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## Trends in Hospital Management and Administration Research: A Bibliometric Analysis of International Publications

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### ABSTRACT

Research on hospital management and administration has experienced significant growth in recent years, driven by increasing demands for quality healthcare services, organizational efficiency, and innovation in health systems. This study aims to analyze the research trends in hospital management and administration through a bibliometric analysis of international scientific publications. The study employs a bibliometric approach by collecting and examining publication data indexed in an international database over a specified period. Bibliometric tools are used to analyze publication trends, author productivity, institutional contributions, country collaboration, and the development of dominant research keywords in this field. The results indicate that the number of publications related to hospital management and administration has increased substantially over time, reflecting the growing attention of scholars and researchers toward improving healthcare management practices. The analysis also reveals strong collaboration networks among researchers from various countries and institutions. Furthermore, keyword co-occurrence analysis shows several prominent research themes, including healthcare service quality management, hospital governance, healthcare system efficiency, and digital transformation in hospital services. The visualization of research clusters suggests a shift toward technology-driven healthcare management, such as digital health systems, health information management, and patient-centered service innovation. This study provides a comprehensive overview of the development and direction of research in hospital management and administration at the global level. The findings are expected to serve as a reference for researchers, academics, and policymakers in identifying future research opportunities and strengthening the development of healthcare administration studies. Additionally, this bibliometric mapping contributes to understanding the evolution of scientific knowledge in hospital management and highlights emerging research topics that are relevant to the challenges faced by modern healthcare systems.

**Keywords:** hospital management, hospital administration, bibliometric analysis, healthcare services.



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## A.INTRODUCTION

Hospital management and administration constitute essential components of the healthcare system, aimed at managing resources effectively and efficiently to enhance the quality of services delivered to the public. These functions play a critical role in ensuring that healthcare services are accessible, reliable, and sustainable. Hospitals, as primary healthcare organizations, operate within highly complex environments. They must address diverse patient needs while maintaining high standards of care and service delivery. This complexity arises from the involvement of multiple professional groups, including doctors, nurses, administrative staff, and other healthcare workers. Each profession contributes uniquely to the overall functioning of the hospital. In addition, hospitals rely on advanced medical technologies to diagnose and treat patients. The integration of these technologies requires careful management to ensure accuracy, safety, and efficiency in healthcare delivery. Hospitals also depend on comprehensive administrative systems to support their operations. These systems facilitate coordination, communication, and decision-making across various departments. Therefore, hospital management must be capable of coordinating these diverse elements effectively. Strong coordination is essential to ensure that all components function harmoniously toward achieving organizational goals. Effective hospital management extends beyond clinical services to include human resource management and financial management. Proper management of staff and financial resources is vital for maintaining service quality and organizational sustainability. Furthermore, health information systems play a crucial role in modern hospital administration. These systems support data management, improve decision-making processes, and enhance the overall quality of healthcare services (Shortell & Kaluzny, 2012). Memory full

The development of the global healthcare system in recent decades has demonstrated significant transformations in healthcare governance. These changes reflect the increasing complexity of healthcare systems in responding to global health challenges. Hospitals, as key institutions within the healthcare system, are now facing greater pressure to adapt to these transformations. They are required to continuously improve their performance in delivering effective and efficient healthcare services. One of the major demands placed on hospitals is the need to enhance operational efficiency. Efficient management of resources is essential to ensure that healthcare services can be delivered optimally without compromising quality. In addition to

efficiency, transparency has become a critical aspect of modern healthcare governance. Hospitals are expected to provide clear and accessible information regarding their services and performance. Accountability is also increasingly emphasized in healthcare service delivery. Hospitals must be able to justify their decisions and actions to stakeholders, including patients, government authorities, and the wider community. Furthermore, the rising public demand for high-quality healthcare services has significantly influenced hospital management practices. Patients are becoming more aware of their rights and expect better standards of care. As a result, hospitals are encouraged to adopt more innovative and responsive management systems. These systems aim to improve service quality while adapting to the dynamic needs of patients and healthcare environments. Overall, these transformations have positioned hospital management as a rapidly expanding field of study within healthcare administration, reflecting its growing importance in ensuring effective healthcare delivery (World Health Organization, 2010).

