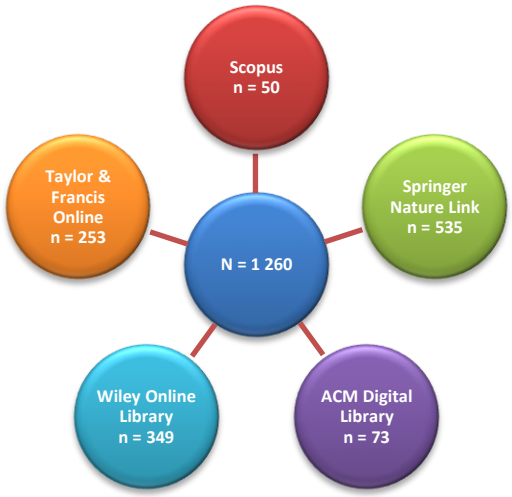

Fig. 2. Total Studies by Source

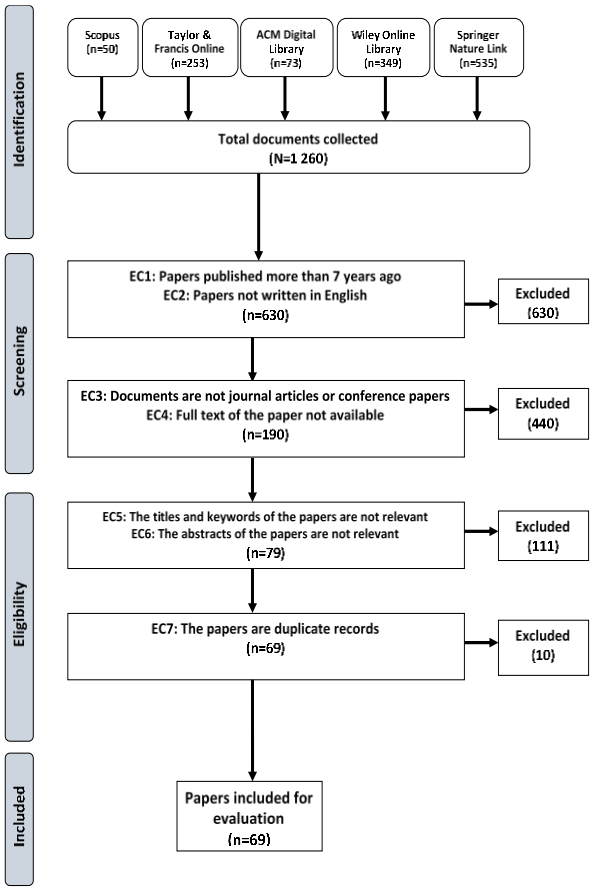

Fig. 3. PRISMA Flow Diagram

selected for this Systematic Literature Review (SLR). The largest proportion of records came from Springer Nature Link (n = 535), followed by Wiley Online Library (n = 349), Taylor & Francis Online (n = 253), ACM Digital Library (n = 73), and Scopus (n = 50).

This initial compilation reflects broad coverage from internationally recognized scientific sources, ensuring a solid and representative documentary foundation of the state of the art regarding the relationship between quality systems and institutional management in the healthcare sector. The thematic and geographical diversity of these studies will allow for the identification of comparative approaches, implementation models, and contextual conditions that influence the effectiveness of quality systems within healthcare organizations.

In the next stage, the records will undergo rigorous filtering, critical reading, and evaluation processes in order to refine the sample and retain only those studies that meet the criteria defined in the review protocol.

3.4 Study Selection

Figure 3 presents the adapted PRISMA flow diagram, summarizing the systematic process of study selection in this Systematic Literature Review (SLR). The procedure was structured into four phases: identification, screening, eligibility assessment, and inclusion, following rigorous methodological standards to ensure the validity and relevance of the final sample.

Exclusion Criteria (EC). To refine the initial database of records, both methodological and thematic criteria were applied: EC1 (studies older than seven years), EC2 (language other than English), EC3 (documents not categorized as papers or conference proceedings), EC4 (full text not available), EC5 (irrelevant titles or keywords), EC6 (non-pertinent abstracts), and EC7 (duplicate records). The progressive application of these criteria ensured that the studies included were current, relevant, unique, and methodologically rigorous.

In the identification stage, a total of 1,260 documents were collected from five high-impact scientific databases: Springer Nature Link (n = 535), Wiley Online Library (n = 349), Taylor &

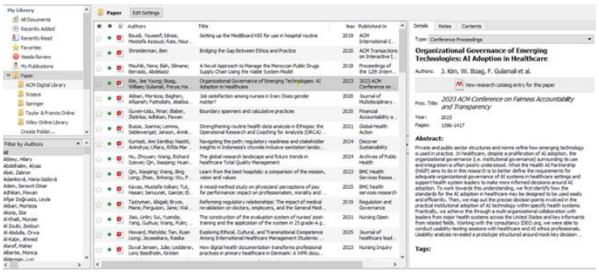

Fig. 4. Reference Management Report Generated in Mendeley

Francis Online (n = 253), ACM Digital Library (n = 73), and Scopus (n = 50). During the initial screening, 630 records were excluded under EC1 and EC2, followed by 440 records under EC3 and EC4. In the eligibility phase, 111 papers were removed according to EC5 and EC6, and finally, 10 duplicates were excluded under EC7.

