Healthcare Service Quality Over Two Decades: Mapping the Global Research Landscape Through Bibliometrics Analysis

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Abstract

This study offers a bibliometric review of healthcare service quality, a field that has become increasingly important in the literature. We analyzed 3932 research articles published from 2000 to 2024 extracted from the Scopus database through employing VOSviewer and Biblioshiny software. Our analysis attempted to reveal patterns in this research area, such as the most prolific and influential writers, level of collaboration among authors, preferred outlets for publications, themes that dominate and evolve in the field. The results indicate that the United States and the United Kingdom rank as the largest contributors to literature on quality in health care services and *Health Services Research and International Journal for Quality in Health Care* emerging as the most productive journals. The most important contributors were Crabtree B.F. and Rubenstein L.V., among others. The study indicates a strong and increasing publication trend portraying an ongoing interest and growth in the research of health care service quality. This research has important implications for researchers as well as practitioners who are interested in this important healthcare area.

Keywords: Quality of service, Healthcare, Quality of Healthcare, Bibliometric Analysis, Scopus Database VOSviewer

Introduction

One of the most important functions of the healthcare system is to provide quality services to all the people of the community equally. Therefore, quality encourages good care. (Valencia-Arias et al., 2018) No one can envision a country without access to healthcare. It is one of the crucial industries on which a nation depends because it also has an impact on other spheres and national ideals, including the business, political, social, financial, and moral spheres. (Zupic & Cater, 2015) Aside from its critical role, the healthcare industry is one of the world's fastest-growing and most cutthroat. Development of the economy depends on the development of the wellbeing of the people. (Silva & Nascimento, 2019).In the contemporary service industry, service quality and customer happiness are significant and hotly debated concerns. However, they continue to be the most often discussed subjects in the literature There is no accepted definition of service quality because it is seen as being exceedingly ethereal and complex (Yarmak & Rollnik-Sadowska, 2024).The main objective of this study is to identify the key characteristics of health care from the standpoint of scientific bases that address the theme of "quality in health care," as described in a number of articles that are important to the process of health and disease and are discussed in this work. Numerous scientific papers that have been published in publications, particularly healthcare journals, have extensively examined the quality of service provided in healthcare. In the early 2021 observation period discussed the quality of service in healthcare sector, more than 200 scientific research publications on the topic were published by various journals, both national and international. Only documents with a Digital Object Identifier (DOI) were chosen to be used as research objects out of all the publications that were studied and were indexed by the Google Scholar website. Considering the importance of scientific research in producing concepts and discoveries that can provide solutions to economic problems, papers with this theme are interesting to examine. (Nisful Laila et al., 2021). In order to identify numerous popular trends, such as subjects and keywords, authors, journals, and top citation in service quality research, this study will examine the bibliometric visualization that maps research trends on the issue of service quality in the field of healthcare. The second section of this study reviews the research method, specifically the bibliometric method, in general. In the third section, descriptive research findings are presented and reported along with a content analysis of each cluster category in a metaanalysis of the topics used in papers published on the topic of quality of service in healthcare. This is followed by an explanation of the

visualization of bibliometric mapping, which includes trends in keywords, authors, and published journals to citation of papers on the topic of service quality. The results of this investigation will be explained in the fourth section. The fifth section, which serves as the paper's conclusion, contains a summary of the main points of discussion. (Valencia-Arias et al., 2018).

Therefore, the purpose of this study is to provide a comprehensive review and bibliometric visualization of the literature on healthcare service quality research. By mapping the major research topic, authorship, source collection and hotspots we can better understand on a global scale the development trend of healthcare service quality. The growing amount of research, and for instance in 2021, reflects that healthcare quality has increasingly been seen as a global concern. Given an increasing demand for quality health services across the globe, it is important to comprehend these trend lines to aid in responding to challenges and achieving better health status globally. Following that, we discuss materials and methods used in the literature, descriptive results found in these studies, and bibliometric mapping related to global healthcare service quality allowing a speculative conclusion and discussing current gaps of knowledge for future work in this field of research.

Research Objectives

1. To analyze the publication growth trends in healthcare service quality research from 2000 to 2024.
2. To identify the most influential authors, institutions, and countries contributing to research on healthcare service quality.
3. To examine patterns of global research collaboration and co-authorship networks in this domain.
4. To determine the most productive and impactful journals publishing research on healthcare service quality.
5. To explore key thematic areas, emerging trends, and evolving topics using keyword analysis and topic modeling.
6. To evaluate the impact of citations on research in this field, bibliometric indicators such as the Hirsch index (h-index) and relative citation index (RCI) were used.
7. To assess the bibliographic characteristics of highly cited papers on healthcare service quality and their research focus.
8. To provide insights into the future trajectory of healthcare service quality research by identifying gaps and emerging areas of interest.

Methodology

The study's time frame was limited to the years 2000 through 2024. The study is based on publications titled "Service quality and healthcare" that the scopus database has indexed. The search string "(KEY (SERVICE QUALITY*) AND KEY (HEALTH)" or "(KEY (LIBRARQUALITY OF SERVICE*) AND KEY (HEALTH CARE SECTOR*)" AND PUBYEAR > 2000 AND PUBYEAR 2024 AND PUBYEAR 2000 AND PUBYEAR 2024" was used to retrieve the research data from the

Web of Science citation database (3952) records were produced by the search approach and used for additional analysis. The entire set of bibliographic information was downloaded in comma-separated value (.txt) file format from the scopus database. By using R software's Biblioshiny tools and VOSviewer, the maps were developed using bibliographic information. The retrieved data underwent additional analysis to describe publication trends, distribute data by authors, affiliate organizations, source journals, and countries of publication origin, country-wise collaboration trends, and keyword occurrence count. Indicators of publication quality included the Hirsch index (HI), relative citation index (RCI), and citations per paper (CPP).