In the academic context, research on hospital management and administration has grown substantially in response to the increasing emphasis on improving healthcare service quality. This growth reflects the critical role of management in enhancing healthcare outcomes and institutional performance. Numerous studies have explored various dimensions of hospital management in depth. These include service quality, organizational leadership, operational efficiency, and governance. Each of these dimensions contributes significantly to the overall effectiveness of hospital operations. Researchers continue to examine how these factors interact within complex healthcare systems. The findings suggest that well-managed hospitals are more capable of delivering high-quality services. Thus, effective hospital management plays a crucial role in improving service quality and increasing patient satisfaction (Dixon-Woods et al., 2014).

Advancements in information technology have had a profound impact on hospital administrative systems. These developments have significantly transformed how healthcare services are managed and delivered. The integration of digital technologies has become essential in modern hospital operations. Tools such as hospital information systems and electronic medical records are widely implemented. Digital healthcare services also support more efficient and accessible service delivery. These innovations contribute to improving overall administrative efficiency in hospitals. They enable more accurate and reliable management of patient data.

Additionally, they enhance coordination among healthcare professionals in delivering services (Buntin et al., 2011).

With the increasing volume of research in healthcare administration, there is a growing need for approaches that can systematically map the development of scientific knowledge. Such approaches are essential to provide a structured understanding of how research in this field evolves over time. One method that can be utilized to analyze the evolution of scientific literature is bibliometric analysis. This method offers a comprehensive framework for examining large volumes of academic publications. Bibliometric analysis is a quantitative approach used to evaluate patterns within scientific research outputs. It enables the identification of publication trends across different periods and disciplines. Additionally, it examines author collaborations and networks within a specific scientific domain. Through this approach, the development of research topics can be systematically assessed (Donthu et al., 2021).

Bibliometric analysis has been widely applied across various scientific disciplines to examine the development of academic research. It provides a structured approach to understanding the growth and direction of scientific knowledge. This method is particularly useful in identifying research trends over time. By analyzing publication data, scholars can observe how specific topics emerge, develop, and evolve within a field. In addition to tracking trends, bibliometric analysis helps identify influential authors. These are researchers whose works have significantly contributed to the advancement of knowledge in a particular discipline. Furthermore, bibliometric analysis enables the mapping of collaboration networks among researchers and institutions. Such networks reveal patterns of cooperation and knowledge exchange across regions and academic communities. Through these networks, it becomes possible to understand the interconnected nature of scientific research. Collaboration often plays a key role in enhancing the quality and impact of scholarly outputs. Another important aspect of bibliometric analysis is its ability to explore the evolution of research themes. This allows scholars to identify shifts in focus and emerging areas of interest within a discipline. Moreover, this method assists in recognizing research areas that have strong potential for future investigation. It provides valuable insights for researchers in determining relevant and impactful research directions. Therefore, bibliometric analysis serves as a crucial tool for mapping the development of knowledge within a scientific discipline, offering both descriptive and predictive insights into academic research (Aria & Cuccurullo, 2017).

In the context of healthcare administration research, bibliometric analysis provides valuable insights into the global development of hospital management studies. Through this approach, dominant research themes, patterns of international collaboration, and emerging research trends can be identified. Such information is essential for academics and researchers to better understand the dynamic evolution of healthcare administration as a field of study (Pritchard, 2009).

Based on the aforementioned background, this study aims to analyze research trends in hospital management and administration through a bibliometric analysis of international scientific publications. This approach is employed to provide a systematic and measurable overview of the development of academic studies in this field. Through this analysis, it is expected to identify publication patterns, author contributions, and the formation of global collaboration networks. Furthermore, this study seeks to uncover the dominant themes emerging within hospital management research. In addition, keyword mapping is utilized to examine the evolution of research directions over time. The findings of this study are expected to contribute academically by enriching the existing literature on hospital management and administration. Moreover, this research may serve as a reference for future scholars in determining relevant and impactful research focuses. Thus, this study is anticipated to identify potential research topics that can be further developed in the future.