As a result of this comprehensive process, 69 papers met all the established criteria, constituting the final corpus that supports the analysis of this Systematic Literature Review (SLR).

3.5 Quality Assessment

To ensure the methodological validity and scientific relevance of the studies included in this Systematic Literature Review (SLR), a set of Quality Assessment (QA) questions was applied. These questions allowed for a structured evaluation of key aspects related to the design, execution, and presentation of each study, thereby ensuring that the final corpus met the necessary standards to support the analysis.

The criteria used were as follows:

- QA1: Is the purpose of the research clearly explained?
- QA2: Is the methodology used in the study clearly described and appropriate for the stated objectives?
- QA3: Are the study's findings clearly presented and supported by the data?
- QA4: Does the paper specifically address its stated topic?
- QA5: Is the dataset used clearly identified and relevant to the topic?
- QA6: Does the paper provide sufficient background and contextual information?
- QA7: Are the results and conclusions well-founded and aligned with the study's objectives?
- QA8: Does the paper include updated and relevant references related to the topic?

These criteria enabled a thorough and consistent evaluation of each study, discarding those with methodological weaknesses or limited internal coherence. Furthermore, they ensured that the analyzed papers were not only relevant from a thematic standpoint but also reliable in terms of design and outcomes. This phase was crucial to preserving the analytical integrity of the review process and to building robust conclusions regarding the relationship between quality systems and institutional management in the healthcare sector.

3.6 Search Extraction Strategy

Figure 4 shows the report generated using Mendeley, a widely recognized platform for bibliographic management in academic research. This figure illustrates how the references used in this SLR were organized and classified, facilitating a rigorous tracking of the scientific sources consulted.

Mendeley was used to collect, store, tag, and manage the included papers, allowing for the efficient administration of the 69 selected studies. This tool also facilitated the critical reading process, the coding of authors by country, year, indicators, and analytical categories, as well as the automatic export of citations in standardized formats.

The use of a specialized tool such as Mendeley not only optimizes document traceability but also strengthens the transparency of the review process, ensuring that all references are properly recorded, up to date, and linked to the evidence described in response to the research questions (RQ1–RQ5).

3.7 Synthesis of Findings

From the 69 selected studies, key data linked to each research question (RQ) were extracted and

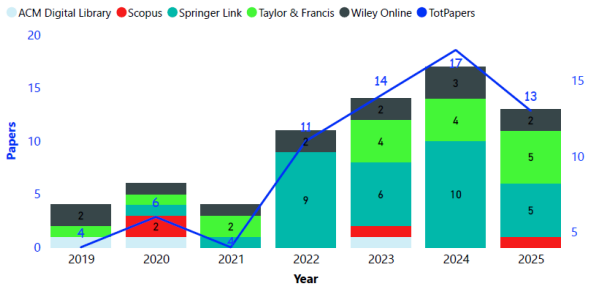

Fig. 5. Papers by Year and Source

systematized, allowing the construction of an integrated view of the current state of knowledge on quality systems and their influence on institutional management in the healthcare sector. This process was structured according to the research objectives (O1–O5), ensuring methodological consistency among data, analysis, and interpretation.

Regarding RQ1, the main indicators used to evaluate quality systems were identified, highlighting variables such as staff job satisfaction (50%), staff turnover rate (19%), and adherence to clinical guidelines (15%), reflecting an emphasis on internal organizational factors (O1).

RQ2 focused on categorizing journals by quartile levels, emphasizing the analysis by year of publication. This analysis made it possible to assess the visibility and academic positioning of the included studies, revealing a concentration in Q1 and Q2 journals, primarily within the last five years (O2).

Through RQ3, the most frequent and cited keywords in the analyzed literature were identified, including quality improvement, institutional performance, healthcare quality, and organizational change, which allowed the mapping of dominant thematic axes and their conceptual evolution (O3).

RQ4 facilitated the analysis of definitions, theoretical foundations, and conceptual models applied in the studies, identifying the use of approaches such as the PDCA cycle, Best Practice Benchmarking, and the PMC-Index model, which underpin the link between quality systems and organizational performance (O4).

Finally, RQ5 enabled the identification of thematic clusters and the levels of polarity and objectivity across the analyzed studies. Four key areas were grouped: (1) patient safety and COVID-19 nursing, (2) quality management and effectiveness, (3) qualitative studies on the health system in Iran, and (4) health quality improvement and management. Most papers exhibit high objectivity and neutral polarity, supporting the argumentative robustness of their conclusions.

4 Results and Discussion

4.1 Overview of the studies

Figure 5 shows the annual distribution of the selected papers from 2019 to 2025, differentiated by source (ACM Digital Library, Scopus, Springer Link, Taylor & Francis, and Wiley Online). The blue line represents the total number of papers published per year.