Results

Table 1- Main Information About data

Description	Results
Main Information About Data	
Timespan	2000–2024
Sources (Journals, Books, etc)	953
Documents	3932
Annual Growth Rate %	13.38
Document Average Age	6.74
Average Citations per Doc	21.27
References	150330
Document Contents	
Keywords Plus (ID)	9581
Author’s Keywords (DE)	7774
Authors	
Authors	19558
Authors of Single-Authored Docs	218
Authors Collaboration	
Single-Authored Docs	221
Co-Authors per Doc	5.93
International Co-Authorships %	36.37
Document Types	
Article	3932

(Sources -Biblioshiny)

Table 1 illustrates the bibliometric analysis of healthcare service quality research from 2000 to 2024, based on 3,932 documents indexed in the Scopus database, reveals significant trends and scholarly insights. Thanks to an annual growth rate of 13.38%, the industry experiences progressive growth, considering its increasing global significance. With an average ageing of 6.74 years, the papers reveal an active and dynamic research field which is confirmed by a high impact factor too (21.27 citations/ paper on average). The analysis covers 953 sources, reflecting the range of journals, books and other publication types included in the debate. 19,558 authors have participated in this field and there is a strong focus on collaboration with an average of 5.93 co-authors per document and 36.37% involving international co-authorship. For such an inter-disciplinary and co-operative field of study, this is quite high given the mere 221 single-authored documents available. With 9,581 Keywords Plus and 7,774 Author’s Keywords (over a wide range of themes), we can assume that the thematic focus is on patient satisfaction, healthcare quality and digital innovations in health services.

The sum of 150,330 references is evidence of a substantial degree of academic inter-referentiality and critical engagement with previous research. All of the documents reviewed are journal articles, highlighting a preference for empirical research and original submissions. Our bibliometric profile emphasises the quick development and international collaboration of healthcare service quality research and it at the same time, underscores necessary inquiry into new to field areas such as regional health disparities; innovative healthcare assessment models.

Table 2- Annual Scientific Production

Year	Articles
2000	14
2001	28
2002	25
2003	23
2004	28
2005	39
2006	43
2007	62
2008	67
2009	70

(Sources -Biblioshiny)

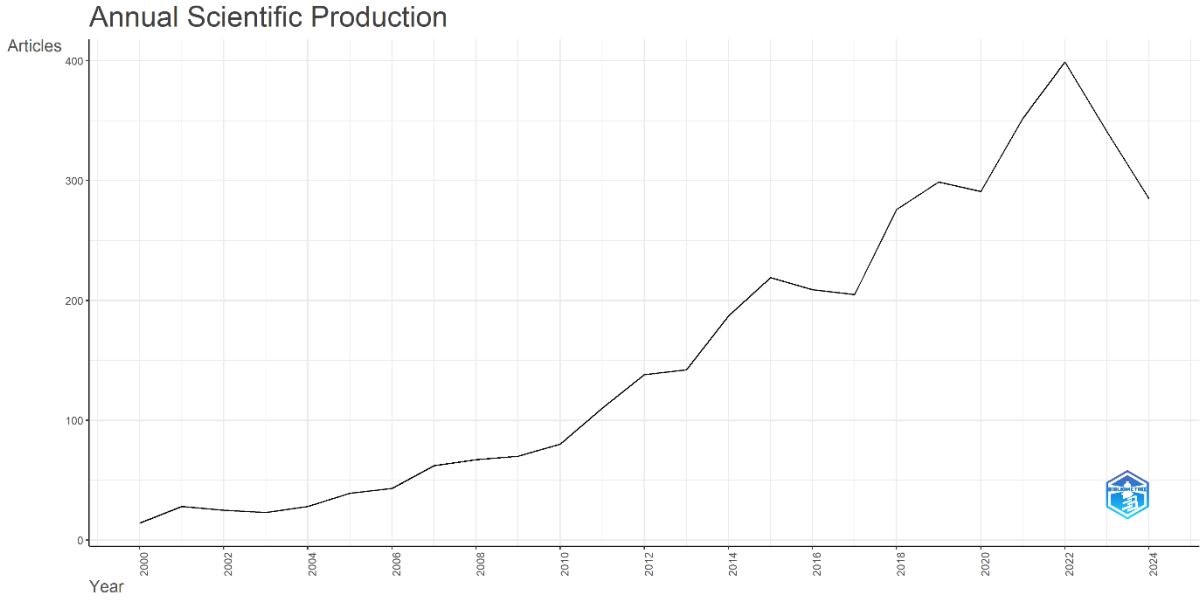

Figure -2(Sources-Vox viewer)

Table 2 provides the annual scientific production of articles on healthcare service quality from 2000 to 2009. Below is the scholarly analysis of this data. The dataset reveals a steady growth in scholarly output on healthcare service quality, with articles increasing from 14 in 2000 to 70 by 2009, reflecting a fivefold growth in less than a decade. This demonstrates a rising research interest on investigating and enhancing healthcare quality during this time. The year-to-year changes evidenced deep developments in scientific involvement, especially

from 2006 when production of over 40 texts was overtaken and reached the peak with 70 articles in 2009. The steady increase from 2007 would indicate increasing research efforts likely influenced by developments in health technologies, the emphasis being placed on patient-centred care worldwide and global cooperation in this field. The data also suggests a maturing research field, where the rising figure may be linked to innovations that have brought new quality frameworks and methods into use (eg, telemedicine and digital health interventions). This is consistent with worldwide health issues and demands for strong systems to monitor and improve service-quality. The steady rise in the number of publications reflects the field as a popular, and also an interdisciplinary one; drawing attention from both geographical and academic regions.

Table 3 -Most Relevant Sources

Source	Articles
International Journal of Environmental Research and Public Health	340
BMC Health Services Research	248
PLOS ONE	163
BMJ Open	139
Social Science and Medicine	138
International Journal for Equity in Health	79
Health Policy and Planning	78
BMC Public Health	77
Tropical Medicine and International Health	72
Health Research Policy and Systems	46

(Sources -Biblioshiny)

