TOWARDS AN AI-ENHANCED SUSTAINABLE HEALTH SYSTEM: INFERENCES FROM HEALTHCARE MANAGEMENT RESEARCH

Hafize Nurgül DURMUŞ ŞENYAPAR[1]

Citation: Durmuş Şenyapar, H.N. (2023). Towards an AI-enhanced sustainable health system: inferences from healthcare management research. *Hitit Journal of Social Sciences, 16*(2), 503-530. doi:10.17218/hititsbd.1376667

Abstract: Health management literature is critical in facilitating effective leadership and management in the health sector by imparting the knowledge and understanding required in health service planning, organization, coordination, and management. Through an exhaustive bibliometric examination, the current state of the "healthcare management" literature was assessed in this study, illuminating potential future developments in the field. By utilizing an extensive compilation of articles from the Web of Science (WoS) database, this study endeavors to scrutinize patterns in scientific inquiry, assess advancements made on subjects, and underscore significant fields of cooperation and scholarly input. An in-depth, extensive analysis revealed that three decades of research yielded over 46,000 publications; the number of publications has increased by six, particularly in the last ten years, and the United States and the United Kingdom produced most of the publications. Analysis identifying influential journals and authors in the field revealed that it is the focus of attention of health professionals, especially nurses. Although the COVID-19 pandemic has been recognized as the primary public health concern, scholarly attention has shifted towards a sustainable health system incorporating technology-supported preventive health practices and intelligence. To thoroughly comprehend the theoretical progression of health management research, its capacity to tackle worldwide issues, and its growth potential, the study's findings are a valuable scholarly resource that offers practitioners, policymakers, and researchers a comprehensive overview.

Keywords: *Healthcare Management, Bibliometric Analysis, Thematic Analysis, Healthcare Professionals, Artificial Intelligence*

Yapay Zekayla Geliştirilmiş Sürdürülebilir Bir Sağlık Sistemine Doğru: Sağlık Yönetimi Araştırmalarından Çıkarımlar

Atıf: Durmuş Şenyapar, H.N. (2023). Yapay zekayla geliştirilmiş sürdürülebilir bir sağlık sistemine doğru: sağlık yönetimi araştırmalarından çıkarımlar. *Hitit Sosyal Bilimler Dergisi, 16*(2), 503-530. doi:10.17218/hititsbd.1376667

Özet: Sağlık yönetimi literatürü, sağlık hizmetlerinin planlanması, organizasyonu, koordinasyonu ve yönetiminde gerekli olan bilgi ve anlayışın aktarılması yoluyla sağlık sektöründe etkili liderlik ve yönetimin kolaylaştırılması açısından kritik öneme sahiptir. Kapsamlı bir bibliyometrik inceleme yoluyla, bu çalışmada "sağlık yönetimi" literatürünün mevcut durumu değerlendirilerek alanda gelecekte yaşanabilecek potansiyel gelişmelere ışık tutulmuştur. Web of Science (WoS) veri tabanındaki kapsamlı bir makale derlemesinden yararlanan bu çalışma, bilimsel araştırmadaki kalıpları

Araştırma Makalesi / Research Article

Makale Geliş Tarihi / Submitted: 16.10.2023 **Makale Kabul Tarihi / Accepted:** 23.12.2023

[1] Öğr. Gör. Dr., Gazi Üniversitesi, Kalite Koordinatörlüğü, nurguld@gazi.edu.tr | https://orcid.org/0000-0003-0927-1643 | https://ror.org/054xkpr46

Lecturer, Dr., Gazi University, Quality Coordination Unit, nurguld@gazi.edu.tr | https://orcid.org/0000-0003-0927-1643 | https://ror.org/054xkpr46

incelemeyi, konularda kaydedilen ilerlemeleri değerlendirmeyi ve önemli iş birliği ve bilimsel girdi alanlarının altını çizmeyi amaçlamaktadır. Derinlemesine bir analiz, otuz yıllık araştırmalar sonucunda 46 binden fazla yayının üretildiği ve özellikle son on yılda yayın sayısının altı katına çıktığı, yayınların çoğunun ABD ve İngiltere'de üretildiği belirlenmiştir. Alandaki etkili dergi ve yazarları belirleyen bu analiz; sağlık profesyonellerinin ve özellikle hemşirelerin ilgi odağı olduğunu ortaya koymuştur. Her ne kadar COVID-19 salgını alandaki birincil halk sağlığı sorunu olarak kabul edilse de bilimsel ilgi, teknoloji destekli koruyucu sağlık uygulamaları ve zekâsını birleştiren sürdürülebilir bir sağlık sistemine yönelmiştir. Bu çalışmanın bulguları; sağlık yönetimi araştırmasının teorik ilerleyişini, dünya çapındaki sorunları çözme kapasitesini ve büyüme potansiyelini tam olarak kavramak için uygulayıcılara, politika yapıcılara ve araştırmacılara kapsamlı bir genel bakış sunmaktadır.

Anahtar Kelimeler: *Sağlık Yönetimi, Bibliyometrik Analiz, Tematik Analiz, Sağlık Profesyonelleri, Yapay Zekâ*

1. INTRODUCTION

The healthcare sector is a dynamic and varied subject that includes the complex relationship of technological developments, legislative frameworks, economic factors, and human behavior. The scientific discipline of medicine has more than the mere application of medical knowledge; it also covers the influence of policies on practices, the impact of economic concerns on decision-making, and the role of human behaviors and attitudes in determining outcomes (Barouki et al., 2021). The healthcare sector has challenges regarding navigation and comprehension due to its complicated features (Calder et al., 2019). Healthcare systems fulfill a vital societal function by adopting a substantial responsibility for safeguarding the health and well-being of populations (Vera San Juan et al., 2021). These systems are crucial in disease prevention, offering therapeutic interventions, and preserving public health information, covering many continents and cultures. The individual's responsibility is not limited to responding to health difficulties as they occur but also includes a proactive approach that involves anticipating and preparing for forthcoming health challenges (Haldane et al., 2021). The essential component of these expansive and diverse healthcare systems resides in the pivotal field of healthcare management. This field encompasses more than just administrative duties; it involves visionary leadership capable of guiding healthcare facilities through periods of stability and uncertainty (Wei and Horton-Deutsch, 2022). The area of healthcare management includes the implementation of strategic planning to optimize the allocation of resources, the exercise of administrative oversight to ensure compliance with established policies and procedures, and the demonstration of leadership skills to motivate and provide guidance to diverse teams of professionals (Baugh et al., 2020; Correa et al., 2020). Healthcare systems operate within a dynamic global context subject to continuous change (Nilsen et al., 2020). Demographic changes, such as aging populations observed in numerous developed nations, give rise to various issues regarding chronic illnesses and the subsequent surge in healthcare service requirements (Nilsen et al., 2020). Technological improvements have a dual nature, encompassing both advantageous prospects and complex obstacles. These include telemedicine's potential benefits, artificial intelligence's use in diagnostics, and the ethical quandaries associated with genetic editing and safeguarding data privacy (Elbaz et al., 2021; Schwalbe and Wahl, 2020). Furthermore, the dynamic nature of disease profiles, characterized by the appearance of novel pathogens and the reemergence of already-known ones, necessitates healthcare systems' flexibility and adaptability (Janssen and van der Voort, 2020). Within the dynamic and evolving context, the function of healthcare management extends beyond mere reaction, encompassing the ability to foresee, formulate strategies, and assume leadership. The

significance of proficient, knowledgeable, and forward-looking healthcare management becomes progressively crucial as the difficulties expand in magnitude and intricacy (Pakarinen et al., 2023).

Historically, healthcare originated as a predominantly clinical endeavor firmly grounded on restoring health and utilizing medical expertise (Hashim, 2019). The central emphasis was placed on providing patient care, wherein physicians, nurses, and other healthcare practitioners were committed to diagnosing, treating, and averting illnesses (Derriennic et al., 2021). In the initial stages, management was frequently marginalized and perceived as a mere operational requirement rather than a crucial strategic element. Over time, the modest clinics and infirmaries of the past underwent a process of transformation (Speziale, 2015). Over time, these institutions underwent a process of evolution, resulting in their expansion and enhancement. This expansion entailed incorporating various elements, such as research facilities, specialized departments, and innovative medical technologies, transforming them into more extensive and sophisticated entities. As the dimensions and complexity of the phenomenon expanded, the logistical and administrative difficulties experienced a corresponding increase. Simultaneously, managing patient care and administrative responsibilities became increasingly impractical for clinical practitioners. The magnitude and intricacy of activities necessitated adopting a more organized and specialized management strategy. The observation signified the early phases of institutionalized hospital management (Chughtai et al., 2019; Jacobs and Garrett, 2020). In the initial stages, administrators frequently comprised clinicians who assumed supplementary duties; nevertheless, the position gradually became more specialized as time progressed. The emphasis transitioned from essential administrative responsibilities to the more complex areas of strategic planning, allocation of resources, and leadership within the company (Barasa et al., 2016; Gigliotti and Ruben, 2017). The emergence of training programs and academic courses sought to provide individuals with the necessary skills and information to oversee healthcare organizations. Healthcare management has recently witnessed significant growth and expansion (McConaughey, 2008; Stoller et al., 2007). Contemporary healthcare extends beyond singular hospital entities, encompassing expansive networks of primary care physicians, specialty clinics, research facilities, and integrated health systems. Effectively managing these entities necessitates a comprehensive comprehension of healthcare and proficiency in finance, human resources, technology, and policy (Knudsen and Vogd, 2014). The scholarly discussion surrounding healthcare management has paralleled this progression. While first publications may have primarily focused on fundamental aspects of hospital management, modern literature explores various issues, including health informatics, regulatory implications, financial strategies, and optimizing patient experience. The transition in academic emphasis is more than just indicative of the evolving dynamics of healthcare provision. Furthermore, it reflects larger-scale global changes. In the last century, the healthcare industry has been significantly influenced by rapid socio-economic changes, technological advancements, and alterations in population dynamics. These factors have resulted in the need for a more sophisticated and flexible approach to healthcare management (Milas, 2015; Moran, 1998).