A progressive increase in academic production is evident, showing an upward trend that reaches its peak in 2024 (17 papers). In 2025, although the number slightly decreases (13 papers), it remains higher than in the years prior to 2023. Springer Link stands out as the most consistent and dominant source across most years.

The annual evolution observed in this review partially aligns with the trends reported by Ren and Mia [71], Khan and colleagues [73], Al-Otaibi and Albaroudi [74], Zhu and collaborators [76], and Alateyyat and his team [77]. In the study by Ren and Mia [71], focused on green innovation in manufacturing, a rapid increase in publications between 2019 and 2023 was identified, with 50.63% concentrated in only two years (2022–2023), a pattern of acceleration also evidenced in our analysis. Similarly, Al-Otaibi and Albaroudi [74] reported 2022 as the year with the highest production (14 papers), confirming the recent surge of interest in quality-related topics, although within a Saudi academic context.

In turn, Zhu and collaborators [76] identified a sustained upward curve between 2015 and 2024, peaking at 136 papers in 2023 on food quality and safety, consistent with the 2024 peak found in the present review. Likewise, Alateyyat and his team [77] recorded a progressive increase since 2000, highlighting 2019 and 2020 as the most productive periods for research on Total Quality Management (TQM), evidencing a sustained interest in quality

Kendall Trend

Trend	p-value	Ecuation	R^2
Increasing	0,048	y= 2754996506.70531 −4087853.7030435735X +2021.8452384246784X² −0.3333333333878272X³	0,92

Fig. 6. Kendall Trend

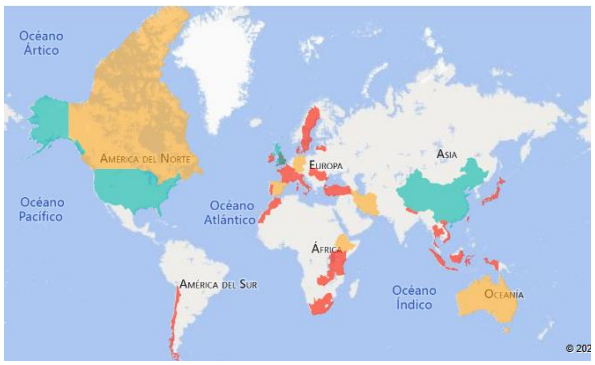

Fig. 7. Map of the Most Productive Countries

Table 1. Scientific Productivity by Country

Country	Total Papers	No. of Citations
China	24	72
UK	7	20
US	6	28
Australia	4	35
Iran	3	38
Ethiopia	2	24
Turkey	2	10
France	1	10
Switzerland	1	10
Canada	1	6
Tanzania	1	5
Romania	1	4

management models. Finally, Khan and colleagues [73] noted that although the number of studies on health system responsiveness remains limited, there has been steady growth between 2011 and 2021, particularly in high-income countries.

This behavior reflects a growing scientific interest in the topic of quality systems applied to institutional management in healthcare, especially in the years following the COVID-19 pandemic. This increasing interest strengthens the research field, consolidating emerging lines of inquiry and enabling the identification of theoretical gaps that remain unexplored.

Figure 6 summarizes the trend analysis using the Kendall trend test, reporting the significance value ($p = 0.048$), the adjusted cubic regression equation, and the coefficient of determination ($R^2 = 0.92$).

The statistical analysis indicates a significant upward trend in the number of publications per year, with an excellent model fit ($R^2 = 0.92$). The curve generated by the equation accurately represents the observed temporal evolution.

This finding quantitatively confirms that the growing interest in research on quality systems in healthcare is neither incidental nor temporary, but rather consolidates as a relevant and stable line of scientific inquiry. It reinforces the relevance and timeliness of the systematic review conducted.

Figure 7 and Table 1 present the distribution of the selected papers by country of origin, considering both the total number of publications and their citation volume. This analysis makes it possible to identify the countries with the highest scientific output in the field of quality systems applied to the healthcare sector, as well as their impact in terms of academic visibility.

China leads scientific production with 24 papers and 72 citations, positioning it as the main reference in research on quality systems in healthcare. It is followed by the United Kingdom (7 papers, 20 citations) and the United States (6 papers, 28 citations), both countries with a long-standing tradition in the adoption of quality standards. Australia and Iran stand out with 4 and 3 publications, respectively, but with a relatively high number of citations compared to their output, particularly Iran (38 citations).

Countries with lower publication volumes, such as France, Switzerland, Canada, and Tanzania, show between 1 and 10 citations, indicating isolated contributions with limited impact on the global landscape.