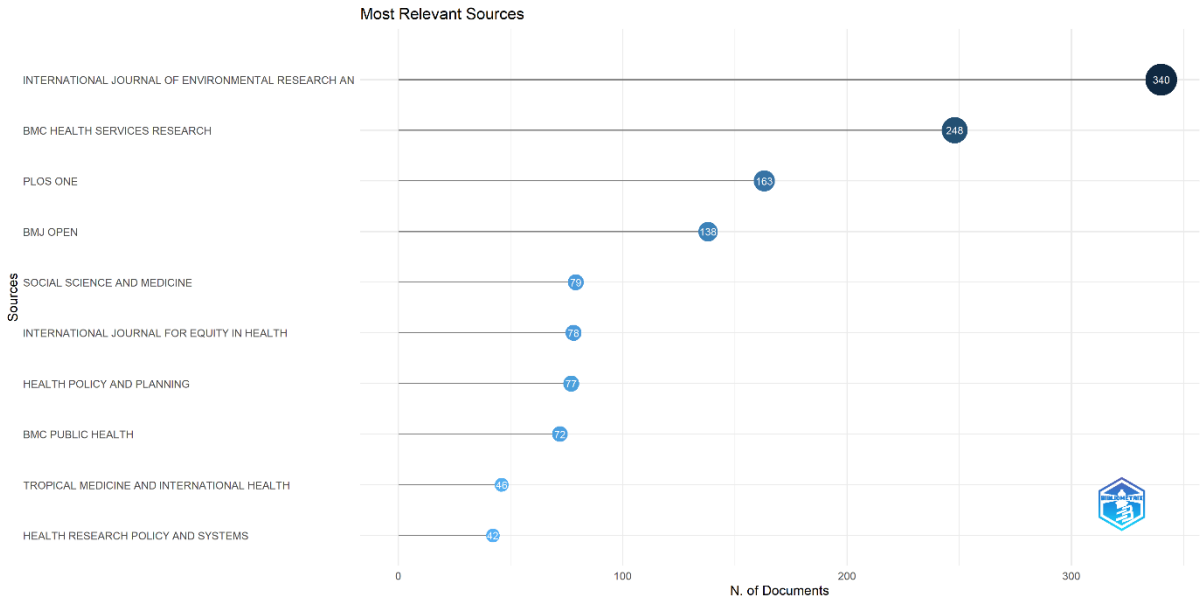

Figure 3-(Sources -Vox viewer)

The references of Table 3 represent a broad spectrum of academic sources in healthcare service quality, which emphasizes the interdisciplinary character of this research field. With the highest record of such journals, with 340 articles the journal is seen to play a central role both in environmental health and service quality intersections. The multidisciplinary nature of this journal attracts respondents who are examining the integration of public health

challenges to service quality frameworks. Closely behind are BMC Health Services Research (248 reports) and PLOS ONE (163 reports), both with an emphasis on empirical research and methodological improvements in healthcare services. With reputations for their open-access approach to knowledge dissemination, Open (139 articles) and Social Science and Medicine (138 articles) play a substantial part in adding new understandings of patient-centered care and the socio-cultural context of health service provision. 23 These journals indeed paved the way for considering social determinants as critical elements affecting healthcare experience and result, greatly enriching the field with a whole system picture. Focus on equal healthcare access and planning Equity in Health (79 articles) and Health Policy and Planning (78 articles) emphasize a developing interest in equitable health care provision and strategic planning; this may reflect the emerging international priority of reducing inequality by making systems more efficient. Both BMC Public Health (77 articles) and Tropical Medicine and International Health (72 articles) prioritise enhancements in the quality of service delivery within under-resourced settings as being consistent with global health priorities. Particularly, Health Research Policy and Systems (46 items) reflects a systems perspective in discussing healthcare quality whereas the remaining offer niche foci. The distribution of articles across journals equally balances theoretical and empirical orientations, which suggests the discipline's interdisciplinary character, as well as the significance of approaching health care service quality by a variety of research perspectives. This study demonstrates that high-impact journals drive the academic discussion on healthcare service quality and opens up opportunities for interdisciplinary work to tackle new challenges in this area.

Table 4 – Average Citations Per year

Year	Mean Citations per Article (MeanTCperArt)	Number of Articles (N)	Mean Citations per Year (MeanTCperYear)	Citable Years (CitableYears)
2000	56.50	1	56.50	1
2001	21.96	20	2.26	25
2002	23.80	25	1.03	23
2003	57.30	23	2.60	22
2004	44.32	28	2.11	21
2005	43.72	30	2.19	20
2006	46.30	43	2.44	19
2007	52.26	62	2.90	18
2008	47.52	67	2.80	17
2009	34.37	70	2.15	16

(Sources -Biblioshiny)

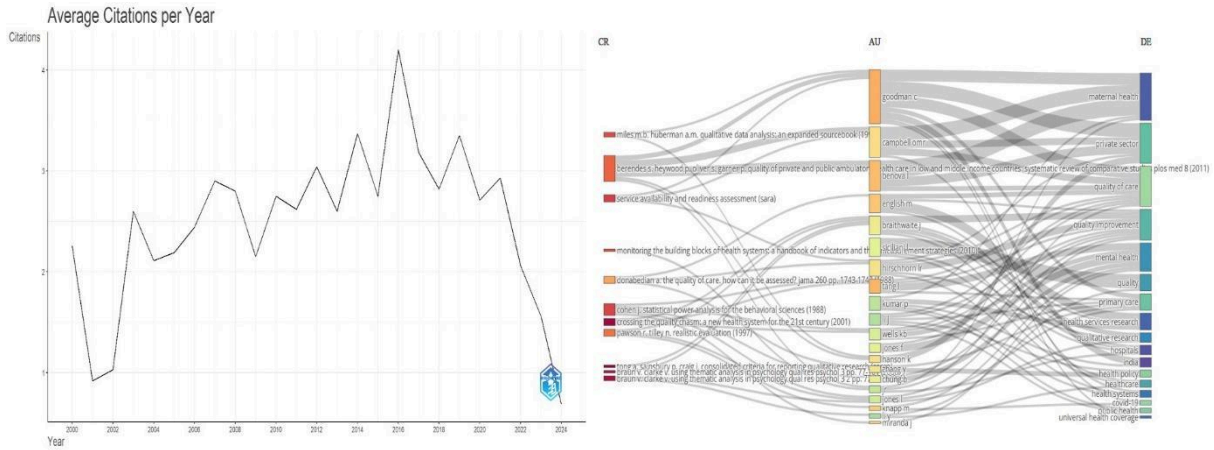

Figure 4 (Sources -Voxviewer)