Academic inquiry within healthcare administration is essential, as it actively influences healthcare systems' global direction and development (Păduraru et al., 2022). Academic research is a foundational framework for healthcare management methods, offering a comprehensive theoretical basis. Scholars make significant contributions to advancing knowledge by thoroughly scrutinizing ideas, conducting rigorous model testing, and meticulously analyzing data. These scholarly endeavors transform abstract theories into practical and valuable insights. Establishing

a foundation grounded in facts guarantees that managerial decisions and tactics are not just reliant on intuition but also supported by empirical evidence and logical reasoning (Wu et al., 2022). Academic research not only fulfills its primary purpose but also catalyzes critical thinking. The platform facilitates a space for professionals, academics, and patients to critically assess the existing state of affairs. Systematic reviews, case studies, and comparative analyses serve as valuable tools for shedding light on inefficiencies present in current systems, questioning obsolete practices, and pinpointing gaps in our current understanding. The employment of this reflective process is vital to facilitate ongoing improvement, hence propelling the healthcare industry towards superior outcomes heightened patient satisfaction, and improved allocation of resources. Moreover, academic research serves as a means of assessing the current state of the healthcare management profession. Through a comprehensive analysis of existing scholarly literature, researchers can determine prevalent patterns, identify rising obstacles, and anticipate forthcoming transformations. Academic research is crucial in equipping healthcare leaders with the foresight to navigate emerging trends. These trends include the increasing prominence of telehealth, the potential impact of artificial intelligence on patient care, and the complexities associated with addressing global health crises (Tortorella et al., 2020). In the contemporary healthcare environment, marked by rapid technological progress, legislative changes, and global health complexities, it is crucial to emphasize the significance of remaining informed about current research developments. The knowledge obtained from scholarly research informs optimal methodologies, shapes policy determinations, and impacts organizational approaches. Nevertheless, prioritizing research has significantly increased literary production (Menon and Gillis, 2018). Many papers, reviews, and commentary frequently overwhelm journals, conferences, and digital repositories. This poses a formidable task for scholars, practitioners, and policymakers. The enormous number of publications can be daunting, posing challenges in identifying genuinely revolutionary works, emerging trends, and pressing areas requiring immediate attention. By providing clarity and context to the scientific field of health management, this study aims to enhance the ability of stakeholders to make well-informed decisions, covering research directions, policy formulations, and practical applications within the health sector. In addition to its theoretical contributions, the holistic perspective presented also carries critical practical implications for academics, practitioners, and policymakers. The study's results can help researchers contextualize their work within a broader narrative. This study will give practitioners insight into evidence-based best practices and future innovations. It will provide policymakers with the opportunity to obtain valuable information about the field's historical response to challenges and its level of preparedness for future challenges.

2. LITERATURE REVIEW

The field of healthcare management is characterized by its complexity since it involves a range of elements, such as quality assurance, primary care, population health management, financial management, and macro-system integration (Berwick et al., 2008). The utilization of artificial intelligence (AI) in the healthcare sector has garnered increasing attention in recent years. Artificial intelligence (AI) can fundamentally transform healthcare provision by augmenting operational efficiency, precision, and patients' overall well-being. Examining healthcare-related AI papers by bibliometric analysis offers significant insights into this domain's prevailing patterns and progressions (Guo et al., 2020). Furthermore, implementing eHealth services has attracted significant interest in healthcare administration. Cobelli and Blasioli (2023) argue that a bibliometric analysis of adopting eHealth services can comprehensively understand the available resources and research frameworks in this field. The Unified Theory of Acceptance and Use of Technology (UTAUT) and its successor, the Unified Theory of Acceptance and Use of Technology

2 (UTAUT2), are often used conceptual frameworks in scholarly investigations in healthcare. The Internet of Things (IoT) has emerged as a critical technological advancement within healthcare applications. Ullah et al. (2022) argue that doing a bibliometric analysis on the utilization of the Internet of Things (IoT) in healthcare applications can facilitate the identification of prevalent research themes and notable accomplishments within this field. This investigation can yield valuable insights regarding the potential of the Internet of Things (IoT) in enhancing healthcare delivery and increasing patient outcomes. The issue of workplace violence among healthcare personnel is a matter of concern that necessitates addressing. Cebrino and Cruz (2020) argue that doing a bibliometric analysis of the global body of literature on workplace violence in healthcare staff might be necessary to discern patterns, find areas where research is lacking, and devise new solutions to tackle this problem effectively. This type of study has the potential to provide valuable insights for informing research policy and management decisions, such as the distribution of research funding.

Bibliometric analysis is widely recognized as a powerful instrument for investigating diverse domains, such as operations research, management science, and input-output analysis (Merigó and Yang, 2017; Xie et al., 2018). This methodology facilitates a systematic and numerical examination of bibliographic resources, offering valuable perspectives on scholarly output patterns, progressions, and influence (Ellegaard and Wallin, 2015). Furthermore, bibliometric analysis can be applied to investigate the amalgamation of strategic management, decision-making, and corporate sustainability, providing a conceptual framework for comprehending the interrelated concerns within this domain (Kitsios et al., 2020). Bibliometric analysis has become a powerful tool for understanding healthcare management research trends, methodologies, and findings (Păduraru et al., 2022). Bibliometrics exhibits promise as a study domain for healthcare scientists and practitioners, offering the possibility to uncover novel insights on academic patterns, medication, and disease (Thompson and Walker, 2015). Numerous bibliometric investigations have been undertaken within the realm of health management. These studies have investigated various subjects and contributed significantly to understanding patterns and discoveries within the discipline. A bibliometric analysis was undertaken by Adunlin et al. (2014) to examine the utilization of multicriteria decision analysis in the healthcare field. The study reviewed publication trends and emphasized using multicriteria decision analysis within healthcare decision-making processes. Integrating advanced technologies, especially artificial intelligence and machine learning, has significantly influenced healthcare management research. A further investigation was conducted to examine the utilization of artificial intelligence (AI) within the healthcare sector. Guo et al. (2020) conducted a bibliometric analysis to examine the landscape of AI-related studies in the healthcare domain. Their study aimed to track the progression of AI research in healthcare and discern patterns and trends that can inform future research endeavors. Furstenau et al. (2021) undertook a bibliometric network analysis to examine the scholarly output about the COVID-19 pandemic within the initial eight-month period of 2020. The study yielded valuable data on the research environment and collaboration patterns within the domain of COVID-19 research. A bibliometric investigation by Merigó and Núñez (2016) identified prominent publications within health research. The present study analyzed the attention and advancement of strategic management in the academic literature, offering valuable insights into the publication landscape and the research effect on health management. However, the prevalence of strategic management issues in health management journals is comparatively lower compared to other disciplines, potentially due to a diminished interest in strategic management resulting from a lack of competitiveness within the healthcare sector (Koseoglu et

al., 2015). The issue of workplace violence among healthcare staff is a matter of concern, prompting a global bibliometric analysis to examine the existing body of literature on this subject. Cebrino and Cruz (2020) conducted an analysis that presented a comprehensive survey of several publications, providing valuable insights into worldwide trends and the influence of scientific information on health-related matters. Furthermore, a bibliometric analysis was conducted to investigate the associations between green space and public health, as documented by Zhang et al. (2020). Zhang et al. (2020) analyzed worldwide research patterns and potential future developments in this field. The study offered valuable insights into the correlation between green spaces and outcomes related to public health. Haque et al. (2022) focus on the Semantic Web's potential to enhance knowledge exchange, information management, and decision support in healthcare and provide a systematic review of the Semantic Web in healthcare, identifying research gaps and future research avenues. Radanliev and De Roure (2023) discuss the digitalization of society and the new forms of data that present opportunities for improved data-driven multimedia services and touch upon the research collaboration between countries.

The bibliometric studies have made valuable contributions to the comprehension of diverse facets of health management, encompassing decision analysis, artificial intelligence (AI) implementations, research on COVID-19, influential scholarly publications, workplace violence, and the association between green spaces and public health. The bibliometric analysis is a valuable tool to gauge the trends and understand the evolving landscape of healthcare management. As the field continues to grow, researchers and practitioners must stay updated with the latest methodologies and findings to ensure evidence-based practices in healthcare management.

3. METHODOLOGY

The effectiveness of bibliometric analysis in identifying important patterns and extracting valuable insights has been demonstrated in the extensive field of scientific literature. Bibliometric analysis is not merely a tool but rather a complex approach that uses quantitative methods to evaluate and analyze a large amount of information in academic articles (Li and Li, 2022; Mahmud and Ali, 2023). On October 2, 2023, a scan was executed on the Web of Science (WoS) database using the keyword "Healthcare Management." The data retrieved using this keyword was downloaded from the WoS database without initial filtering for the date range 1991- 2023. Subsequently, similar and irrelevant articles were purged using the Bibliometric library of the R-Studio program to refine the data. Bibliometric analysis is fundamentally centered on systematically evaluating several metrics linked to scholarly publications. The metrics encompass a broad spectrum, ranging from simple quantitative measures, such as the count of publications attributed to a specific author or institution, to intricate patterns, such as citation networks that unveil the impact and interrelationships among different scholarly works. One example of a fundamental metric that provides valuable insights into the quantity of research production is publication counts. This metric indicates the prolificacy of authors, institutions, or regions (Araújo-Vila et al., 2023; Syafri et al., 2023). By examining citation patterns, specifically the frequency with which a specific work is referenced, one can assess its level of influence and significance within the scholarly community. Frequently, high citation counts indicate seminal or innovative contributions that have substantially impacted the literary conversation within a particular discipline. The analysis of co-authorship networks can provide insights into collaborative patterns, shedding light on the frequent collaborations between institutions or researchers. These networks can also serve as indicators of hubs of expertise or specialization (Jang et al., 2020). By studying the frequencies of keywords and the recurrence of specific phrases, one can identify

prevailing themes, emerging trends, and areas of concentrated research focus. Bibliometric analysis utilizes many measures to convert extensive unprocessed data into organized and comprehensible insights. This resource offers a comprehensive overview of the development of a specific discipline, highlighting significant contributions, notable scholars, and developing research areas. Essentially, this process involves deciphering the scholarly account of a particular field of study, providing a guide to its historical development, current state, and possible future directions (Pesta et al., 2018). In the bibliometric analysis, the utmost importance is placed on the quality and comprehensiveness of the data source. The Web of Science (WoS) database is widely recognized for its meticulous selection of indexed academic papers. It offers a comprehensive and diverse collection of scholarly works spanning several fields of study. When researching healthcare management, an analysis that relies on the WoS database guarantees a thorough examination. The statement highlights the comprehensive nature of the research contributions, encompassing a wide range of techniques, sub-disciplines, and geographical locations (Vanderstraeten and Vandermoere, 2021). Using the WoS database for bibliometric analysis, researchers can obtain a comprehensive, thorough, and precise depiction of the scholarly terrain of healthcare administration. In the context of the extensive and dynamic body of academic literature about healthcare administration, this study endeavors to comprehensively chart the complex research trajectories in this field. This study aims to comprehensively examine and elucidate the concealed patterns present in the collected academic literature, employing the meticulous methodology of bibliometric analysis. The primary data source utilized in this investigation is the WoS database, widely recognized for its extensive and meticulously managed compilation of scholarly papers. Through synthesizing this data, the study aims to provide a complete overview of the nuanced progression of research in healthcare management.