When contrasting the results of this study with the findings of Alateyyat and collaborators [77], who examined global scientific production on the relationship between Total Quality Management

Table 2. Indicators Used to Evaluate Quality Systems

No.	Indicator	Reference	Quantity	Percentage
1	Patient satisfaction rate	[11] [13]	2	8%
2	Staff turnover rate	[2] [34] [56] [59] [66]	5	19%
3	Quality system implementation	[14] [54]	2	8%
4	Clinical guideline adherence	[36] [37] [44] [62]	4	15%
5	Job satisfaction level	[1] [9] [10] [29] [31] [38] [48] [55] [56] [58] [59] [60] [66]	13	50%

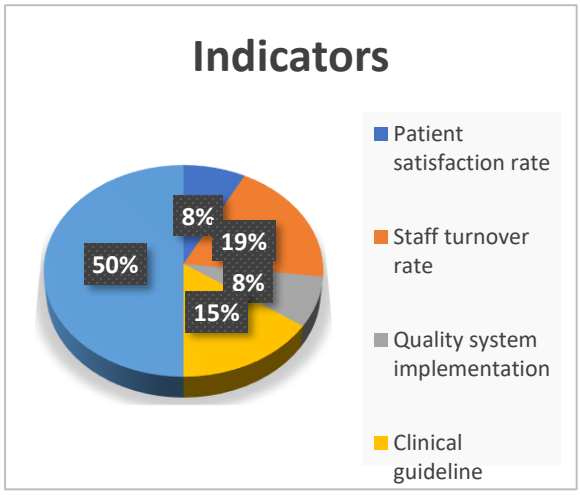

Fig. 8. Distribution of Papers by Type of Indicator

(TQM) and organizational performance across the public, private, and third sectors, relevant similarities and differences emerge in the geographical distribution of the literature.

Both studies recognize China as a relevant country in the generation of knowledge on quality management; however, they differ in the magnitude of its leadership.

In this review, China ranks first, with 24 publications and 72 citations, demonstrating high productivity and academic visibility. In contrast, study [77] places China in a mid-level group (13–19 papers), while Malaysia and India lead global production with 30 publications each. Regarding other countries, this review identifies the United Kingdom and the United States as key contributors, with 7 and 6 papers respectively, reflecting their consolidated experience in implementing international quality standards. Conversely, study [77] does not highlight the role of the United Kingdom, although it coincides in emphasizing the relevance of the United States and also points out Australia's active participation in quality-related research. An additional difference lies in the treatment of regions with lower research visibility. While the present study identifies Iran and Australia as countries with a high citation-to-publication ratio, study [77] focuses on broader regions—such as the Middle East and North Africa and East Asia and the Pacific—emphasizing publication volume rather than relative country-level impact. These results reveal a geographical concentration of knowledge in countries with advanced health systems, robust quality policies, and greater research capacity.

The predominance of China suggests a growing leadership in the implementation of quality and management systems in healthcare, likely driven by its recent health reforms and technological strategies.

The low representation of Latin American and African countries (with the exception of Ethiopia and Tanzania) demonstrates a gap in scientific production, opening opportunities to promote collaborative research and transfer successful experiences to lower-resource contexts.

This panorama highlights the importance of designing scientific internationalization policies and cooperative networks to diversify perspectives on institutional management and quality systems.

4.2 Responses to the Research Questions

4.2.1 RQ1: What are the Indicators Used To Evaluate Quality Systems?

Table 2 and Figure 8 present the main indicators identified in the analyzed papers. This

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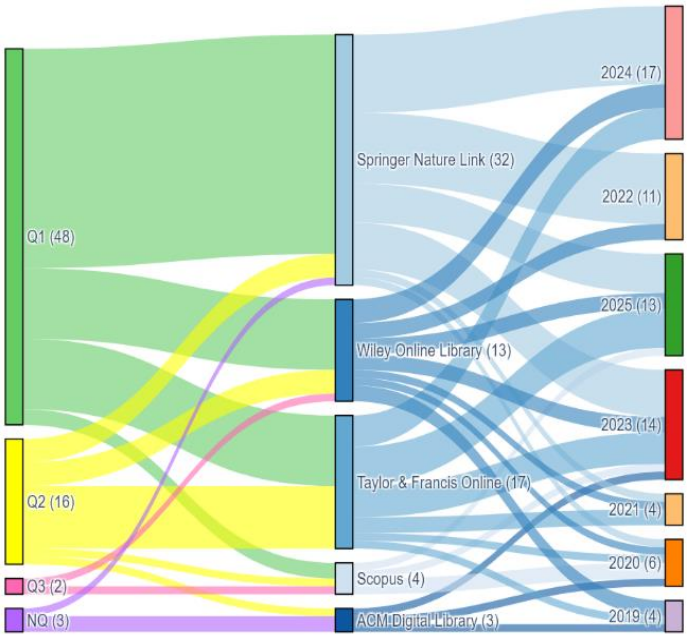

Fig. 9. Distribution by Quartile, Publication Source, and Year of the Papers

Table 3. Frequency of Papers by Quartile, Source, and Year of Publication

Quartil	**NQ**				**Q1**								**Q2**								**Q3**				**Total**
Fuente	2019	2023	2025	Total	2019	2020	2021	2022	2023	2024	2025	Total	2019	2020	2021	2022	2023	2024	2025	Total	2020	2022	Total	
Springer Link	0	0	1	1	0	1	0	8	5	10	4	28	0	0	1	1	1	0	0	3	0	0	0	**32**
Taylor & Francis	0	0	0	0	1	1	2	0	1	0	4	9	0	0	0	0	3	4	1	8	0	0	0	**17**
Wiley Online	0	0	0	0	1	1	1	0	2	3	1	9	1	0	0	1	0	0	1	3	0	1	1	**13**
Scopus	0	0	0	0	0	1	0	0	0	0	1	2	0	0	0	0	1	0	0	1	1	0	1	**4**
ACM Digital Library	1	1	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	**3**
Total	**1**	**1**	**1**	**3**	**2**	**4**	**3**	**8**	**8**	**13**	**10**	**48**	**1**	**1**	**1**	**2**	**5**	**4**	**2**	**16**	**1**	**1**	**2**	**69**

categorization provides a clear overview of the most commonly used approaches to assess quality systems in the healthcare sector, as well as the frequency with which these indicators are reported in specia lized literature.