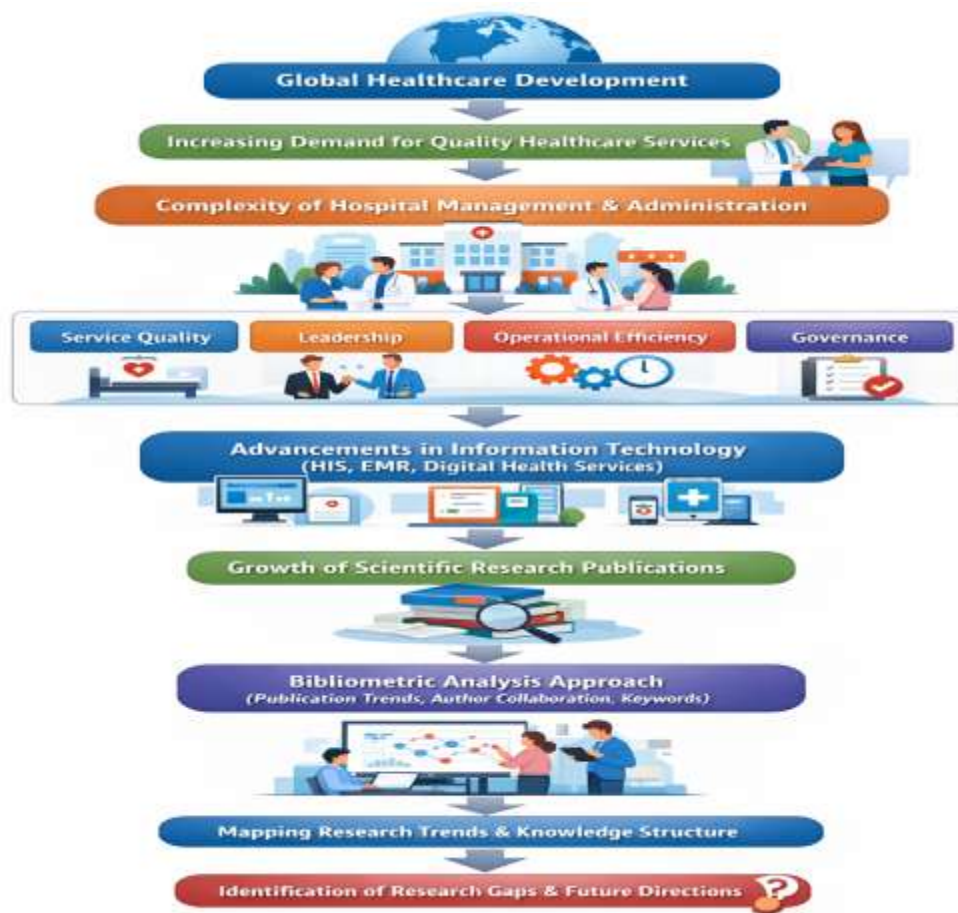
## **B. RESEARCH METHOD**

This study employs a quantitative approach using bibliometric analysis to examine research trends in hospital management and administration. Bibliometric analysis is utilized to systematically evaluate scientific publications and identify patterns in academic literature. The data for this study are obtained from reputable international databases such as Scopus or Web of Science, focusing on journal articles published within a specific time frame. The selection of documents is based on relevant keywords, including “hospital management,” “hospital administration,” and related terms, to ensure the accuracy and relevance of the dataset.

The data analysis process involves several stages, including data collection, screening, and visualization. Initially, the collected data are filtered to remove duplicates and irrelevant

publications. Subsequently, bibliometric indicators such as publication trends, citation analysis, co-authorship networks, and keyword co-occurrence are analyzed. Visualization tools such as VOSviewer or Biblioshiny are used to map relationships among authors, institutions, and research topics. This approach allows for a comprehensive understanding of the structure and development of research in the field.

The results of the bibliometric analysis are interpreted to identify dominant research themes, emerging topics, and potential research gaps. The findings are presented in the form of tables, graphs, and network visualizations to facilitate interpretation. Through this method, the study aims to provide a systematic overview of the evolution of hospital management research and offer insights for future research directions (Donthu et al., 2021).



**Figure 1.** Conceptual Framework of Hospital Management and Administration Research Using a Bibliometric Analysis Approach

Figure 1 illustrates the conceptual framework of hospital management and administration research using a bibliometric analysis approach. The diagram begins with global healthcare development, which drives the increasing demand for high-quality healthcare services. This demand leads to greater complexity in hospital management and administration, encompassing key dimensions such as service quality, leadership, operational efficiency, and governance. These elements collectively shape how hospitals manage resources and deliver healthcare services effectively and sustainably.