4. RESULTS

4.1. Main Information

The bibliometric analysis of academic studies on “Healthcare Management” sourced from the WoS database offers a comprehensive overview of the research landscape spanning over three decades, from 1991 to 2023. During this period, 46,631 documents were accessed from 8,756 sources. The fact that 32,868 of these documents are articles indicates a strong tendency towards empirical and scientific contributions. Despite the vast number of publications, there has been an annual growth rate of -3.27%. It can be predicted that this negative growth rate is since the date of the screening covers the first nine months of the year. The volume of work carried out in the field and the diversity of contributions are further emphasized by the fact that 175,170 authors were involved in creating the documents identified. The interdisciplinary and collaborative nature of health management research is evidenced by the number of single-authored studies limited to 3,195. The richness of the research is also emphasized by the fact that the number of keywords used by the authors reaches 62,126. Additionally, the presence of 36,454 “keywords plus” suggests the integration of broader themes and concepts, reflecting the evolving and multifaceted nature of healthcare management. The analysis underscores the depth and breadth of research in healthcare management. While the area might be experiencing a deceleration in annual growth, the sheer volume and diversity of contributions over the past three decades affirm its significance and relevance in the academic world, as given in Table 1.

Table 1. Main Information

Description	Results	Description	Results
Main Information About Data		Article: Early Access	727
Timespan	1991:2023	Article; early access proceedings paper	1
Sources (Journals, Books, etc)	8756	Article; proceedings paper	613
Documents	46631	Article; retracted publication	5
Annual Growth Rate %	-3.27	Bibliography	3
Document Average Age	5.93	Biographical-item	1
Average citations per doc	15.96	Book review	1
References	1367591	Correction	5
Document Contents		Editorial material	588
Keywords Plus (ID)	36454	Editorial material; book chapter	6
Author Keywords (DE)	62126	Editorial material; early access	8
Authors		Letter	28
Authors	175170	Letter; early access	1
Authors of single-authored docs	3195	News item	1
Authors Collaboration		Note	1
Single-authored docs	3469	Proceedings paper	3416
Co-Authors per Doc	5.52	Reprint	4
International co-authorships %	24.7	Retraction	1
Document Types		Review	7767
Article	32871	Review; book chapter	14
Article; book chapter	406	Review; early access	155
Article; data paper	6	Review; early access; retracted publication	1
Article; early access	727	Review; retracted publication	1
Article; early access proceedings paper	1	Article; early access proceedings paper	1
Article; proceedings paper	613	Article; proceedings paper	613
Article; retracted publication	5	Article; retracted publication	5
Article; data paper	6		

The bibliometric analysis of academic articles on “Healthcare Management” from the WoS database provides a chronological insight into the evolution of research interest in this field from 1991 to 2023. The early 1990s witnessed a modest beginning, with only a limited number of articles published annually. However, the subsequent years saw a consistent and exponential growth in publications, reflecting the escalating significance and attention towards healthcare management. From a mere six articles in 1991, the field experienced a tenfold increase by the turn of the millennium in 2000, reaching 170 articles. The momentum continued into the 21st century, with the number of publications surpassing a thousand by 2010. The period between 2010 and 2022 was particularly noteworthy, with the number of articles almost sextupling from 1,010 to a peak of 6,087 in 2022. This increase underscores increasing research activity and recognition of the complexities and challenges associated with health management. The decline in the number of articles to 4,397 by 2023 can be attributed to the screening process conducted as part of this research, which occurred before the year’s termination. The consistent rise of scholarly articles within this dynamic and constantly progressing area of study throughout the years illustrates the significant influence of health management in creating health systems on a

global scale. The graphic representation of Figure 1 provides the numerical count of research referenced in this paragraph.

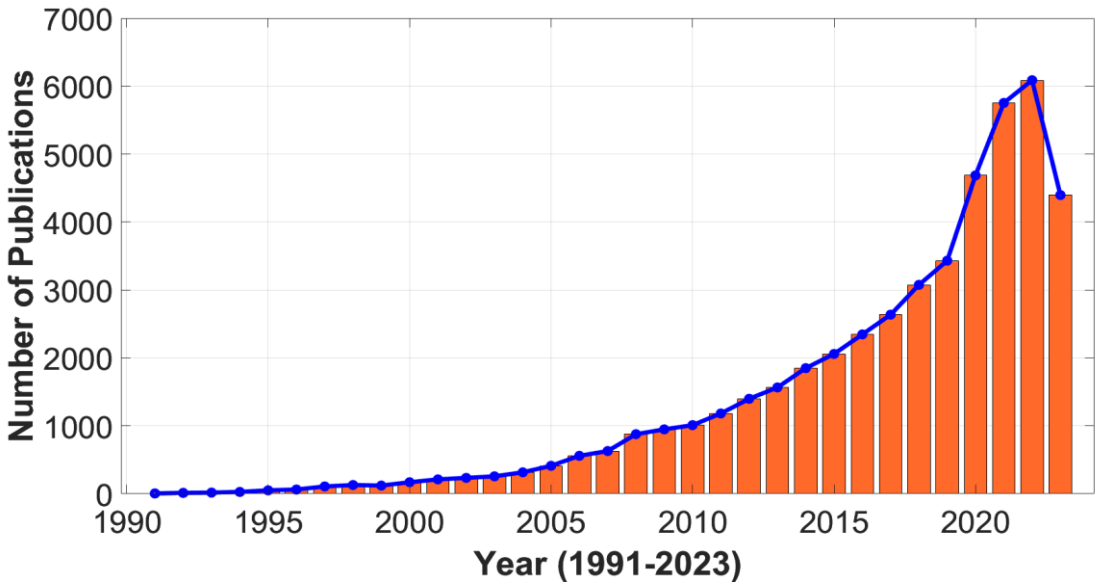
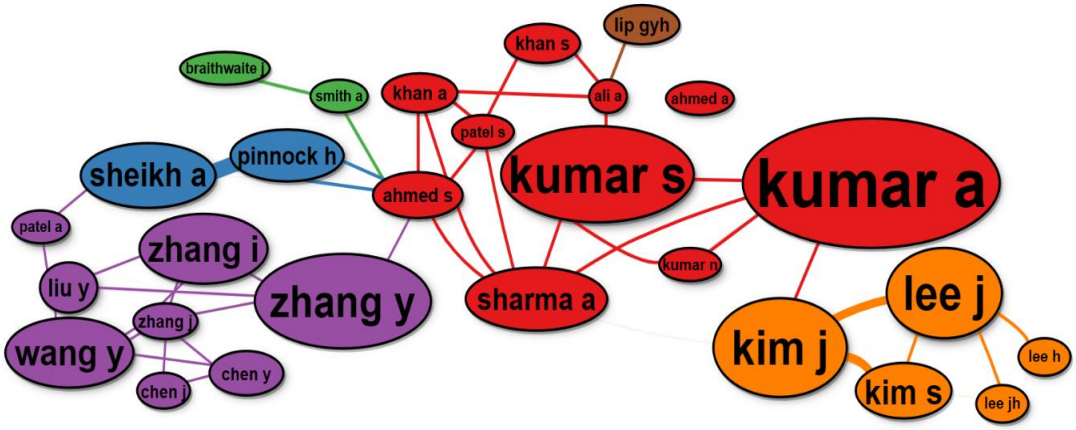


Figure 1. Annual Scientific Production

4.2. Co-Citation Analysis

In bibliometric studies, the co-citation of authors' analysis is a powerful tool for understanding a scientific field's intellectual structure and collaborative dynamics. When two authors are frequently cited together in subsequent publications, it indicates a perceived thematic or conceptual association between their works. This co-citation pattern can reveal collaborative networks, shared research themes, and the influence of author pairs or groups within the academic community. By examining these author co-citation relationships, researchers can identify critical scholars, influential partnerships, and dominant schools of thought within a discipline. Moreover, it provides insights into the evolution of academic discourse, highlighting shifts in research paradigms and the emergence of new thought leaders. In essence, the co-citation of the authors' analysis offers a comprehensive view of the relational landscape and the intellectual backbone of a research field. The author's co-citation analysis contributes significantly to the discourse in this field. Cluster 1 is the most extensive and features diverse authors, including Kumar (with multiple variations), Khan, Ahmed, Ahmet, and Patel. This cluster represents a broad spectrum of research and indicates a prolific output from these authors in the field of healthcare management. Cluster 2 predominantly comprises authors with "Kim" and "Lee" surnames. Their prominence in this cluster signifies their substantial contributions and possibly a cohesive research community focused on specific aspects of healthcare management. Cluster 3, with authors such as Zhang, Wang, Chen, and Liu, showcases another vibrant research community. The presence of "Patel a" in this cluster indicates the interconnectedness of research themes and the collaborative nature of academic endeavors in this field. Clusters 4 and 5, though smaller, represent focused research collaborations. Cluster 4 features Braithwaite and Smith, while Cluster 5 showcases the works of Sheikh and Pinnock. Their placement in distinct clusters underscores their unique contributions and the impact of their research in healthcare

management. Lastly, Cluster 6, represented solely by "Lip gyh", highlights the author's distinct and influential position in the field. The standalone nature of this cluster emphasizes the significant contributions and the unique research trajectory undertaken by this author. The bibliometric analysis maps the leading figures in healthcare management research. These clusters highlight the depth and breadth of contributions and offer insights into the collaborative and individualistic nature of academic research in this field. The results of this analysis are shown



visually in Figure 2.

Figure 2. Co-Citation Analysis of Authors

The most prolific author analysis has spotlighted several pivotal authors who have significantly shaped the discourse in this field. Aziz Sheik leads the cohort with an impressive 53 publications, closely followed by Wensing and Michel with 45 articles. McCloskey, Eugene, Cooper, and Matthew have contributed substantially with 43 and 42 publications, respectively. Other notable figures include Pinnock, Hilary; Wickramasinghe, Nilmini; Braithwaite, Jeffrey; and Kanis, John A., with publications ranging from 31 to 39. The list further encompasses a group of influential authors like Chavannes, Niels; Price, David; Kaye, Alan D.; and Car, Josip, among others, each with more than 20 publications. Through their prolific output, these authors have indubitably played a foundational role in advancing research in healthcare management. Their collective works represent the core of academic contributions and highlight healthcare management research's diverse and multifaceted nature. This information is given in Table 2.