Job satisfaction level is the most recurrent indicator in the literature, appearing in 50% of the reviewed studies.

It is followed by staff turnover rate (19%) and clinical guideline adherence (15%). To a lesser extent, indicators such as patient satisfaction (8%) and implementation of quality systems (8%) were identified. This distribution reflects a stronger focus on internal organizational functioning rather than on external outcomes perceived by users.

No previous studies were identified that allow for a direct comparison of these findings, since most existing reviews address quality systems from a conceptual or normative perspective,

without specifically disaggregating or quantifying the indicators used in their evaluation.

Furthermore, the emphasis on indicators such as job satisfaction and staff turnover provides a clear pathway for interventions aimed at strengthening human talent management, a critical component in public health environments. Future research should seek to integrate evaluation systems that combine technical, operational, and human indicators, ensuring that quality systems not only enhance internal processes but also have a direct impact on patient experience and safety.

4.2.2 RQ2: What Are the Quartile Levels per Year of the Journals Where Studies on the Effect of Quality Systems on Institutional Management in the Healthcare Sector Have Been Published?

Figure 9 and Table 3 display the temporal distribution of the articles included in this systematic review, segmented according to the quartile level (Q1, Q2, Q3, or No Quartile – NQ) of the journals in which they were published. In addition, this classification is linked to the databases hosting these papers and their year of publication, enabling a cross-sectional analysis between journal quality, source origin, and the timeliness of the scientific evidence.

Out of a total of 69 papers, a clear predominance of publications in Q1 journals was observed, with 48 papers (69.5%), which demonstrates a high editorial quality standard among the selected studies. These are followed by Q2 journals with 16 papers (23.2%), while Q3 and non-quartile (NQ) journals represent a marginal proportion (3 and 2 papers, respectively).

Regarding publication sources, Springer Nature Link leads with 32 papers, of which 28 belong to Q1 journals, consolidating it as the database with the largest volume and highest quality within the field. It is followed by Taylor & Francis Online (17 papers) and Wiley Online Library (13 papers), both showing significant representation in Q1 and Q2 journals. Scopus and ACM Digital Library, with 4 and 3 papers respectively, have a smaller share, predominantly featuring Q2 and non-quartile publications.

In terms of temporal distribution, 2024 stands out as the most productive year with 17 papers, followed by 2023 (14), 2022 (11), and 2025 (10), indicating a growing trend in recent publications addressing quality systems and institutional management in healthcare. This temporal pattern reveals that the topic is gaining momentum within the scientific community, particularly in high-impact journals.

The temporal distribution and editorial quality level of the publications identified in this review differ significantly from the findings reported by Khan and colleagues [73] in their study on health system responsiveness. In the present analysis, there is a clear predominance of Q1 publications (69.5%), with Springer Nature Link standing out as the most prolific and high-impact source. Furthermore, a sustained upward trend is evident from 2022 to 2025, peaking in 2024, which reflects the growing scientific interest in the relationship between quality systems and institutional management in healthcare.

In contrast, [73] does not include a bibliometric analysis based on journal quartiles but instead adopts a classification focused on geographical, methodological, and conceptual dimensions. Although both studies show a recent increase in scientific production, the authors emphasize that the literature on health system responsiveness remains relatively limited compared to other domains, with more visible growth since 2011, but without an explicit analysis of journal-level impact.

While the present review emphasizes the presence of papers published in high-impact journals (Q1 and Q2) as a key indicator of quality and methodological rigor, [73] focuses on the typology of contributions (empirical, conceptual, quantitative, and qualitative) and on the geographical analysis of contexts (high-income versus middle- and low-income countries).

This difference in approach highlights that, although both studies value scientific quality and rigor, the present work provides a more precise and quantifiable bibliometric perspective regarding editorial impact and the temporal evolution of publications, whereas [73] offers a broader and more conceptual view of the existing literature.

These results indicate that scientific production in this field is concentrated in high-quartile journals, suggesting elevated methodological rigor and strong scientific relevance. The prevalence of Q1 publications implies that the selected studies have met demanding editorial standards and therefore

Table 4. High-Frequency Keywords in Quality Systems Research

Keyword	≥15	≥5 <15	<5	Total
patient safety	0	0	5	5
covid-19	0	1	3	4
governance	0	1	2	3
health system	1	1	1	3
nurses	1	0	2	3
qualitative study	0	0	3	3
ai	0	0	2	2
documentation	0	0	2	2
effectiveness	0	0	2	2
ethiopia	0	2	0	2
healthcare	0	1	1	2
iran	1	0	1	2
mixed methods	0	1	1	2
nursing staff	0	0	2	2
professionalism	0	0	2	2
quality	0	0	2	2
Total	14	48	274	**336**

provide reliable evidence to guide decision-making in public policy and institutional management in healthcare.