Furthermore, the framework highlights the role of advancements in information technology, including hospital information systems, electronic medical records, and digital health services, in transforming healthcare delivery. The growth of scientific research publications in this field is then analyzed using bibliometric methods, focusing on publication trends, author collaborations, and keyword analysis. Ultimately, this process enables the mapping of research trends and knowledge structures, leading to the identification of research gaps and potential directions for future studies in hospital management and administration.

## C. RESEARCH RESULTS AND DISCUSSION

### ➤ Research Results

The network visualization generated using VOSviewer in the study *“Trends in Hospital Management and Administration Research: A Bibliometric Analysis of International Publications”* reveals a structured pattern of relationships among keywords in global hospital management literature. The analysis identifies two dominant clusters interconnected through a central node, “year,” which functions as a temporal bridge linking foundational and emerging research themes. On the left side of the network, a red cluster is observed, consisting of keywords such as “hospital management,” “healthcare quality,” “organizational performance,” “leadership,” and “health policy.” These nodes are closely interconnected, indicating strong co-occurrence and reflecting the traditional focus of hospital management research on service quality, institutional performance, and governance. The density and proximity of these keywords suggest a well-established body of literature grounded in managerial and organizational perspectives within healthcare systems.

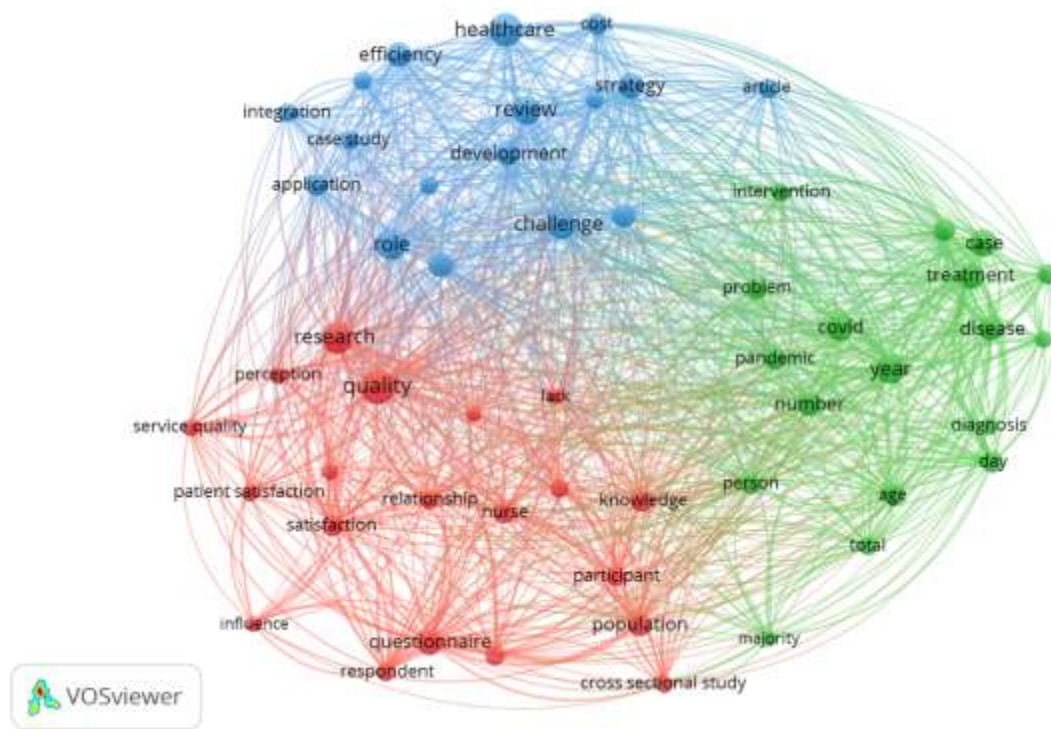
Conversely, the right side of the network is dominated by a green cluster that includes keywords such as “digital health,” “electronic medical records,” “health information systems,” “telemedicine,” and “patient engagement.” This cluster reflects the shift in contemporary research toward digital transformation and technology integration in healthcare administration. Compared to the red cluster, the nodes in this group appear more dispersed, indicating relatively newer but rapidly evolving areas of study. The connections between the red and green clusters are moderately strong, suggesting an increasing integration between traditional hospital management practices and emerging digital health innovations. Overall, the network visualization demonstrates the transition of hospital management research from conventional administrative approaches toward more technology-driven and patient-centered frameworks.