Table 2. Most Prolific Authors

No	Author	WoS Researcher ID	Record Count	No	Author	WoS Researcher ID	Record Count
1	Aziz Sheikh	D-2818-2009	53	11	Kaye, Alan D.	DXF-2190-2022	25
2	Wensing, Michel	H-8113-2014	45	12	Car, Josip	H-6755-2015	23
3	McCloskey, Eugene	T-5197-2019	43	13	Khunti, Kamlesh	DWL-0788-2022	23
4	Cooper, Matthew	I-8573-2012	42	14	Compston, Juliet E.	DVX-2560-2022	22
5	Pinnock, Hilary	GHF-6993-2022	39	15	Naguib, Raouf	C-9211-2012	22
6	Wickramasinghe, Nilmini	GDG-4318-2022	34	16	Grimshaw, Jeremy	D-8726-2013	22
7	Braithwaite, Jeffrey	AAN-1467-2020	32	17	Lip, Gregory Y. H.	DCG-6239-2022	21
8	Kanis, John A.	CXV-3817-2022	31	18	Kalantar-Zadeh, Kamyar	Q-4734-2018	21
9	Chavannes, Niels	F-1148-2011	26	19	Guest, Julian F.	FZW-0011-2022	20

10	Price, David	H-2837-2019	26	20	Matchar, David	M-3951-2019	19

4.3. Journal and Document Analysis

Journal analysis within bibliometric studies is paramount as it offers a comprehensive lens to assess the academic landscape. One can gauge a journal's impact and centrality in a specific field by evaluating the frequency and patterns of article citations within journals. This not only aids in identifying core journals that consistently publish influential work but also offers insights into emerging research trends and the evolution of academic disciplines over time. Furthermore, the interdisciplinary nature of research can be discerned when articles from one journal are frequently cited in another, signifying a convergence of knowledge across fields. For academic institutions, such analysis is invaluable for guiding library acquisitions and ensuring collections remain relevant. Additionally, academic evaluations often incorporate journal metrics derived from bibliometric analysis, influencing promotions, tenure, and research funding decisions. The journal analysis of academic studies on "Healthcare Management" sourced from the WoS database has spotlighted several journals at the forefront of publishing research in this field. Leading the list is "B.M.J. Open," with a commendable 1,064 publications, followed closely by "B.M.C. Health Services Research" and "PLOS One," with 831 and 758 articles, respectively. Other notable journals include the "International Journal of Environmental Research And Public Health" and "Cureus Journal of Medical Science," each contributing significantly to the body of knowledge in healthcare management. "Studies in Health Technology and Informatics," "Journal of Clinical Nursing," "Frontiers in Public Health," "Journal of Advanced Nursing," and "American Journal of Managed Care Journals" have also consistently showcased pivotal research in the field. Through their extensive publications, these journals have played an instrumental role in shaping the discourse, advancing knowledge, and promoting innovative practices in healthcare management. Their collective contributions underscore research's multidisciplinary and dynamic nature in this vital field. Table 3 shows the top ten journals.

Table 3. Top 10 Journals with The Most Articles on Healthcare Management

No	Journal	No. of Publications	Publisher
1	BMJ Open	1064	BMJ Publishing Group
2	BMC Health Services Research	831	Springer Nature
3	PLOS One	758	PLOS
4	International Journal of Environmental Research and Public Health	594	Hindawi
5	Cureus Journal of Medical Science	403	Springer Nature
6	Studies in Health Technology and Informatics	393	IOS Press
7	Journal of Clinical Nursing	344	Wiley
8	Frontiers in Public Health	302	Frontiers
9	Journal of Advanced Nursing	269	Wiley
10	American Journal of Managed Care Journals	244	American Journal of Managed Care

The document analysis of academic studies on "Healthcare Management" sourced from the WoS database has highlighted seminal works that have significantly influenced the field. Topping the list is the paper by Roger VL., published in "Circulation" in 2011, which has garnered an impressive 3,020 citations, underscoring its pivotal role in shaping discourse and research trajectories. Not far behind are influential contributions from Cohen SH. in "Infect Cont. Hosp. Ep." (2010) and Jin YH. in "Military Med Res.-a-b" (2020), each amassing over 2,000 citations. The list further encompasses a diverse range of topics and journals, from clinical studies in "Nat. Med." and "Osteoarthr Cartilage" to more system-focused research in "IEEE T. Syst. Man. Cy. C." and "J Manage Inform Syst.". Some authors, such as Osmon DR. and Alhazzani W., have multiple

highly cited works in different journals, reflecting their broad impact and contributions. Through their extensive citations, these papers represent the foundational pillars of healthcare management research and indicate the evolving trends, challenges, and innovations in the field. Their collective influence underscores healthcare management research's multidimensional and dynamic nature, serving as touchstones for scholars and practitioners alike. This information is generally summarized in Table 4.

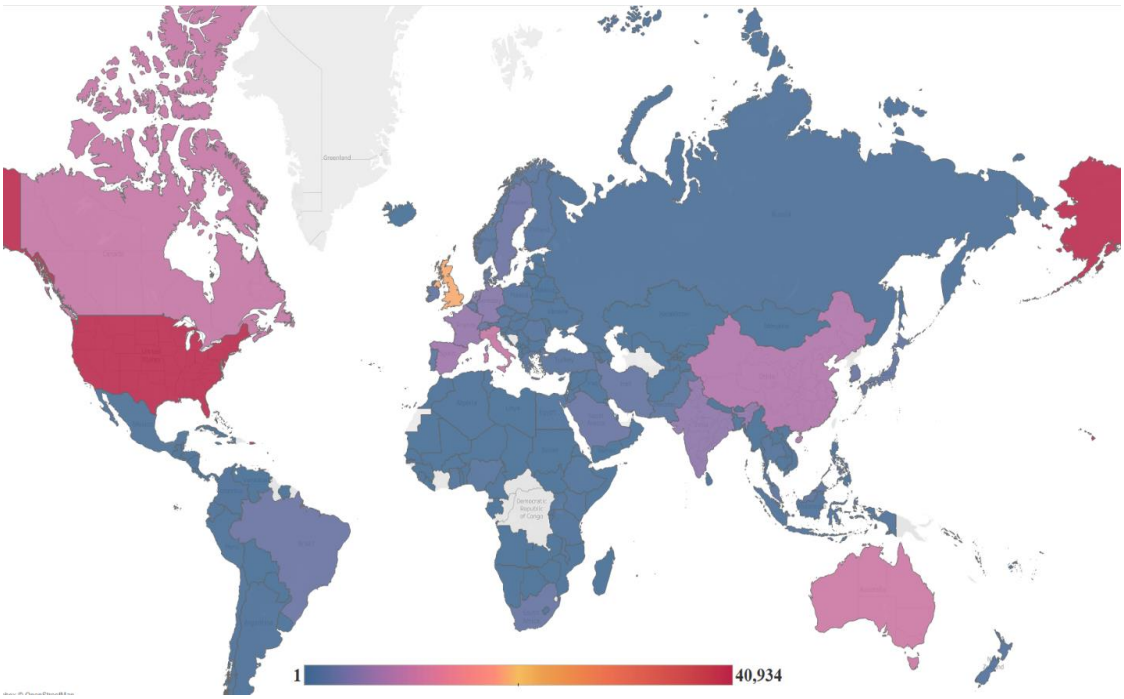
Table 4. Most Cited Documents on Healthcare Management

Paper	DOI	Total Citations
Roger Vl., 2011, Circulation	10.1161/CIR.0b013e3182009701	3020
Cohen Sh., 2010, Infect Cont. Hosp. Ep.	10.1086/651706	2250
Jin Yh., 2020, Military Med. Res.-A-B	10.1186/s40779-020-0233-6	2170
Nalbandian A., 2021, Nat. Med.	10.1038/s41591-021-01283-z	1937
Mcalindon Te., 2014, Osteoarthr Cartilage	10.1016/j.joca.2014.01.003	1857
Adams Hp., 2007, Stroke	10.1161/STROKEAHA.107.181486	1844
Mccrindle Bw., 2017, Circulation	10.1161/CIR.0000000000000484	1790
Mcdonald Lc, 2018, Clin Infect Dis-A	10.1093/cid/cix1085	1715
Baddour Lm, 2015, Circulation	10.1161/CIR.0000000000000296	1664
Osmon Dr, 2013, Clin Infect Dis	10.1093/cid/cis966	1569
Osmon Dr, 2013, Clin Infect Dis-A	10.1093/cid/cis803	1569
Learmonth Id, 2007, Lancet	10.1016/S0140-6736(07)60457-7	1420
Pantelopoulos A., 2010, Ieee T. Syst Man Cy. C.	10.1109/TSMCC.2009.2032660	1336
Srivastava A, 2013, Haemophilia	10.1111/j.1365-2516.2012.02909.x	1326
Norris Sl., 2001, Diabetes Care	10.2337/diacare.24.3.561	1274
Wells Sa., 2015, Thyroid	10.1089/thy.2014.0335	1170
Alhazzani W., 2020, Crit. Care Med.	10.1097/CCM.0000000000004363	1121
Alhazzani W., 2020, Intens Care Med.	10.1007/s00134-020-06022-5	1121
Martinez Aw., 2008, Anal Chem	10.1021/ac800112r	1115
Barnes Pj, 2009, Eur. Respir J.	10.1183/09031936.00128008	1074
Saposnik G., 2011, Stroke	10.1161/STR.0b013e31820a8364	1073
Sexton Jb., 2006, Bmc Health Serv Res	10.1186/1472-6963-6-44	1053
Hu Pj., 1999, J. Manage Inform Syst.	10.1080/07421222.1999.11518247	956
Azaria A., 2016, Proceedings 2016 2nd International Conference On Open And Big Data	10.1109/OBD.2016.11	946
Weiner Bj., 2009, Implement Sci.	10.1186/1748-5908-4-67	937

4.4. Journal and Document Analysis

Geographical analysis is vital in bibliometric studies because it gives insights into scientific research's geographic spread and cooperation patterns. By mapping the origins of publications, citations, or collaborations, geographical analysis reveals the leading regions or countries contributing to a specific field, indicating academic excellence and innovation centers. This geographic viewpoint facilitates the identification of global research hotspots, emerging actors, and possible areas for international collaboration. Furthermore, it offers a lens to understand regional research priorities, funding patterns, and the influence of socio-political factors on scientific output. By highlighting disparities in research contributions, geographical analysis can also shed light on areas that might benefit from increased resources or collaborative initiatives. In essence, geographical analysis in bibliometric studies serves as a compass, guiding the global landscape of academic research, fostering collaboration, and informing policy and investment decisions. The regional analysis provides a fascinating geographical perspective on the worldwide research scene. The U.S.A. emerges as the predominant contributor with a staggering 40,934 publications, followed by the UK and Australia, underscoring the significant research output from these regions. European nations, including Italy, Spain, France, and Germany, also feature prominently, reflecting the continent's robust academic infrastructure and focus on healthcare management. Notably, China and India, two of the most populous nations, have made significant contributions, highlighting the growing research prowess of Asian countries. The list encompasses various nations, from high-income countries like Switzerland and Japan to emerging economies

and low-income countries such as Ethiopia, Ghana, and Kenya. This wide geographical spread signifies healthcare management's universal relevance and importance as a research field. The varied contributions, from countries with advanced healthcare systems to those grappling with healthcare challenges, underscore healthcare management research's multifaceted and global nature, emphasizing its significance in shaping health policies, practices, and procedures worldwide. The density of academic studies produced by countries is visually given in Figure 3. Countries with blue colors have made fewer academic studies than those with red. At the same



time, Table 5 lists the ten most productive countries.