Furthermore, the leadership of Springer Nature Link and Taylor & Francis Online as editorial sources reinforces the need to focus future searches and collaborations within these environments to maximize visibility, impact, and academic validation. The low presence of papers in Q3 or non-quartile journals underscores the deliberate exclusion of gray or lower-prestige literature, consistent with the quality criteria required in high-level systematic reviews.

Finally, the concentration of publications within the last three years underscores the current relevance of the topic and its growing importance in addressing the challenges of institutional modernization in healthcare systems. This presents a valuable opportunity to consolidate emerging research lines, develop comparative models across regions, and promote knowledge transfer in contexts with lower institutional development.

4.2.3 RQ3: What Are the Most Frequently Used and Relevant Keywords by Number of Citations and Number of Papers in Research on Quality Systems and Their Influence on Institutional Management in the Healthcare Sector?

Table 4 summarizes the most frequent keywords identified in the analyzed papers, categorized according to the citation volume of the articles in which they were used. The categories considered are: papers with ≥15 citations, those with between 5 and <15 citations, and those with <5 citations. This analysis allows for the evaluation not only of the frequency of use of certain terms but also of their academic relevance, based on their visibility and impact within the research field.

Most of the keywords are found in papers with fewer than five citations, indicating that although there is thematic diversity within the studies, the individual impact of many of these works remains limited. Terms such as “patient safety” (five occurrences) and “COVID-19” (four occurrences) stand out, though all are associated with low-citation papers, which may be due to the novelty or specificity of the topics addressed.

Conversely, keywords such as “health system” and “nurses” show a more balanced distribution across citation categories, including papers with ≥15 citations, reflecting their ongoing and stable relevance within the field. Similarly, “Ethiopia” appears in papers with a moderate number of citations, highlighting the emerging interest in research conducted in specific geographic contexts.

Ren and Mia [71] adopted a more robust method by conducting a co-occurrence analysis of keywords using VOSviewer, identifying thematic relationships and establishing well-defined conceptual clusters. They identified core terms such as “green innovation,” “sustainable development,” and “eco-innovation” based on both frequency and total link strength. This approach allowed them to recognize specific thematic clusters, offering a deeper visualization of conceptual connections and interactions within the field.

Table 5. Conceptual Classification of Definitions on Quality Systems in the Healthcare Sector

Category	Definition	Reference	Quantity	Percentage (%)
Functional	Quality systems in the healthcare sector are understood as structured frameworks that integrate policies, processes, resources, and institutional governance to ensure excellence, safety, and effectiveness in healthcare delivery. Their implementation involves improving operational efficiency, preventing avoidable harm, optimizing the patient experience, and promoting informed decision-making through indicators, continuous staff training, and standardized management tools. Moreover, these systems adapt to complex and diverse organizational contexts, including humanitarian, educational, and public policy environments, always seeking to align their actions with ethical, cultural, and population health standards.	[2], [4], [10], [12], [18], [19], [20], [25], [26], [29], [32], [39], [41], [43], [46], [48], [[52], [55], [56], [61], [62], [65], [68]	23	82.14
Technical	From a technical perspective, quality systems are understood as formalized structures that document processes, procedures, and responsibilities to achieve quality objectives and policies. This includes the development and implementation of integrated systems that optimize process management—such as in clinical trials—and the application of principles, technologies, and specialized practices to prevent unintentional exposures, thus ensuring safe and controlled environments in high-risk contexts.	[13], [51], [47]	3	10.71
Applied	From an applied perspective, quality systems involve the implementation of processes and procedures that ensure services or products meet established standards, thereby guaranteeing safety and effectiveness in healthcare delivery. This requires strengthening technical capacities, staff training, and the use of operational tools aimed at efficient data management, as observed in the improvement of routine health information systems.	[8], [9]	2	7.14

Al-Otaibi and Albaroudi [74] used a descriptive and qualitative approach, highlighting key terms related to the practical implementation of digital transformation in specific contexts, such as “digital education,” “quality management,” and “digital transformation,” focused on the Saudi Arabian context.

Although they did not perform a structured quantitative analysis, their approach helped identify emerging areas and significant gaps, particularly in the field of digital management in educational institutions.

In contrast, Zhu and his team [76] conducted a historical-temporal and qualitative analysis focused on the thematic evolution of “quality and food safety management.”

They identified predominant keywords associated with the historical development of the topic, such as “food safety objective (FSO),” “HACCP,” and “quality assurance.” Their analysis revealed evolutionary trends in research and made it possible to identify both consolidated and emerging areas through chronological and thematic mapping.

These results demonstrate that while multiple relevant dimensions of institutional management and quality systems are addressed, only some achieve high levels of citation in the scientific literature.