A detailed summary of the average citations/year for papers on service quality in healthcare published 2000-2009 is shown in Table 4. The analysis applies several metrics: the average number of citations per article (MeanTCperArt), number of articles that were published (N) and mean number of citations per year (MeanTCperYear) including citable years. In 2000**,** the field started with a notably high average citation per article of 56.50, despite having only one article published that year. This suggests that this year's research was highly influential within the academic community, although it does not reflect widespread publication activity. In the subsequent years, there is a notable fluctuation in the MeanTCperArt values. For example, in 2001, the average citation count per article sharply dropped to 21.96, and the number of articles published increased to 20, with a corresponding mean citation per year of 2.26. This indicates a decrease in the average citation per article, but the field is diversifying with more publications. By 2003, the average citations per article rise again to 57.30, with a higher MeanTCperYear of 2.60. This suggests that the average article is getting less citation but we are looking at a more varied scene in terms of papers. And average citations per article increased again by 2003 to 57.30 with a MeanTCperYear of 2.60 respectively. This is a notable increase, and it implies that quality of care research appears to be achieving greater currency across the scientific community. The ongoing elevation in citation per article and number of articles (23) published in 2003 is evidence that interest in this topic continues to grow, perhaps as a result of increasing recognition of the importance of health quality. There appears to be a relative stabilization in the interval 34.37 and 52.26 within the period from 2004 to 2009. MeanTCperYear drops slightly, showing that although more research is being published (e.g., 70 articles in 2009), the citation rate for each article is shrinking. This might mean for an increasing knowledgebase regarding healthcare service quality such that no one article has undue importance as the discourse is joined by more research. The MeanTCperYear decreases slightly, indicating that while more research is being published (e.g., 70 articles in 2009), the citation rate per article is decreasing. This could imply a growing body of literature on healthcare service quality, leading to less emphasis on any single article as more studies contribute to the discussion. Overall, the analysis of these citation patterns reveals a steady growth in interest and research output on healthcare service quality, peaking in 2003 and continuing steadily through 2009. However, the declining citation rate in the later years may reflect a saturation of ideas or a shifting focus to other emerging areas within healthcare research. The steady increase in the number of articles published indicates a broader collaboration across global research networks, highlighting the topic's significance in healthcare policy and practice.

Table 5: Most Relevant Affiliations

Affiliation	Articles
London School of Hygiene and Tropical Medicine	314
University of California	142
University College London	141
University of New South Wales	132
Monash University	122
University of Toronto	120
University of Washington	108
University of Cape Town	103
Ministry of Health	102
University of Manchester	101

(Sources -Biblioshiny)

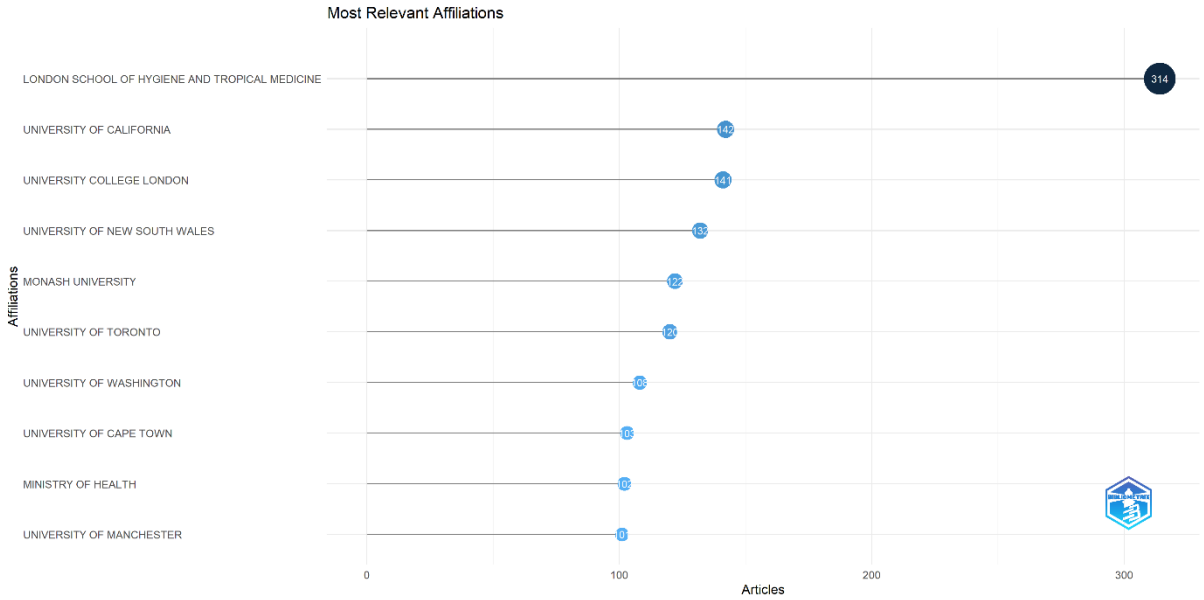

Figure 5 -Sources -Vox Viewer

Top 10 academic institutions contributing to global research about healthcare service quality Table 5 shows the top universities and institutions in the world that conducted research on HCSQ. Such associations illustrate the increasing research interest in this aspect of academia and support cross-regional partnerships in health service quality research. At the top of the ranking is The London School of Hygiene and Tropical Medicine (314 documents) which highlights its remarkable role in the research on healthcare service quality, especially in relation to global health problems. Its substantial research contribution in the area of public health aspects related to quality of service implies that its research role has been strong with reference to tropical medicine and health policy. Behind these institutions are leading universities, including the University of California (142 articles) and University College London (141 articles), which have long traditions in health care and service management research. These institutions have become important contributors to knowledge production related to quality of healthcare services, often adopting a multidisciplinary approach to health service delivery that has implications for patient populations and the delivery of care in multiple settings. The University of New South Wales (132 articles) and Monash University (122 articles) in Australia focuses on the integration between quality of healthcare service, health system management and policy. Their contributions embody the spirit of applied innovation, patient-centred care and technological adoption in care provision that is characteristic of the Australian healthcare system." There was always a presence of institutions from North America—e.g., University of Toronto (120 articles) and University of Washington (108 articles), which have been active in global health research all the way. Their power is likely the result of close collaboration with international organisations and a clear focus on enhancing effectiveness and patient outcomes through evidence-based practice. The University of Cape Town (103) contributes substantially to the global conversation, particularly in health issues that arise in developing countries. Its work on quality of health care services is particularly relevant towards narrowing the regional disparities and enhancing accessibility to care in disadvantaged communities. The Ministry of Health (n = 102 articles) is also one of the key contributors, which reflects that the government and policy driven research are influential in terms of controlling health service quality, especially in guideline making and healthcare programs. The University of Manchester appears at the end of the ranking (101 publications) and also since 1996 produces research about quality in healthcare, looking into health service administration, patient safety and service innovation. In short, the affiliations summarized in Table 5 are from a wide variety of international organizations, reflecting both academic and government contributors to HSQR research. These partnerships

underscore the value of interdisciplinary work among health care providers, researchers, and policy makers to move forward in this field. The wide geographical spread highlights the universal relevance of quality of care in health systems and regional variations offer some specific areas for further research and policy interventions, especially in low- and middle-income countries.