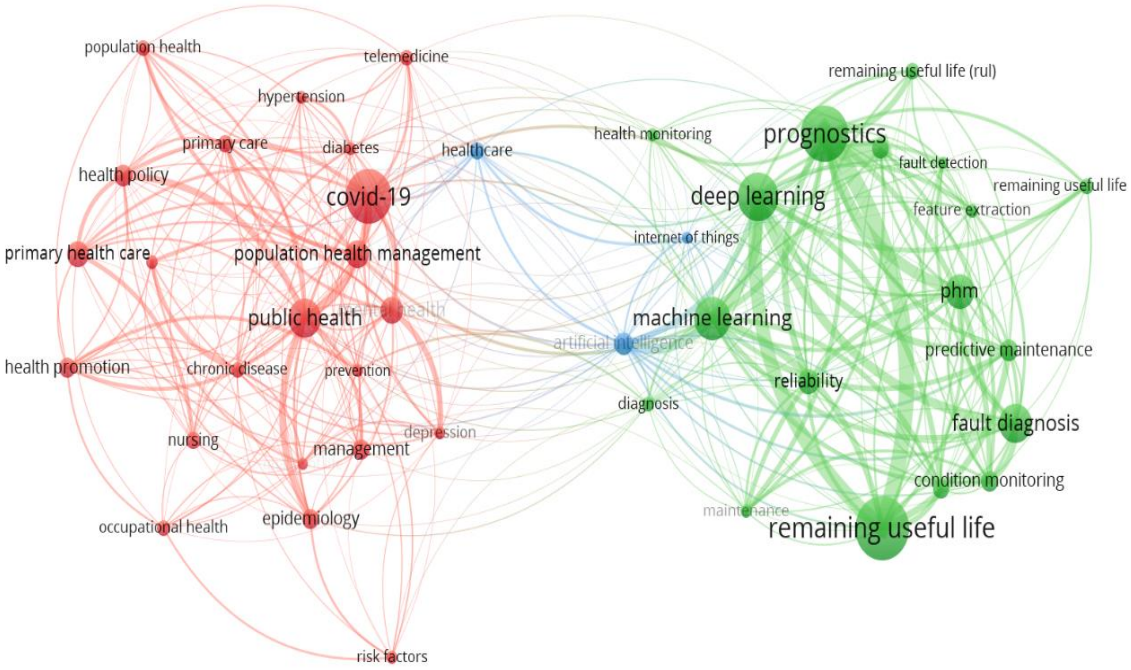
Figure 3. Countries' Scientific Production on Healthcare Management

Table 5. Most Productive Countries

No	Country	Production
1	United States of America	40934
2	United Kingdom	19474
3	Australia	10790
4	Canada	10065
5	Italy	10026
6	China	8268
7	Spain	6710
8	France	5970
9	India	5535
10	Germany	4812

4.5. Analysis of Author Keywords

The analysis of author keywords offers a direct window into the focal themes and evolving trends within a research field. Author keywords, deliberately chosen by researchers, encapsulate their studies' core and primary themes. By analyzing these keywords, one can discern the predominant topics, emerging areas of interest, and shifts in research focus over time. This analysis aids in mapping the intellectual landscape of a field, identifying research gaps, and predicting future trajectories. Furthermore, aggregating and clustering frequently used keywords can highlight the most influential and debated concepts, providing scholars and practitioners with a synthesized view of the field's priorities and advancements. In essence, the analysis of author keywords serves as a compass, guiding stakeholders through the vast expanse of academic literature and pinpointing areas of significance and innovation. The author keywords analysis of literary studies, illustrated in Figure 4, when examined through the lens of author keywords, reveals distinct thematic clusters that encapsulate the prevailing trends and focal points in the field. Cluster 1 predominantly centers around public health concerns, with "COVID-19" taking prominence, likely reflecting the recent global emphasis on the pandemic. This cluster also delves into broader aspects of population health management, prevention, chronic disease, and the roles of primary care, nursing, and telemedicine in addressing these challenges. Cluster 2, though concise, underscores the technological transformation in healthcare, highlighting the integration of "artificial intelligence" and the "Internet of things" into healthcare systems. Cluster 3, on the other hand, delves deeper into the technical field, emphasizing the growing importance of machine learning and deep learning in healthcare diagnostics and prognostics. Keywords such as "health monitoring," "fault detection," and "condition monitoring" suggest a focus on predictive healthcare and the utilization of advanced algorithms for early diagnosis and intervention. These clusters



offer a comprehensive snapshot of the multifaceted nature of healthcare management research, ranging from public health policies to cutting-edge technological innovations, underscoring the field's dynamic and rapidly evolving landscape.

Figure 4. Co-Occurrence Analysis of Author Keywords

4.6. Word Cloud Analysis by Using Abstract Sections

In bibliometric studies, word cloud analysis using abstracts of articles serves as a visual representation tool to highlight the predominant themes and topics within a dataset. By extracting and analyzing terms from these abstracts, a word cloud graphically displays individual words with their sizes corresponding to their frequency or significance in the dataset. This method allows for an immediate visual grasp of the central themes, trends, or areas of emphasis in a collection of articles. The more significant and prominent terms in the word cloud indicate the most recurrent and potentially substantial topics within the research field. Thus, word cloud analysis offers researchers a quick and intuitive way to discern the focal points of a vast body of literature, aiding in identifying prevailing research themes and potential areas for further exploration.

The word cloud shown in Figure 5, created from abstracts of publications in healthcare management pulled from the WoS database, highlights many strong themes and areas of focus in the discipline. The prominence of terms such as “healthcare professionals,” “healthcare providers,” and “primary care” suggests a significant emphasis on the human resources aspect and the frontline delivery of healthcare services. The frequent “COVID - pandemic” and “public health” indicate the recent global health challenges and the importance of public health measures in managing them. Terms like “mental health,” “patient safety,” “risk factors,” and “disease management” reflect the multifaceted nature of healthcare, encompassing both physical and psychological dimensions, safety concerns, and disease-specific management strategies. The recurrence of methodological terms such as “systematic review,” “semi-structured interviews,” “thematic analysis,” and “logistic regression” highlights the diverse research methodologies employed in the field. Furthermore, the emphasis on “healthcare costs,” “healthcare delivery,” “quality improvement,” and “management strategies” underscores the ongoing efforts to optimize healthcare systems for efficiency, cost-effectiveness, and improved patient outcomes. Collectively, these terms offer a comprehensive snapshot of the current priorities, challenges, and

methodological approaches in healthcare management research, reflecting its dynamic and multifaceted nature.

Figure 5. Abstract Analysis Word Cloud

4.7. Thematic Evaluation Analysis by Using Author Keywords

In bibliometric studies, the "thematic evolution" analysis stands out as a sophisticated method, leveraging the keywords provided by authors in academic articles to track and elucidate the metamorphosis of research themes chronologically. This analysis is rooted in meticulously examining several key parameters: the frequency with which specific keywords appear, their co-occurrence with other terms, and their distribution over particular time intervals. Researchers can develop a complete historical narrative of issues within a discipline by studying these factors. This narrative traces the origins and progression of specific themes and pinpoints pivotal moments when certain topics gained or lost prominence. A chronology like this enables the discovery of core pieces that have continuously anchored the study and newer, emerging issues that indicate shifts in academic interest or social requirements. Furthermore, the interconnected web of keyword co-occurrence offers insights into the multidisciplinary nature of evolving research, revealing how different themes influence and intertwine. This interconnectedness can hint at collaborative opportunities, potential research gaps, or even the convergence of previously distinct research areas. This deep dive into thematic evolution is a treasure trove of scholarly insights. It explains how a field has evolved, what historical events or technological advancements might have spurred changes, and where the field might be headed. For policymakers and academic strategists, such insights are crucial. They inform decisions about funding allocation, research focus areas, and collaborative steps, ensuring that efforts align with the rich legacy of past research and the promising avenues of future exploration.

The thematic evolution analysis of healthcare management research reveals a dynamic landscape of research priorities over the years. From 1991 to 2013, the focus was predominantly on "pulmonary disease," reflecting perhaps the global health challenges of that era, alongside the consistent emphasis on the roles of "healthcare professionals" and the overarching "healthcare system." The period between 2014 and 2017 saw a narrowed focus on the professionals and the system itself, indicating a potential introspective phase in the research. However, 2018 to 2020 marked a significant shift, with the emergence of "Covid-pandemic" as a dominant theme, alongside the continued emphasis on healthcare professionals, workers, and primary care, reflecting the global crisis and its profound impact on healthcare management. The years 2021 and 2022 continued to grapple with the pandemic's challenges while revisiting the broader theme of the healthcare system. Notably, in 2023, there was a broadening of research topics in healthcare management, with the inclusion of subjects such as "waste management," "supply chain," and "artificial intelligence." This indicates an increasing range of challenges and opportunities in the field.