The overlay visualization further illustrates the temporal evolution of research topics from earlier to more recent periods. Keywords represented in red and orange tones, such as “hospital management,” “service quality,” and “organizational performance,” indicate earlier research themes that dominated the field in the initial years of analysis. These themes formed the conceptual foundation of hospital administration studies. In contrast, keywords shown in green and yellow tones, including “digital health,” “telemedicine,” “big data,” and “patient-centered care,” represent more recent developments that have gained prominence in recent years. The central “year” node serves as a connecting element that highlights the transition from traditional management approaches to more innovative and technology-oriented perspectives. This visualization clearly indicates that hospital management research has evolved toward embracing digitalization, data-driven decision-making, and improved patient engagement.

The density visualization reinforces these findings by illustrating the intensity of keyword occurrences across the research landscape. Areas highlighted in bright red and yellow are concentrated around keywords such as “hospital management,” “healthcare quality,” and “organizational performance,” indicating their continued dominance in the literature. Meanwhile, keywords such as “digital health,” “health information systems,” and “telemedicine” appear in green to light-yellow shades, reflecting emerging but rapidly growing areas of research. Transitional keywords such as “innovation” and “patient engagement” appear in intermediate colors, suggesting their role in bridging traditional and modern research paradigms. This pattern

confirms that while digital health innovations are expanding, the core foundation of hospital management research remains rooted in quality, performance, and governance.

The bibliometric findings demonstrate a clear trajectory in international hospital management and administration research. The field exhibits both continuity and transformation: continuity in its strong emphasis on service quality, leadership, and organizational performance, and transformation through the integration of digital technologies and patient-centered approaches. These findings highlight significant opportunities for future research, particularly in integrating traditional hospital management principles with emerging technologies such as artificial intelligence, health analytics, and smart healthcare systems to enhance service delivery and healthcare outcomes.