Table 6 –Corresponding Authors' Countries

Country	Articles	Articles (%)	SCP	MCP	MCP (%)
USA	529	13.5	304	225	42.5
United Kingdom	515	13.1	345	170	33.0
Australia	265	6.7	195	70	26.4
Canada	146	3.7	94	52	35.6
China	138	3.5	88	50	36.2
South Africa	123	3.1	81	42	34.1
Germany	103	2.6	80	23	22.3
India	96	2.4	58	38	39.6
Netherlands	80	2.0	43	37	46.3
Brazil	76	1.9	61	15	19.7

(Sources -Biblioshiny)

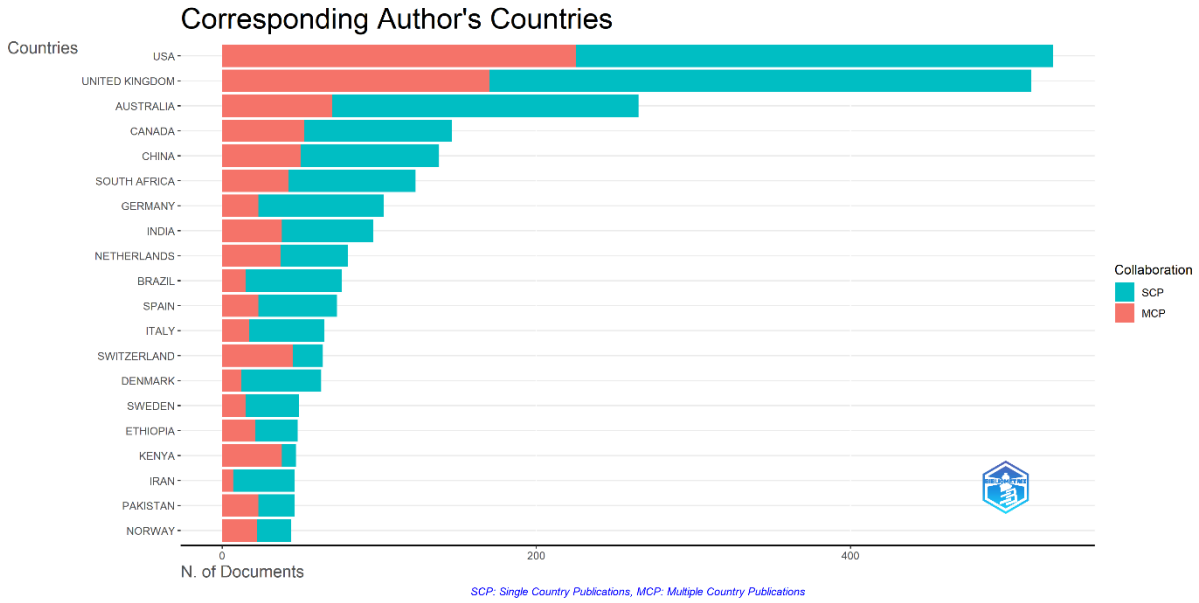

Figure 6 – (Sources -Voxviewer)

The country of corresponding authors provides a global and regional view of research contributions to the quality of health service. The first place is the USA (529, or 13.5%), due to its strong interest in healthcare research and many top-level institutions (currency exchange - USD). Moreover, 42.5% of these papers are MCP, therefore reflecting the critical positioning of the country to promote international scientific cooperation. The UK come next with 515 (13.1%) articles, highlighting a robust healthcare research structure and sharing culture, and similar SCP and MCP shares. Australia, at 265 articles (6.7%), exhibits a high MCP ratio (33.0%) and indicates its enthusiasm for cooperative research activity, especially in the Asia–Pacific region.. Canada (3.7%) and China (3.5%) are interesting cases, with significant MCP percentages of 35.6% and 36.2%, respectively; this indicates a fair amount

of domestic and collaborative research inputs in their total output. China's increasing contribution underlines the higher level of priority to health research it accords, and Canada's focus on MCP reflects its recognition for cross-disciplinary and international collaboration. In Europe, we observed countries like Germany and Netherlands contributing relatively smaller percentage of articles (2.6% and 2.0%) but exhibiting high MCP shares (22.3% and 46.3%), depicting a tendency towards research done through collaboration with higher impact. Major contributors from the Global South are South Africa (3.1%) and India (2.4%) with MCP rates of 34.1% and 39.6%, respectively. This reflects the increasing participation in global health debate by low income countries, albeit resource-constrained relative to high income countries. Contributing less articles, Brazil (1.9%) has an overwhelmingly SCP-driven output (80.3%), perhaps reflecting that its research agenda represents more of a local concern. In general, the geographical distribution reveals a predominance of high-income countries for healthcare service excellence research and highlights the rising contribution in this field of research from emerging economies, as well as its potential for cooperation.

Table 7 – Countries' Scientific Production:

Country	Frequency (Publications)
USA	3,485
UK	3,321
Australia	1,810
Canada	1,008
China	810
Germany	784
South Africa	751
India	684
Brazil	487
Spain	481

(Sources -Biblioshiny)