Additionally, the research addressed the ongoing pandemic and its associated risks and costs. Including these themes in the research field also underlines the emphasis on sustainability in the healthcare sector. The presence of "nursing" as a theme underscores the continued importance of human resources in the field. This thematic evolution highlights the adaptability and responsiveness of healthcare management research to global health events, technological advancements, and systemic challenges. This analysis is presented visually in Figure 6.

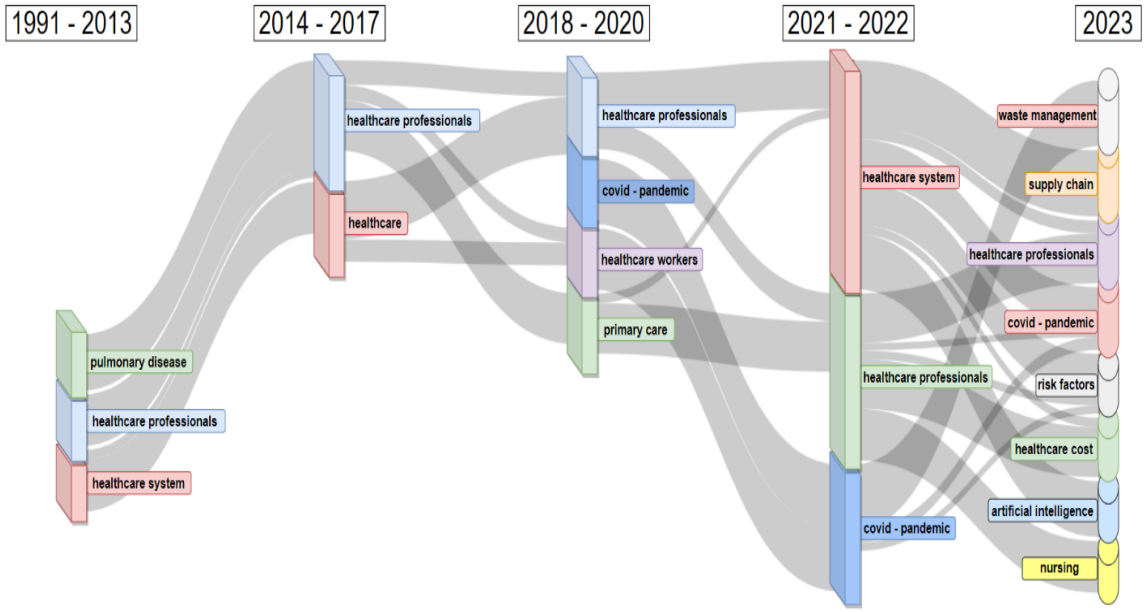


Figure 6. Thematic Evaluation (1991 – 2023)

5. CONCLUSION

The bibliometric analysis of academic studies on "healthcare management," meticulously conducted using data from the WoS database, has unfolded a rich tapestry of insights into the field's research trajectory and prevalent trends. This extensive exploration encompasses geographical distribution, thematic evolution, word cloud analysis, and co-citation networks, offering a comprehensive view that goes beyond a mere snapshot of the current state of research.

The bibliometric analysis of academic studies on "healthcare management," sourced from the WoS database, offers an intricate and layered understanding of the research trajectory and the prevailing trends in this field. At the forefront of this analysis is the geographical distribution of contributions. The USA emerges as a prolific contributor and a central hub of innovation and thought leadership in healthcare management. This dominance can be attributed to the country's advanced research infrastructure, substantial funding opportunities, and a healthcare system that offers a rich ground for academic exploration due to its complexity and scale. The sheer volume of publications from the USA underscores its pivotal role in shaping global discourses around healthcare management. Following closely is the UK, a nation with a historically robust and publicly funded healthcare system. The National Health Service (NHS) of the UK, one of the world's most extensive publicly funded health services, provides a unique context for research, leading to global insights, especially for countries looking to balance quality care with public funding. Australia's significant contributions can be linked to its hybrid healthcare system, which combines the public and private sectors. The Australian context offers a blend of challenges and successes, making it a fertile ground for research that can inform policy and practice in varied

global settings. Beyond these leading contributors, the analysis reveals a diverse array of nations, from high-income countries in Europe to emerging economies in Asia and Africa. This wide geographical spread is a testament to healthcare management's universal challenges and opportunities. Whether grappling with the complexities of universal healthcare, optimizing patient outcomes in resource-limited settings, or integrating technology into patient care, the global nature of these studies highlights the healthcare management research community's shared challenges and willingness to work together. The geographical analysis maps the origins of research contributions and paints a picture of global collaboration, shared challenges, and the universal quest for improving healthcare systems and outcomes.

The thematic evolution analysis offers a rich tapestry of the shifting research priorities within the "healthcare management" field over the decades. In the initial phase, from 1991 to 2013, the research landscape was predominantly centered on "pulmonary disease." This focus might indicate the global health challenges of that era, emphasizing the need for better management and understanding of respiratory conditions. The consistent emphasis on "healthcare professionals" and the "healthcare system" suggests a broader exploration into the human resources aspect of healthcare and the systemic structures that support or hinder effective healthcare delivery. This period seems to underscore the foundational elements of healthcare, emphasizing the field's clinical and administrative facets. Transitioning to the period between 2018 and 2020, the research narrative underwent a significant transformation. The abrupt and overwhelming appearance of the "Covid-pandemic" motif is a harsh representation of the catastrophic global health catastrophe that has captured the world. This theme's prominence underscores the urgency and necessity for research to understand, manage, and mitigate the multifaceted challenges posed by the pandemic. It highlights the adaptability of the healthcare management research community, rapidly pivoting to address a contemporary crisis with wide-reaching implications.

The thematic landscape of the research will be further diversified by 2023, signaling an evolution in the challenges and opportunities faced by the healthcare sector. Introducing themes like "waste management" and "supply chain" suggests a growing awareness of healthcare's logistical and environmental challenges, emphasizing sustainability and efficiency. The sustainability of healthcare services necessitates adopting a holistic strategy encompassing the ecological, economic, and social aspects. The adoption of sustainability principles by healthcare facilities is driven by the objective of optimizing resource utilization, mitigating environmental consequences, and generating social advantages. Healthcare institutions have the potential to enhance their sustainability by implementing several strategies, including but not limited to energy conservation, efficient waste management, responsible water usage, and adoption of renewable energy sources.

The mention of "artificial intelligence" indicates the increasing integration of technology and data-driven approaches in healthcare, pointing towards a future where technology and healthcare are deeply intertwined. The inclusion of artificial intelligence as a distinct theme underscores its rising importance in healthcare management and suggests a growing emphasis on harnessing AI technologies in healthcare research and management. Artificial intelligence stands at the forefront of healthcare innovation, offering unprecedented opportunities to revolutionize decision-making processes and resource allocation and ultimately enhance patient outcomes. Future investigations in healthcare management should delve into artificial intelligence's specific applications and implications, unraveling its potential to reshape various facets of the field, including healthcare professionals, primary care, and telemedicine. To fully comprehend the

evolving landscape, future research should investigate specific applications of AI, such as predictive analytics, machine learning in diagnostics, and AI-driven decision support systems, providing a comprehensive understanding of how artificial intelligence shapes and influences the field. Integrating AI in the health sector can revolutionize healthcare delivery by improving patient outcomes, increasing efficiency, and transforming how healthcare is practiced and delivered across the globe. A deeper exploration of how artificial intelligence is applied to address healthcare challenges, improve patient care, and optimize healthcare systems will be pivotal in shaping the future trajectory of healthcare management research.

The continuous emphasis on "nursing" and "healthcare professionals" highlights the enduring value of human resources, even in an increasingly technology-driven society. In essence, the thematic evolution not only chronicles the changing priorities and challenges in healthcare management research but also provides a forward-looking perspective, hinting at the future predictions and areas of exploration that might shape the next phase of academic inquiry. The word cloud analysis, meticulously constructed from the abstract of the academic studies, offers a visual representation of the predominant themes and areas of focus within the field of "healthcare management." A striking observation from this analysis is the recurrent emphasis on the human element of healthcare, as evidenced by the term "healthcare professionals" consistently emerging as a dominant theme. This prominence underscores the critical role that medical practitioners, nurses, administrators, and other allied health professionals play in effectively delivering and managing healthcare services. Their skills, well-being, training, and adaptability form the backbone of healthcare systems worldwide, and the consistent appearance of this term in the research abstracts suggests a sustained academic interest in understanding and optimizing the roles and contributions of these professionals. Complementing this human-centric focus is the attention to the broader systemic structures, with terms like "healthcare systems" and "primary care" frequently surfacing in the analysis. The emphasis on "healthcare systems" indicates a keen interest in understanding healthcare delivery's organizational, administrative, and policy-driven aspects. It reflects the research community's endeavors to dissect the complexities of healthcare infrastructures, seeking ways to enhance efficiency, accessibility, and quality of care. On the other hand, the focus on "primary care" suggests recognizing the foundational role of primary healthcare services in the broader healthcare progression. It emphasizes the importance of early intervention, preventive care, and the role of primary care providers as the first point of contact for patients. Lastly, the emergence of terms related to the "COVID-19 pandemic" is a testament to the adaptability and responsiveness of the healthcare management research community. The pandemic, with its multifaceted challenges ranging from clinical management to healthcare logistics, has necessitated a rapid shift in research priorities. The prevalence of this issue in the word cloud study highlights the pandemic's urgency and worldwide relevance, as well as the academic community's dedication to solving its numerous problems. In sum, the word cloud analysis provides an overview of the evolving priorities, challenges, and areas of interest in "healthcare management" research. It balances human-centric concerns, systemic intricacies, and contemporary global challenges, offering a holistic view of the field's research landscape.

The co-citation analysis of authors provides a unique lens through which the collaborative fabric of the "healthcare management" research community can be viewed. This study reveals the deep networks of collaboration and intellectual exchange that support the subject by revealing clusters of often co-cited writers. These clusters are not just mere groupings but represent hubs of

academic synergy, where ideas converge, diverge, and evolve through collective effort. Prominent researchers within these clusters often emerge as thought leaders, setting the direction and tone of discourse in healthcare management. Their frequent co-citation suggests that their works are foundational, often serving as reference points for subsequent research. The interconnectedness revealed by these clusters also underscores the inherently collaborative nature of healthcare management research. It is a field where interdisciplinary efforts are paramount, given the multifaceted challenges that healthcare systems present.