Topics such as patient safety, the COVID-19 pandemic, and governance, although recurring, require deeper exploration and broader visibility to increase their academic impact.

In contrast, the fact that terms such as “health system,” “nurses,” and even countries such as “Iran” appear in more highly cited papers suggests well-established or academically recognized research lines.

These findings can guide future researchers to prioritize not only thematic relevance but also publication strategies that enhance the visibility and impact of their work.

Furthermore, they underscore the need to better integrate thematic diversity with higher methodological quality and international dissemination, thereby strengthening the scientific influence of research on quality systems and institutional management in healthcare.

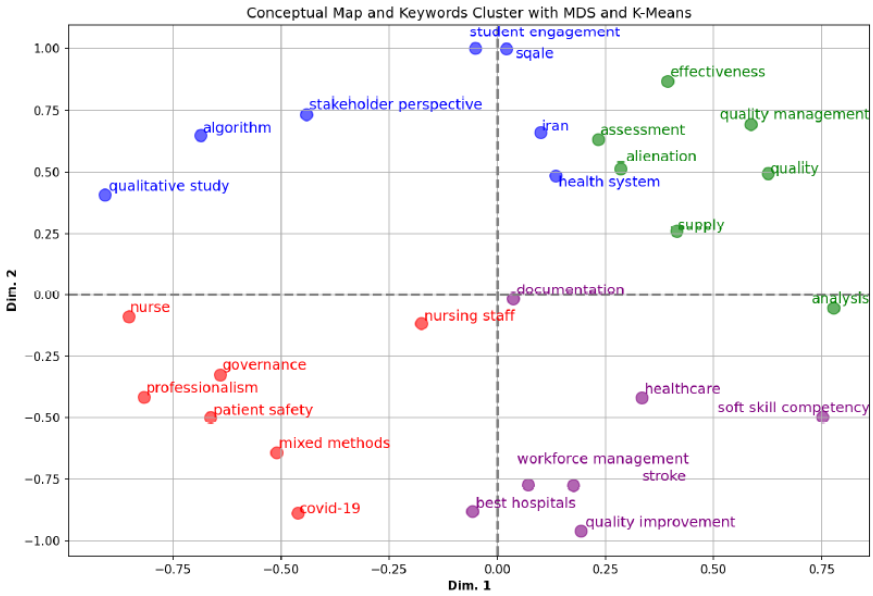

Fig. 10. Conceptual Map and Keyword Clusters Identified through MDS and K-Means

Table 6. Description of the Thematic Clusters Identified

Nº	Cluster Name	Weight	Average Dimension 1	Average Dimension 2
1	Patient Safety and COVID-19 Nursing	22	-0.59	-0.43
2	Quality Management and Effectiveness	10	0.47	0.49
3	Qualitative Study of the Health System in Iran	12	-0.26	0.71
4	Healthcare Quality Improvement and Management	10	0.21	-0.62

4.2.4 RQ4: What Definitions, Theoretical Foundations, and Conceptual Models Have Been Developed, Used, Tested, or Applied in Studies on Quality Systems and Their Influence on Institutional Management in the Healthcare Sector?

Within the framework of RQ4, the definitions found in the selected studies were classified into three conceptual categories: functional, technical, and applied. This categorization was based on the theoretical, operational, and structural emphases identified in the definitions proposed by the authors.

For each category, a synthetic representative definition is presented, along with the associated references, the number of studies contributing to that category, and its relative percentage with respect to the total analyzed. The results are summarized in Table 5

The thematic analysis conducted for RQ4 revealed that the conceptual definitions of quality systems in the healthcare sector are predominantly grouped into three approaches: functional, technical, and applied. The functional category represents the vast majority (82.14%) of the definitions, emphasizing a comprehensive view of quality systems as institutional frameworks that integrate resources, policies, and processes to ensure safe, efficient, and ethically aligned healthcare services. The technical perspective (10.71%) focuses on the formalization of

procedures and responsibilities that guarantee operational quality, particularly in clinical and biosafety contexts. Meanwhile, the applied category (7.14%) highlights the use of practical tools, training, and data management to ensure compliance with quality standards in healthcare delivery.

No previous studies with similar categorizations or approaches were identified to enable a direct comparison. This indicates that the framework proposed in this research represents an original contribution to the conceptual systematization of quality systems in institutional management within the healthcare sector. The absence of analogous classifications suggests the need for further research to validate, expand, or contrast the proposed conceptual categories.

This conceptual classification provides a clearer understanding of the diversity of perspectives from which quality systems are studied in the healthcare domain. The predominance of the functional approach indicates a tendency toward comprehensive and institutionally oriented frameworks, while the technical and applied categories contribute complementary perspectives that emphasize operational control and process implementation. This finding provides a solid foundation for developing more integrative analytical and regulatory frameworks and for guiding the adoption of quality models tailored to different organizational realities within the healthcare sector.

4.2.5 RQ5: What Are the Main Thematic Clusters Identified in Research on Quality Systems and Their Influence on Institutional Management in the Healthcare Sector?