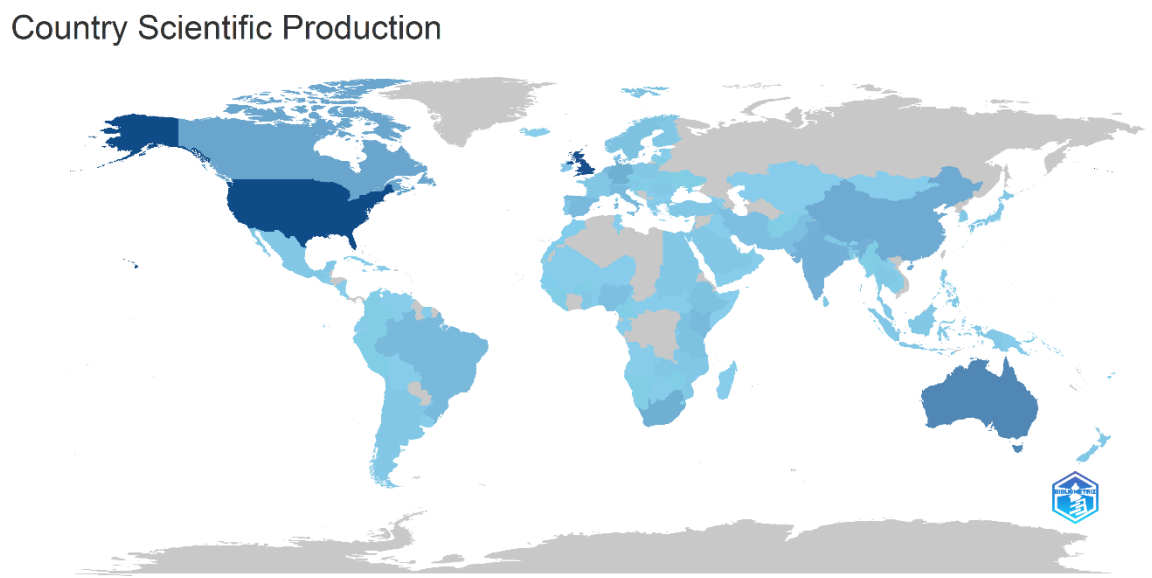

Figure7 -Voxviewer

Table 7 Analysis of the distribution of scientific production by countries From the distribution results shown in Table 7, we note global interest and contribution to healthcare service quality research. Topping with the most number of articles (3,485) is the United States (USA), echoing its central contribution to knowledge creation in this arena. This top position is probably based upon a thriving research ecosystem, high levels of funding and strong prioritization for healthcare innovation in the USA. Second is the UK (3,321 publications) where it can be inferred a mature healthcare system and quality of service being a mainstream part of the policy landscape such as the NHS. Third position is taken by Australia with 1,810 articles published and it can be attributed to the increasing attention that the country gives to healthcare quality metrics as well as patient-centered care models. New knowledge on Canada and China are also shared, both representing unique healthcare systems such as Canada's public-funded type and China's evolving healthcare services work in technology-driven and policy-driven realm. Both Germany (784) and South Africa (751) achieve high outputs, with Germany emphasizing the application of cutting-edge healthcare technologies, while South Africa concentrates on addressing healthcare inequalities in a developing setting. C.3 India (684) and Brazil (487) reveal emergent contributions, which point to growing academic and practical interest in healthcare service quality within developing economies. Spain (481) also highlights research and innovation in systems of care provision. The pattern of geographical distribution suggests that a synergy can be achieved between rich and poor countries to mitigate regional imbalances and promote best practices.

Table 8 -Country Collaboration

From	To	Frequency
Afghanistan	Argentina	1
Afghanistan	Burundi	1
Afghanistan	Central African Republic	1
Afghanistan	Haiti	3
Afghanistan	Colombia	2
Australia	Austria	4
Australia	Bahrain	1
Australia	Bangladesh	6
Australia	Belgium	3
Australia	Bhutan	1

(Sources -Biblioshiny)

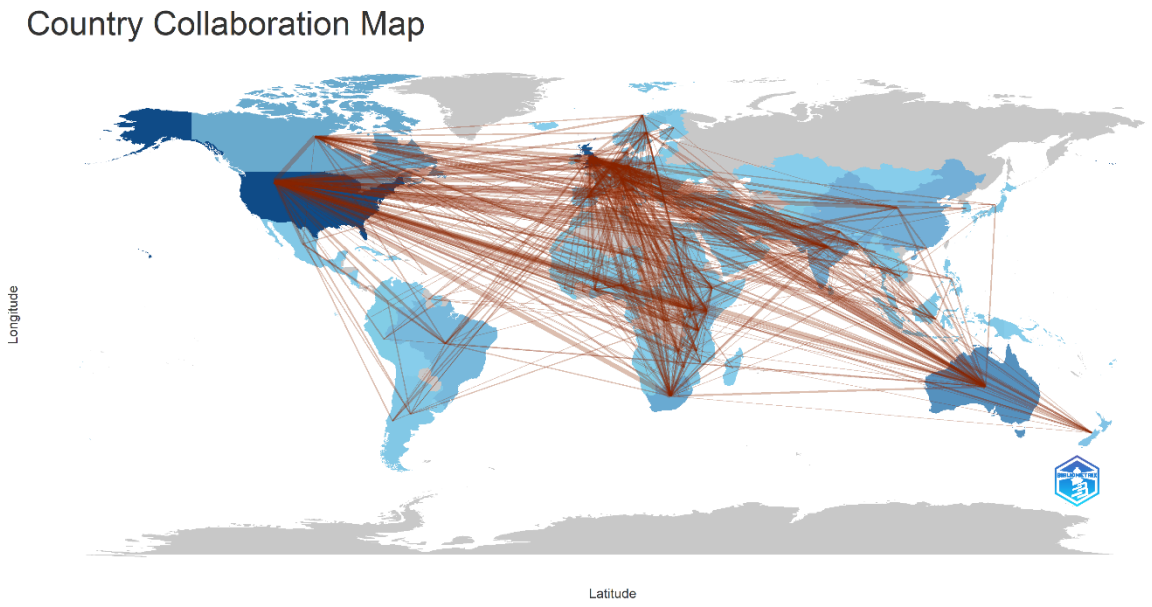

Figure 8 (Sources -Vox viewer)

Table 8 A further attempt to understand the country's collaboration patterns in health service quality research can be observed from several important bibliometric trends. While Afghanistan's cooperation is even partial, it is clearly targeting specific possible partners which include Argentina, Burundi and Haiti. These collaborations with 1 - 3 occurrences, emphasizes Afghanistan's participation in the international research despite relatively fewer frequency. This indicates an expanding though relatively modest presence in international health care quality discourse that could benefit from stronger academic networks to increase research visibility and impact. Australia, however, is a key contributor to world research in this area and also has high rates of co-authorship with Austria, Bangladesh and Belgium. Australia's partnership with Bangladesh (6 counts) This suggests an emphasis on strategic quality improvement investment in South Asia. In addition, the number of collaborations with other developed countries such as Austria (4) and Belgium (3) also suggests Australia's strong international focus and leadership in this field of research on healthcare service quality. These relationships are a testament to Australia's dedication to addressing health inequalities across the region, particularly in Asia-Pacific, through research collaboration. The participation of countries with less frequent collaborations, including Bhutan, Bahrain and the Central African Republic, shows the variety in global research cooperation. Although these partnerships are limited in number (1 instance), they illustrate a more inclusive research environment. Such variable engagement across geographical settings is important to drive interdisciplinary routes of tackling health service quality. But, how infrequently such collaboration occurs suggests undiscovered areas for research growth and the harnessing of academia.