Journals such as B.M.J. Open and B.M.C feature predominantly in this field. Health Services Research plays a pivotal role in shaping the academic landscape of healthcare management. These journals are respected venues that permit thorough peer review, ensuring the research they publish is solid and relevant. Their prominence in the bibliometric analysis indicates their reputation and trustworthiness within the academic community. With its commitment to open access and transparent peer review, B.M.J. Open democratizes knowledge, ensuring that pivotal findings in healthcare management are accessible to a broad audience, from researchers to policymakers—similarly, B.M.C. Health Services Research, focusing on the original research concerning the management, delivery, and evaluation of health services, serves as a beacon for researchers aiming to bridge the gap between theory and practice. The co-citation analysis and the focus on leading journals provide a comprehensive view of the intellectual and collaborative dynamics of the "healthcare management" research community. They highlight the nodes of influence, the pathways of collaboration, and the platforms that are instrumental in disseminating knowledge that has the potential to shape healthcare systems globally. The extensive bibliometric analysis gives a rich and multifaceted view into the complicated research fabric in the "healthcare management" topic. This analysis serves as a narrative of the field's intellectual journey, chronicling its growth from early beginnings to its current stage of maturity by methodically mapping out the research contributions, topics, and collaboration networks. Historically, the thematic evolution underscores the field's responsiveness to global health challenges and systemic shifts. From the early emphasis on foundational elements like pulmonary diseases and the overarching healthcare system to the recent focus on pressing challenges like the COVID-19 pandemic and the integration of artificial intelligence, the research trajectory mirrors the broader socio-economic and technological shifts that have influenced healthcare globally. In the present, the prominence of themes such as "healthcare professionals" and "primary care" in the word cloud analysis emphasizes the field's continued commitment to optimizing both the human and systemic aspects of healthcare delivery. On the other hand, the co-citation clusters highlight the research community's collaborative attitude, displaying areas of academic cooperation where multidisciplinary efforts combine to address multiple difficulties. Looking forward, the analysis hints at potential future paths. The emergence of themes related to technology, sustainability, and broader systemic challenges suggests that the field is poised to embrace a more holistic approach to healthcare management. This approach will likely encompass clinical and administrative concerns and the broader socio-economic, environmental, and technological determinants of health. For scholars, this analysis serves as both a retrospective and a compass, offering clarity on past research directions while illuminating potential areas of future exploration. For policymakers, the insights can inform strategies, ensuring that policy decisions align with the latest research findings and emerging trends. Conversely, practitioners can leverage these insights to anticipate challenges, optimize care delivery, and stay abreast of innovations that could redefine healthcare management. This bibliometric analysis reflects more than just the "healthcare management" research landscape. It is a strategic tool, a beacon that guides

researchers, policymakers, and practitioners alike, helping them navigate the intricate maze of healthcare management with informed confidence.

This extensive bibliometric analysis of healthcare management research provides actionable insights for diverse stakeholders within the healthcare ecosystem. For policymakers, the analysis serves as a strategic compass, offering a nuanced understanding of evolving research priorities and highlighting the pivotal role of global collaboration in addressing shared challenges. Policymakers can leverage these insights to inform funding allocations, prioritize research focus areas, and shape evidence-based healthcare policies. Healthcare practitioners stand to benefit from a forward-looking perspective, anticipating challenges, optimizing care delivery, and staying abreast of innovations that could redefine healthcare management. By understanding the emerging themes, such as the increasing integration of artificial intelligence, practitioners can proactively adapt their practices to embrace technological advancements. Academic researchers gain clarity on past research directions and potential future paths, enabling them to align their investigations with emerging trends and pressing issues. Furthermore, the analysis offers journal editors and publishers valuable information about the most influential journals and co-citation networks, guiding them in disseminating impactful research to a broader audience. For the broader healthcare community, the bibliometric analysis reflects the current state of research and serves as a roadmap, fostering collaboration, promoting knowledge democratization, and ultimately contributing to enhancing healthcare systems globally.

Geliş Tarihi | Kabul Tarihi | Yayım Tarihi	16 Ekim 2023 | 23 Aralık 2023 | 31 Aralık 2023
Yazar Katkısı	Hafize Nurgül DURMUŞ ŞENYAPAR
Hakem Değerlendirmesi	Çift taraflı kör hakemlik
Etik Onay	Bu makale, insan veya hayvanlar ile ilgili etik onay gerektiren herhangi bir araştırma içermemektedir.
Çıkar Çatışması	Yazar çıkar çatışması bildirmemiştir.
Finansal Destek	Yazar bu çalışma için finansal destek almadığını beyan etmiştir
Telif Hakkı & Lisans	Yazar dergide yayınlanan çalışmalarının telif hakkına sahiptirler ve çalışmaları CC BY-NC 4.0 lisansı altında yayımlanır. https://creativecommons.org/licenses/by-nc/4.0/deed.tr
Submission | Acceptance | Publication	16 October 2023 | 23 December 2023 | 31 December 2023
Author Contribution	Hafize Nurgül DURMUŞ ŞENYAPAR
Peer-review	Double-blind peer review
Ethical Approval	This article does not contain any studies with human participants or animals performed by the authors.
Conflicts of Interest	The author declares that there is no conflict of interest.
Grant Support	The author received no financial support for the research, authorship and/or publication of this article.
Copyright & License	Author publishing with the journal retain(s) the copyright to their work licensed under the CC BY-NC 4.0. https://creativecommons.org/licenses/by-nc/4.0/

REFERENCES | KAYNAKÇA

Adunlin, G., Diaby, V., and Xiao, H. (2014). Application of multicriteria decision analysis in health care: a systematic review and bibliometric analysis. *Health Expectations*, *18*(6), 1894-1905. doi:10.1111/hex.12287

Araújo-Vila, N., Otegui-Carles, A., and Fraiz-Brea, J.A. (2023). Bibliometric analysis of academic research in education for sustainable development in the field of tourism. *International Journal of Social Ecology and Sustainable Development (IJSESD)*, *14*(1), 1–17. doi:10.4018/IJSESD.326280

Barasa, E. W., Cleary, S., English, M., and Molyneux, S. (2016). The influence of power and actor relations on priority setting and resource allocation practices at the hospital level in kenya: a case study. *BMC Health Services Research*, *16*(1). doi:10.1186/s12913-016-1796-5

Barouki, R., Kogevinas, M., Audouze, K., Belesova, K., Bergman, A., Birnbaum, L., Boekhold, S., Denys, S., Desseille, C., Drakvik, E., Frumkin, H., Garric, J., Destoumieux-Garzon, D., Haines, A., Huss, A., Jensen, G., Karakitsios, S., Klanova, J., Koskela, I. M., … Vineis, P. (2021). The covid-19 pandemic and global environmental change: emerging research needs. *Environment International*, *146*, 106272. doi:10.1016/j.envint.2020.106272

Baugh, C.M., Meehan III, W.P., McGuire, T.G., and Hatfield, L.A. (2020). Staffing, financial, and administrative oversight models and rates of injury in collegiate athletes. *Journal of Athletic Training*, *55*(6), 580–586. doi:10.4085/1062-6050-0517.19

Berwick, D. M., Nolan, T., and Whittington, J. (2008). The triple aim: care, health, and cost. *Health Affairs, 27*(3), 759-769. doi:10.1377/hlthaff.27.3.759

Calder, R., Dunkin, R., Rochford, C., and Nichols, T. (2019). *Australian Health Services: Too Complex to Navigate*. Mitchell Institute. Retrieved from: https://apo.org.au/node/223011

Cebrino, J. and de Cruz, S.P. (2020). A worldwide bibliometric analysis of published literature on workplace violence in healthcare personnel. *PloS One*, *15*(11), e0242781. doi:10.1371/journal.pone.0242781

Chughtai, T., Parchani, A., Strandvik, G., Verma, V., Arumugam, S., El-Menyar, A., Rizoli, S., and Al-Thani, H. (2019). Trauma intensive care unit (TICU) at Hamad General Hospital. *Qatar Medical Journal*, 2, 5. doi: 10.5339/qmj.2019.qccc.5

Cobelli, N. and Blasioli, E. (2023). To be or not to be digital? a bibliometric analysis of adoption of e-health services. *The TQM Journal, 35*(9), 299-331. doi:10.1108/tqm-02-2023-0065

Correa, V.C., Lugo-Agudelo, L.H., Aguirre-Acevedo, D.C., Contreras, J.A.P., Borrero, A.M.P., Patiño-Lugo, D.F., and Valencia, D.A.C. (2020). Individual, health system, and contextual barriers and facilitators for the implementation of clinical practice guidelines: a systematic metareview. *Health Research Policy and Systems, 18, 1-11.* doi:10.1186/s12961-020-00588-8

Derriennic, J., Barais, M., Goff, D.Le, Fernandez, G., Borne, F. Le, and Reste, J.-Y. Le. (2021). P10atient, carer and healthcare professional experiences of complex care quality in multidisciplinary primary healthcare centres: qualitative study with face-to-face, in-depth interviews and focus groups in five french multidisciplinary primary healthcare centres. *BMJ Open*, *11*(12). doi:10.1136/bmjopen-2021-050165

Elbaz, S., Cinalioglu, K., Sekhon, K., Gruber, J., Rigas, C., Bodenstein, K., Naghi, K., Lavin, P., Greenway, K. T., Vahia, I., Rej, S., and Sekhon, H. (2021). A systematic review of telemedicine for older adults with dementia during covid-19: an alternative to in-person health services? In *Frontiers in Neurology*, 12, 761965. doi:10.3389/fneur.2021.761965

Ellegaard, O. and Wallin, J.A. (2015). The bibliometric analysis of scholarly production: how great is the impact? *Scientometrics*, 105, 1809-1831. doi:10.1007/s11192-015-1645-z

Gigliotti, R.A. and Ruben, B.D. (2017). Preparing higher education leaders: a conceptual, strategic, and operational approach. *Journal of Leadership Education*, *16*(1), 96–114. doi:10.12806/V16/I1/T1

Guo, Y., Hao, Z., Zhao, S., Gong, J., and Yang, F. (2020). Artificial intelligence in health care: bibliometric analysis. *Journal of Medical Internet Research,* 22(7), e18228. doi:10.2196/18228

Haldane, V., De Foo, C., Abdalla, S. M., Jung, A. S., Tan, M., Wu, S., Chua, A., Verma, M., Shrestha, P., Singh, S., Perez, T., Tan, S.M., Bartos, M., Mabuchi, S., Bonk, M., McNab, C., Werner, G. K., Panjabi, R., Nordström, A., and Legido-Quigley, H. (2021). Health systems resilience in managing the covid-19 pandemic: lessons from 28 countries. *Nature Medicine, 27*(6), 964-980. doi:10.1038/s41591-021-01381-y