Figure 10 presents a conceptual map generated from the keyword analysis of the 69 papers included in this systematic review. A dimensionality reduction was applied using Multidimensional Scaling (MDS), combined with a K-Means clustering algorithm, which made it possible to identify four well-defined thematic clusters, represented by different colors.

Table 6 provides the proposed name for each cluster, its weight or number of associated terms, and its average coordinates within the represented dimensional space. This analysis reveals the semantic structure of the studies and allows for the visualization of latent relationships among frequently used terms within the research field.

From the analysis, four thematic clusters were identified. The first, titled “Patient Safety and Nursing during COVID-19,” groups 22 key terms related to care during the pandemic, emphasizing the role of nursing, patient safety, and clinical governance. The second cluster, “Quality Management and Effectiveness,” comprises 10 keywords associated with concepts such as quality management, efficiency, and process evaluation, reflecting a classical approach to control and continuous improvement. The third cluster, “Qualitative Study of the Health System in Iran,” includes 12 terms that highlight the predominance of qualitative research focused on specific geographic contexts, particularly the case of Iran. Finally, the fourth cluster, “Healthcare Quality Improvement and Management,” brings together 10 terms related to organizational improvement, human resource management, and soft skills development. These findings reveal the coexistence of macro-level approaches (governance, quality systems) with micro-level processes centered on human talent.

A comparison between the thematic cluster analysis of this study and the work of Zhu and collaborators [76] reveals complementary approaches to identifying conceptual groupings within systematic reviews. In this study, four main clusters were identified through Multidimensional Scaling (MDS) and K-Means clustering techniques: Patient Safety and COVID-19 Nursing; Quality Management and Effectiveness; Qualitative Study of the Health System in Iran; and Healthcare Quality Improvement and Management. These results demonstrate a clear semantic differentiation among studies, particularly emphasizing the impact of the pandemic context and the organizational management of human talent.

In contrast, Zhu and his team [76] used a thematic analysis based on Callon’s bibliometric model, categorizing clusters along two dimensions: centrality (importance within the overall topic structure) and density (internal cohesion among related concepts). Accordingly, they identified motor clusters (with high importance and internal cohesion) related to food quality and safety, niche

clusters addressing specialized but less central themes, and basic or emerging clusters, the latter associated with certification and HACCP. A significant finding shared by both studies is the thematic relevance of COVID-19, demonstrating that the pandemic represents a turning point across multiple fields of research.

The thematic cluster analysis enables the identification of the main research lines that structure the field of study. The strong presence of the cluster related to patient safety and nursing during COVID-19 confirms the impact of the pandemic on the recent scientific agenda. Likewise, the identification of consolidated areas such as quality management, along with emerging themes focusing on local contexts (e.g., Iran) or human capacity development, highlights the field's multidimensional evolution.

These thematic groupings provide an updated map of existing knowledge, useful for guiding future research toward current gaps—such as quality analysis in community health systems, user-centered perspectives, or the integration of soft skills into institutional management in the healthcare sector. Moreover, they offer a strategic foundation for designing public policies and training programs tailored to complex healthcare environments.

5 Conclusions and Future Research

This study examined the current state of knowledge regarding quality systems and their influence on institutional management in the healthcare sector, addressing key questions related to evaluation indicators, scientific productivity, publication levels, co-occurrence patterns, and conceptual approaches.

Among the findings, RQ1 revealed that the most frequently employed indicators in the literature focus on internal organizational aspects, particularly job satisfaction, staff turnover, and adherence to clinical guidelines El RQ2 evidenció una marcada predominancia de publicaciones en revistas Q1, lo que refleja un alto nivel de calidad editorial y científica en los estudios analizados. Esta concentración en revistas de primer cuartil demuestra que el tema ha alcanzado un grado significativo de madurez y reconocimiento dentro de la comunidad académica, consolidándose progresivamente como un campo de investigación relevante y de creciente interés. RQ4 enabled the classification of definitions into three conceptual approaches: functional, technical, and applied, with the functional approach being the most dominant, accounting for over 80% of occurrences. Finally, RQ5 demonstrated strong thematic co-occurrence between terms such as healthcare quality, institutional management, user satisfaction, and continuous improvement, suggesting an articulated and expanding conceptual ecosystem. Collectively, the findings reveal a developing research field with well-defined theoretical foundations but a clear need for greater thematic and geographical diversification.

The implications of this systematic review open several pathways for future research. First, it is essential to deepen the empirical validation of quality systems in rural settings and regions with limited healthcare infrastructure, where institutional management faces greater challenges. Second, researchers are encouraged to explore hybrid models that integrate traditional quality systems with emerging digital approaches, such as automated auditing, real-time indicators, and predictive analytics. Third, future studies should examine the role of institutional governance, organizational leadership, and community participation as structural dimensions that shape the effectiveness of quality systems. Fourth, it would be valuable to promote collaborative and comparative studies across countries from different regions and levels of development to identify contextual factors influencing implementation effectiveness. Finally, future research could extend the analysis to other public sectors, such as education, justice, or the environment, to assess the adaptability and cross-sector applicability of institutional quality frameworks in diverse contexts.

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