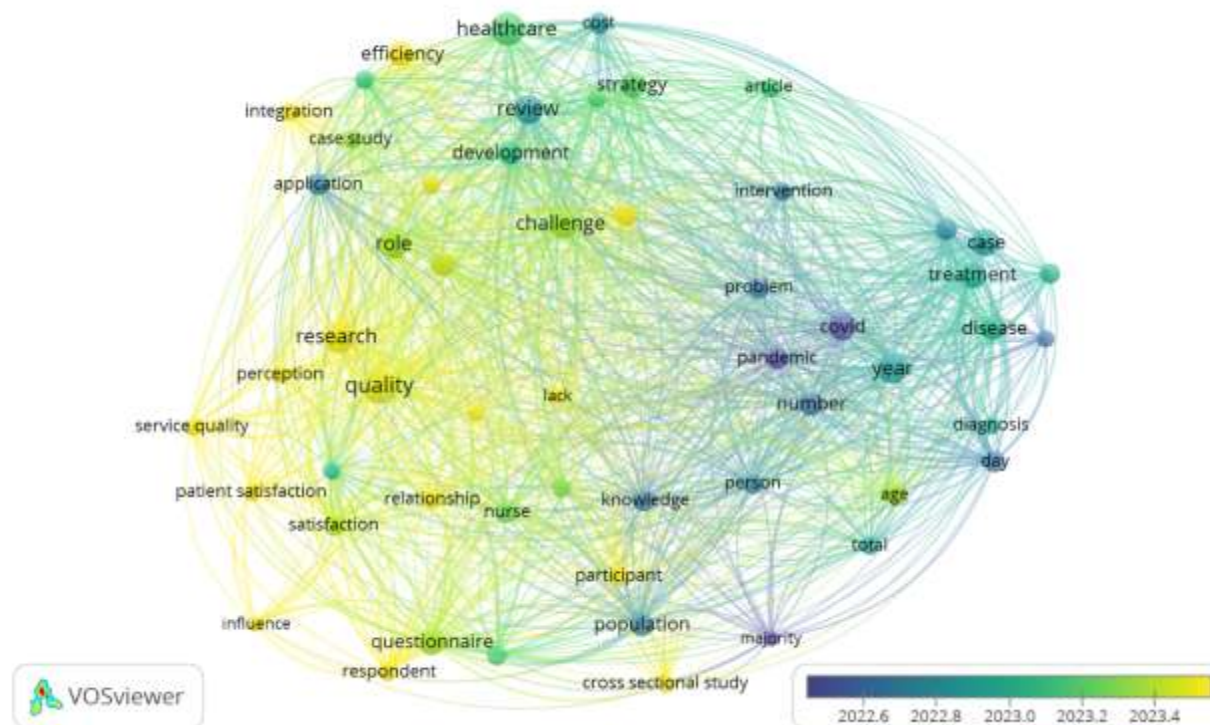


**Figure 2.** Network Visualization of Keywords in Hospital Management and Administration Research Using VOSviewer

Figure 2 presents the network visualization of keywords in hospital management and administration research generated using VOSviewer. The visualization reveals a complex and highly interconnected structure of research themes, indicating strong relationships among various topics in the field. The network is divided into several clusters, each represented by different colors, which reflect distinct thematic areas within the literature. The size of the nodes indicates the frequency of keyword occurrence, while the links between nodes represent the strength of co-occurrence relationships, demonstrating how closely related different research topics are within the academic landscape.

The red cluster is primarily associated with service quality and patient-centered research, containing keywords such as “quality,” “patient satisfaction,” “service quality,” “nurse,” and “questionnaire.” This cluster reflects a strong emphasis on evaluating healthcare services from the patient perspective, focusing on satisfaction, perception, and the quality of care delivered. Meanwhile, the blue cluster represents managerial and organizational aspects of healthcare, including keywords such as “healthcare,” “efficiency,” “strategy,” “development,” and “role.” This cluster highlights the importance of management practices, organizational performance, and strategic planning in improving hospital operations.

On the other hand, the green cluster is dominated by clinical and health-related terms such as “disease,” “treatment,” “diagnosis,” “covid,” and “pandemic,” indicating the integration of medical and administrative research perspectives. This cluster also includes temporal and demographic indicators such as “year,” “age,” and “population,” suggesting the use of empirical and epidemiological data in healthcare studies. The connections between these clusters demonstrate the interdisciplinary nature of hospital management research, where service quality, organizational management, and clinical practices are closely interlinked. Overall, the visualization highlights the dynamic evolution of the field and underscores the growing integration between management science and healthcare practice.



**Figure 3** Overlay Visualization of Keyword Trends in Hospital Management and Administration Research Using VOSviewer.

Figure 3 presents the overlay visualization of keyword trends in hospital management and administration research generated using VOSviewer. This visualization highlights the temporal evolution of research topics by applying a color gradient, ranging from blue (earlier period) to yellow (more recent period). The network structure remains interconnected, but the color variation allows for a clearer understanding of how research themes have developed over time. Larger nodes represent frequently occurring keywords, while the links indicate co-occurrence relationships among topics within the research field.

Keywords displayed in blue to green tones, such as “disease,” “treatment,” “diagnosis,” “covid,” and “pandemic,” represent earlier research themes that were particularly prominent during previous periods, especially in response to global health crises. These topics reflect the strong influence of clinical and epidemiological studies within hospital-related research. In contrast, keywords appearing in green to yellow tones, such as “quality,” “service quality,”



Figure 4 presents the density visualization of keyword co-occurrence in hospital management and administration research generated using VOSviewer. This visualization highlights the intensity of research focus by using color gradients, where bright yellow indicates areas with the highest frequency of keyword occurrences, followed by green as moderate intensity, and blue as lower intensity. The density map provides a clear overview of which topics are most frequently discussed and widely connected within the research field.

The brightest areas in the visualization are concentrated around keywords such as “healthcare,” “review,” “strategy,” “quality,” “role,” “year,” and “treatment,” indicating that these topics represent the core focus of hospital management research. These keywords are central and highly interconnected, suggesting that studies in this field are largely driven by discussions on healthcare systems, strategic management, and service quality. Additionally, clusters related to clinical aspects, such as “disease,” “diagnosis,” and “treatment,” also show high density, reflecting the integration between administrative and medical research perspectives.