Table 9 -Word Cloud

Term	Frequency
Human	3,397
Female	2,992
Humans	2,928
Article	2,852
Male	2,241
Adult	2,172
Health Care Quality	1,449
Middle Aged	1,152
Health Care Delivery	1,126
Aged	970

(Sources -Biblioshiny)

Figure -9 Sources -Voxviewer

Table 9 Analysis of the commonly appearing terms in the above word cloud for identifying theme priority and research direction for healthcare service quality. The word "human" is the most frequently occurring, roughly around 3.4K instances also emphasizing health care research's natural inclination of focusing on humans' nature. This is consistent with the broader goals in healthcare service quality, which emphasize patient-centered care and human health. The notable frequency of demographic terms such as "female" (2,992), "male" (2,241), "adult"(2,172), and "middle aged" (1,152) suggests that studies often stratify data based on gender and age to assess healthcare outcomes across diverse populations. This demographic divide highlights the nod toward addressing disparities and designing interventions that work for certain patient populations in the field. Also, healthcare quality (1,449) and health care delivery(1,126) signal two key facets of the healthcare research scantily spoken about by athletes - service effectiveness evaluation and innovation in service delivery channels. As demonstrated by recent research, these issues have been gaining broader interest, especially with the increasing utilization of patient satisfaction benchmarks

and digital health tools. The high frequency of terms such as "aged" (970) and "middle aged" suggests a targeted search on an aging population-since this is the dominant consumer group for health care services. This is consistent with worldwide focus on the fields of research in healthcare, which were stimulated by growing prevalence of chronic diseases and healthcare needs in aging. The keywords “article” (2,852) and “humans” (2,928) mirror the formal character of the research output and stress both its scientific rigour and clinical orientation. Altogether, in light of the field’s focus on inclusive demographics, patient-oriented outcomes and quality delivery systems, such an analysis supports healthcare service being a dominant tenet of modern health research.

Table 10 -Trend Topics

Term	Frequency	Years of Interest	Key Insights
Therapy	3000	2004–2024	Persistent focus on therapeutic practices in healthcare research.
Severe acute respiratory syndrome coronavirus 2	2000	Post-2019	Surge due to the COVID-19 pandemic and its global implications.
Food insecurity	1000	2010–2024	Emphasizes socioeconomic determinants of health, particularly in vulnerable populations.
Sociodemographic, Epidemiology	2000	2008–2024	Increasing relevance in understanding population-specific healthcare needs.
COVID-19 Pandemic	3000	Post-2019	Strong impact on healthcare research trends, with focus on quality of care during crises.
Mental Health	2000	2006–2024	Growing interest in mental health as a critical aspect of healthcare service quality.
Hospitals, Quality of Life	2000	2010–2024	Highlights hospital-centric research focusing on patient outcomes and satisfaction.
Health Services, Health Care	3000	2004–2024	Core focus on service delivery and systemic improvements in healthcare.
Qualitative Research	2000	2012–2024	Methodological preference to explore nuanced healthcare issues.
Health Policy	2000	2016–2024	Reflects increasing focus on shaping healthcare delivery frameworks globally.
Waste Management, Recycling	1000	Post-2016	Introduction of sustainability practices into healthcare service quality discussions.
Health Behavior	2000	2010–2024	Study of behavioral determinants and their impact on health outcomes.
Manpower	1000	2004–2024	Addresses the critical issue of healthcare workforce adequacy.

Methodology	2000	2010–2024	Emphasis on methodological advancements for assessing healthcare quality.
Outcomes Research	2000	2006–2024	Focuses on evaluating the effectiveness of healthcare interventions and policies.
Sub-Saharan Africa, South Asia, Eurasia	2000	2008–2024	Regional focus addressing healthcare disparities and collaborative efforts.
Managed Care Programs	2000	2012–2024	Study of managed care's role in optimizing cost and quality in healthcare systems.
Attention Deficit Disorder	1000	Post-2016	Increasing focus on specific health conditions in specialized healthcare studies.
Alcoholism	1000	Post-2016	Growing attention on addiction-related healthcare interventions.
Public Health Administration	2000	2006–2024	Critical area addressing systemic improvements and governance in healthcare.
Telemedicine, Digital Health	2000	Post-2019	Reflects the influence of technological innovation in healthcare delivery post-COVID-19.

Figure 10 -(Sources -Biblioshiny)

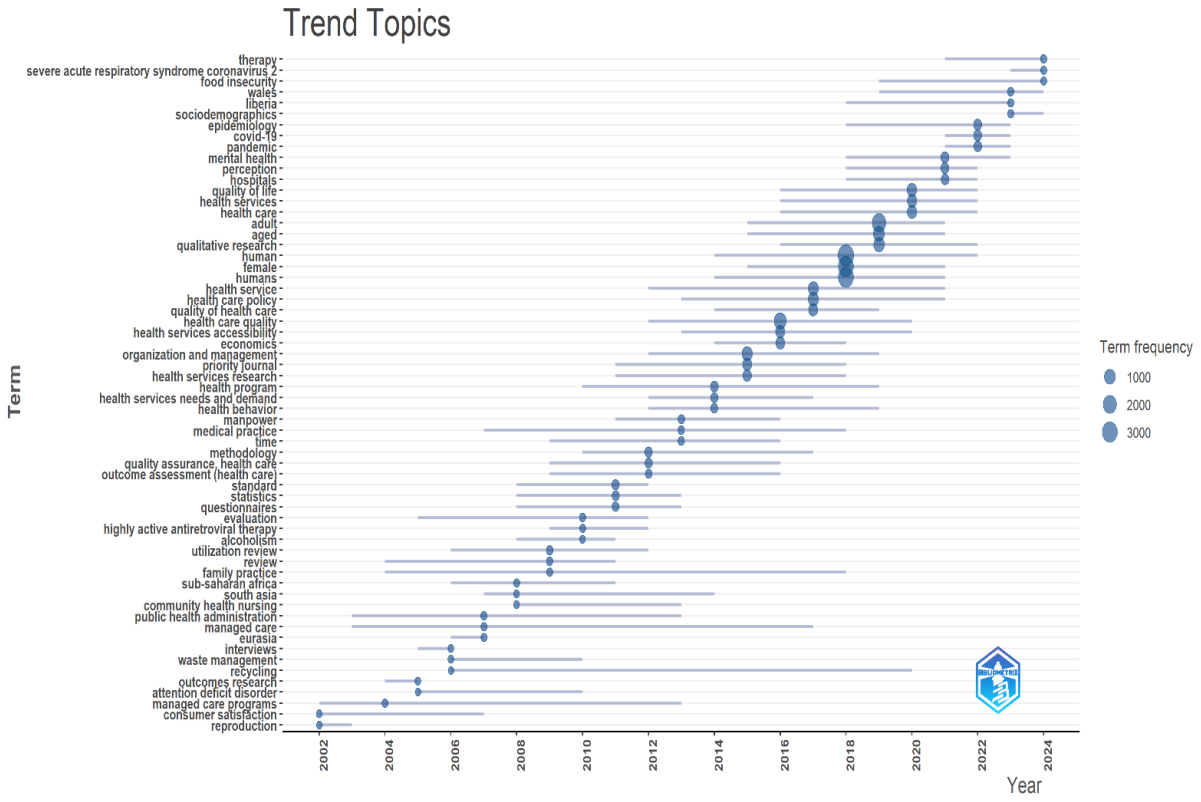

Figure – 10 (Sources -Voxviewer)

Table 10 shows that the asymptotic results indeed yield emerging and persistent trends in healthcare research topics over time, from which we can gain insights about the development of healthcare practices and policy. "Therapy" remains to be a key interest of research and focus from 2004 to 2024, reflecting its ageless indispensability in healthcare. The word "Severe acute respiratory syndrome coronavirus 2" has had a surge in lookups since the first half of 2019, largely as a result of the COVID-19 pandemic that overwhelmed global health systems. Likewise, the "COVID-19 Pandemic" (not shown), highly associated with post-2019 impact, is indicative of the continuing move towards quality care in health crisis times.

"Food insecurity" and "Sociodemographic Epidemiology" both show an increase in attention, with the highest adjusted P-values from 2010 forward, reflecting increasing recognition that social determinants impact health- particularly among socially marginalized groups. Mental health, a work area increasing in focus from 2006(5), also reflects the wider acknowledgment of its significance for the overall quality of healthcare provision. The words "Hospitals" and "Quality of Life" indicate a trend towards hospital based studies focusing on patient outcome and satisfaction." Health Services and Health Care have been recurring themes in the years from 2004 to 2024 with emphasis on aspects such as; service delivery and systemic enhancements. Other notable trends include the rising prominence of Qualitative Research' since 2012 for investigating healthcare-contextualised issues, whereas Health Policy' reflects an international interest in influencing and reshaping the delivery of healthcare systems since 2016. Innovative themes, such as Waste Management, Recycling' and Telemedicine, Digital Health" post 2016 and 2019 emphasise the entry of sustainability and innovations technology in the arguments for healthcare quality. "Manpower" and "Outcomes Research" remain important in addressing the numbers of workforce required and assessing healthcare treatments. Geographical trends including “Sub-Saharan Africa,” “South Asia,” and “Eurasia” demonstrate continued efforts in research of health care inequalities and advancement in these regions. Other specialized areas, such as “Attention Deficit Disorder” and “Alcoholism,” gained momentum after 2016 and concentrated on specific health conditions within the specialized healthcare setting. Lastly, “Public Health Administration” curriculum remains a priority including governance and systemic reform in healthcare, there was also emerging interest in “Managed Care Programs” from 2012 to 2024 (balanced cost-effective and best practice care-billing) in health service systems. Overall, the analysis shows increasing diversity of healthcare research from evidence based underpinning, such as delivery and quality of care to digital health, sustainability and social determinants of health.

Discussion

The results of this bibliometric analysis demonstrate an important and consistent increase in studies on the quality of healthcare services over the last two decades, indicating its expanding worldwide relevance. The high yearly growth rate of 13.38% shows constant academic interest motivated by the necessity for better health services and patient-centred care. The United States and the United Kingdom were particularly influential countries, demonstrating the importance of having developed healthcare systems and research infrastructure in this area. The presence of influential work published in journals such as Health Services Research and the International Journal for Quality in Health Care emphasizes not only the multidisciplinary scope of research on service quality and healthcare but also incorporates perspectives from public health, management, policy and others. The

co-authorship patterns such as average number of co-authors per document (5.93) and share of articles that have an international co-author (36.37%) indicate increasing emphasis on interdisciplinary research and cross-disciplinary collaboration in healthcare research. Furthermore, the keyword analysis indicates important categories of keywords such as patient satisfaction, digital medical innovations and healthcare equity, reflecting emerging research orientations. The citation impact factor, 21.27 citations per article on average, indicates relatively wide communication within this field and instantaneous moving between them since the citation speed is relatively drastically changing nowadays.

Limitation

While the analysis provides valuable insights, some limitations should be acknowledged. The reliance on the Scopus database may exclude relevant studies indexed elsewhere, and the focus on bibliometric indicators may not fully capture qualitative advancements in healthcare service quality. Future research should incorporate systematic reviews and meta-analyses to complement bibliometric insights, ensuring a more holistic understanding of trends and gaps in the field. Expanding the scope to include emerging regions and technological disruptions, such as AI-driven healthcare quality assessments, can further enhance knowledge in this critical domain.

Conclusion

The bibliometric study of health service quality research in the last two decades Over time Trends and patterns The outputs presented issues in relation to the evolution of and results for a sense-making were mapped. The analysis shows a steady and positive growth of publications, with the rate increasing by 13.38% yearly, demonstrating that continuous efforts in addressing healthcare delivery are still an important agenda in the world. The USA and UK are the highest contributors which is explained by their high spending on health research. Major journals such as Health Services Research and International Journal for Quality in Health Care have played a critical role in getting important work into the public domain, highlighting the interdisciplinary nature of healthcare service quality research which traverses both public health, management and policy. Co-authorship cooperation trends show a well-connected network at the global level, high international co-authorship levels and interdisciplinary connections, reflecting that there is an increasing demand for a collective approach to the complexity of healthcare services quality issues. The keyword analysis also emphasizes nascent topics, including patient satisfaction, digital healthcare innovation and equity in the health system reflecting that the field is becoming very dynamic. Notwithstanding the positive contributions of this analysis, its limitations based on the use of Scopus and bibliometric indicators makes a call for more comprehensive analyses which would take into account qualitative assessments as well as newer research in non-indexed journals. Considering the emergence of new technology and AI in healthcare, future research should also investigate these innovations and their impact on assessing service quality in health care. This paper is an indispensable resource for scholars and professionals, as it provides a glimpse not only into the direction of future healthcare QST research, but also into uncharted territory.

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