Meanwhile, areas with moderate density, shown in green, include keywords such as “patient satisfaction,” “efficiency,” “development,” “population,” and “knowledge,” which indicate supporting and evolving research themes. Lower-density areas, represented in blue, include less frequently discussed topics or emerging areas that have not yet become dominant in the literature. Overall, the density visualization demonstrates that hospital management research is strongly centered on healthcare quality, strategy, and clinical integration, while also showing opportunities for further exploration in less-developed but potentially significant research areas.

#### ➤ Discussion

The findings of this study demonstrate that hospital management and administration research has evolved into a multidisciplinary field that integrates managerial, clinical, and technological perspectives. The network visualization reveals that traditional themes such as service quality, organizational performance, and leadership remain central to the literature. These core areas indicate that hospitals continue to prioritize improving the effectiveness and efficiency of healthcare delivery. The strong interconnections among these keywords suggest that research

in this domain is well-established and continues to build upon foundational theories in management and healthcare administration.

Furthermore, the emergence of clusters related to digital health and information technology reflects a significant transformation in hospital management practices. The increasing presence of keywords such as electronic medical records, health information systems, and telemedicine highlights the growing role of digital innovation in improving healthcare services. This shift is consistent with global trends emphasizing digital transformation in healthcare systems. The integration of technology not only enhances administrative efficiency but also supports better decision-making and coordination among healthcare professionals.

The overlay visualization provides additional insights into the temporal development of research topics. Earlier studies were predominantly focused on clinical and epidemiological aspects, particularly during periods influenced by global health crises such as the COVID-19 pandemic. However, more recent research trends show a clear transition toward patient-centered care, service quality, and operational efficiency. This shift indicates that hospital management research is becoming more holistic, addressing both clinical outcomes and patient experiences as key performance indicators.

The density visualization further supports these findings by identifying the most frequently studied and influential topics within the field. High-density areas, such as healthcare strategy, quality, and treatment, demonstrate that these themes continue to dominate scholarly discussions. At the same time, emerging topics with moderate density, such as patient engagement, innovation, and data-driven decision-making, indicate areas with strong potential for future research. This pattern suggests that while the field maintains its foundational focus, it is also adapting to new challenges and opportunities in healthcare systems.

Overall, the results highlight a dynamic balance between continuity and innovation in hospital management research. While traditional themes remain relevant, the increasing integration of digital technologies and patient-centered approaches reflects the evolving nature of healthcare systems. These findings provide important implications for researchers and practitioners, emphasizing the need to combine established management principles with emerging

technological advancements. Future research should focus on exploring the integration of artificial intelligence, big data analytics, and sustainable healthcare practices to further enhance the effectiveness and resilience of hospital management systems.

#### **D. CONCLUSION AND SUGGESTIONS**

##### ➤ Conclusion

This study concludes that research on hospital management and administration is strongly centered on core themes such as healthcare quality, strategic management, and clinical service integration. Bibliometric findings indicate that these areas remain dominant and highly interconnected, reflecting their critical role in improving hospital performance and patient satisfaction. The consistency of these themes over time suggests that they form the foundation of knowledge development in the field and continue to guide both academic research and practical implementation in healthcare institutions.

In addition, the study highlights a significant shift toward innovation-driven research, particularly in the adoption of digital technologies and patient-centered approaches. Emerging topics such as health information systems, data-driven decision-making, and service efficiency demonstrate the evolving nature of hospital management in response to modern healthcare challenges. Therefore, future research is expected to further explore the integration of advanced technologies and sustainable practices to enhance the effectiveness, adaptability, and resilience of healthcare systems.

##### ➤ Suggestions

Future research is recommended to further explore the integration of digital technologies, such as artificial intelligence, big data analytics, and advanced health information systems, within hospital management and administration. Researchers should focus on how these innovations can enhance decision-making processes, improve service quality, and increase operational efficiency in healthcare institutions. In addition, there is a need to expand studies on patient-centered care by incorporating variables such as patient experience, satisfaction, and engagement to ensure that healthcare services remain responsive to community needs.

From a practical perspective, hospital administrators and policymakers are encouraged to adopt innovative and adaptive management strategies that align with current technological developments. Strengthening human resource capacity, improving digital infrastructure, and ensuring effective governance are essential steps in enhancing hospital performance. Moreover, collaboration between academic researchers, healthcare practitioners, and government institutions should be intensified to bridge the gap between theory and practice, thereby supporting the development of sustainable and high-quality healthcare systems.

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