Haque, A.K.M.B., Arifuzzaman, B.M., Siddik, S.A.N., Kalam, A., Shahjahan, T.S., Saleena, T.S., Alam, M., Islam, M.R., Ahmmed, F., and Hossain, and Md Jamal. (2022). Semantic web in healthcare: a systematic literature review of application, research gap, and future research avenues. *International Journal of Clinical Practice*, *2022*, 1–27. doi:10.1155/2022/6807484

Hashim, M.J. (2019). The art of healing - core values and goals of medicine, nursing and healthcare. *Journal of the College of Physicians and Surgeons--Pakistan: JCPSP*, *29*(4), 299–300. doi:10.29271/jcpsp.2019.04.299

Jacobs, L.G. and Garrett, R.C. (2020). Hospital care for covid-19: what have we learned? *Journal of the American Geriatrics Society*, *68*(11), 2428–2430. doi:10.1111/jgs.16896

Jang, D., Doh, S., and Choi, Y. (2020). Networks of international co-authorship in journal articles about antarctic research, 1998–2015. *Polar Research*. doi:10.33265/polar.v39.3647

Janssen, M. and van der Voort, H. (2020). Agile and adaptive governance in crisis response: lessons from the covid-19 pandemic. *International Journal of Information Management*, *55*, 102180. doi:10.1016/j.ijinfomgt.2020.102180

Kitsios, F., Kamariotou, M., and Talias, M.A. (2020). Corporate sustainability strategies and decision support methods: a bibliometric analysis. *Sustainability, 12(2), 521.* doi:10.3390/su12020521

Knudsen, M. and Vogd, W. (2014). Systems theory and the sociology of health and illness: observing healthcare. *systems theory and the sociology of health and illness: observing healthcare*. Routledge. doi:10.4324/9781315758916

Koseoglu, M. A., Akdeve, E., Gedik, I., and Bertsch, A. (2015). A bibliometric analysis of strategic management articles in healthcare management literature: past, present, and future. *International Journal of Healthcare Management*, *8*(1), 27-33. doi:10.1179/2047971914Y.0000000089

Li, N. and Li, R.Y.M. (2022). A bibliometric analysis of six decades of academic research on housing prices. *International Journal of Housing Markets and Analysis*. doi:10.1108/IJHMA-05-2022-0080

Mahmud, S. and Ali, I. (2023). Evolution of research on honesty and dishonesty in academic work: a bibliometric analysis of two decades. *Ethics and Behavior*, *33*(1), 55-69. doi:10.1080/10508422.2021.2015598

McConaughey, E. (2008). Crew resource management in healthcare: the evolution of teamwork training and medteams. *The Journal of Perinatal and Neonatal Nursing*, *22*(2), 96–104. doi:10.1097/01.JPN.0000319095.59673.6c

Menon, S. and Gillis, M. (2018). Guest editorial: clinical ethics consultation. *Asian Bioethics Review*, *10*(1), 1–2. doi:10.1007/s41649-018-0049-9

Merigó, J.M. and Núñez, A. (2016). Influential journals in health research: a bibliometric study. *Globalization and Health, 12*, 1-12. doi:10.1186/s12992-016-0186-4

Merigó, J.M. and Yang, J. (2017). A bibliometric analysis of operations research and management science. *Omega, 73, 37-48.* doi:10.1016/j.omega.2016.12.004

Milas, M. (2015). The genomic medicine paradigm shift. *Journal of Surgical Oncology*, *111*(1), 1–2. doi:10.1002/jso.23818

Moran, J.F. (1998). Atrial flutter and fibrillation: from basic to clinical applications. *Annals of Internal Medicine*, *129*(2), 168. doi:10.7326/0003-4819-129-2-199807150-00041

Nilsen, P., Seing, I., Ericsson, C., Birken, S.A., and Schildmeijer, K. (2020). Characteristics of successful changes in health care organizations: an interview study with physicians, registered nurses and assistant nurses. *BMC Health Services Research*, *20*(1), 1-8. doi:10.1186/s12913-020-4999-8

Păduraru, O., Moroşanu, A., Păduraru, C. Ştefan, and Cărăuşu, E.M. (2022). Healthcare management: a bibliometric analysis based on the citations of research articles published between 1967 and 2020. *Healthcare (Basel, Switzerland)*, *10*(3), 555. doi:10.3390/healthcare10030555

Pakarinen, A., Lemström, T., Rainio, E., and Siirala, E. (2023). *Design thinking in healthcare: from problem to innovative solutions*. Springer Nature. Retrieved from: https://books.google.com.tr/books?id=ddK4EAAAQBAJ

Pesta, B., Fuerst, J., and Kirkegaard, E.O.W. (2018). Bibliometric keyword analysis across seventeen years (2000-2016) of intelligence articles. *Journal of Intelligence*, *6*(4), 46. doi:10.3390/jintelligence6040046

Radanliev, P., and De Roure, D. (2023). New and emerging forms of data and technologies: literature and bibliometric review. *Multimedia Tools and Applications*, *82*(2), 2887–2911. doi:10.1007/s11042-022-13451-5

Schwalbe, N., and Wahl, B. (2020). Artificial intelligence and the future of global health. *The Lancet*, *395*(10236), 1579–1586. doi:10.1016/S0140-6736(20)30226-9

Speziale, G. (2015). Strategic management of a healthcare organization: engagement, behavioural indicators, and clinical performance. *European Heart Journal Supplements*, *17*(suppl_A), A3–A7. doi:10.1093/eurheartj/suv003

Stoller, J.K., Berkowitz, E., and Bailin, P.L. (2007). Physician management and leadership education at the Cleveland clinic foundation: program impact and experience over 14 years. *Journal of Medical Practice Management*, *22*(4), 237-242. Retrieved from: https://europepmc.org/article/med/17425027

Syafri, M., Muktamar, A., Choerudin, A., Elizabeth, R., and Amalia, M. R. (2023). Bibliometric analysis of the influence of academic research on hrm strategy, employee performance, and organizational success globally. *The Eastasouth Management and Business*, *2*(01), 72–82. doi:10.58812/esmb.v2i01.140

Thompson, D.F. and Walker, C.K. (2015). A descriptive and historical review of bibliometrics with applications to medical sciences. *Pharmacotherapy, 35*(6), 551-559. doi:10.1002/phar.1586

Tortorella, G.L., Fogliatto, F.S., Mac Cawley Vergara, A., Vassolo, R., and Sawhney, R. (2020). Healthcare 4.0: trends, challenges and research directions. *Production Planning & Control*, *31*(15), 1245–1260. doi:10.1080/09537287.2019.1702226

Ullah, R., Asghar, I., and Griffiths, M. (2022). An integrated methodology for bibliometric analysis: a case study of internet of things in healthcare applications. *Sensors, 23(1), 67*. doi:10.3390/s23010067

Vanderstraeten, R. and Vandermoere, F. (2021). Inequalities in the growth of Web of Science. Scientometrics, *126*(10), 8635–8651. doi:10.1007/s11192-021-04143-2

Vera San Juan, N., Aceituno, D., Djellouli, N., Sumray, K., Regenold, N., Syversen, A., Mulcahy Symmons, S., Dowrick, A., Mitchinson, L., Singleton, G., and Vindrola-Padros, C. (2021). Mental Health and well-being of healthcare workers during the covid-19 pandemic in the UK: Contrasting Guidelines with Experiences in Practice. *BJPsych Open*, *7*(1), e15. doi:10.1192/bjo.2020.148

Wei, H., and Horton-Deutsch, S. (2022). *Visionary leadership in healthcare*. Sigma Theta Tau. Retrieved from: https://books.google.com.tr/books?id=IodeEAAAQBAJ

Wu, Y., Li, R. Y. M., Akbar, S., Fu, Q., Samad, S., and Comite, U. (2022). The effectiveness of humble leadership to mitigate employee burnout in the healthcare sector: a structural equation model approach. *Sustainability, 14*(21), 14189. doi:10.3390/su142114189

Xie, Y., Ji, L., Zhang, B., and Huang, G. (2018). Evolution of the Scientific Literature on input–output analysis: a bibliometric analysis of 1990–2017. Sustainability, 10(9), 3135. doi:10.3390/su10093135

GENİŞLETİLMİŞ ÖZET

Giriş

Sağlık sektörü, teknolojik gelişmeler, yasal çerçeveler, ekonomik faktörler ve insan davranışları tarafından şekillendirilen çok yönlü bir alandır. Sağlık hizmetlerinin karmaşık özellikleri arasında gezinmek zorluklar doğurur ve sağlık sistemleri farklı kültürlerde halk sağlığının korunmasında çok önemli bir rol oynar. Geniş kapsamlı sağlık sistemlerinin merkezinde, stratejik planlama, kaynak tahsisi ve ekip rehberliği için vizyoner liderlik gerektiren çok önemli bir alan olan sağlık hizmetleri yönetimi değişen zorluklarla karşıyadır.

Tarihsel olarak klinik çabalara dayanan sağlık hizmetleri yönetimi, marjinal bir operasyonel gereklilikten stratejik bir unsura dönüşmüştür. Sağlık kuruluşlarının büyümesi ve faaliyetlerin karmaşıklığının artmasıyla birlikte, uzmanlaşmış yönetim stratejileri ortaya çıkmıştır. Eğitim programları ve akademik kurslar, bireyleri sağlık kuruluşlarını denetleme becerileriyle donatmak için gelişmiştir. Sağlık yönetimi alanındaki akademik araştırmalar, küresel sağlık sistemlerini etkileyen öneme sahiptir.

Kapsamlı bir bibliyometrik inceleme yoluyla bu çalışmada "sağlık yönetimi" literatürünün mevcut durumu değerlendirilerek alanda gelecekte yaşanabilecek potansiyel gelişmelere ışık tutulması hedeflenmektedir. Web of Science (WoS) veri tabanındaki kapsamlı bir makale derlemesinden yararlanan çalışmada, bilimsel araştırmalarının incelenmesi yoluyla alandaki ilerlemenin değerlendirilmesi ve gelecek yönelimlerine ilişkin değerlendirmelerde bulunulması amaçlanmaktadır.

Metodoloji

Bu çalışma, bilimsel literatürün çeşitli yönleri ile bilimsel bilginin gelişimi arasındaki ilişkiyi incelemek için bibliyometrik analiz kullanmaktadır. Araştırma, 1991-2023 yılları arasında Web of Science (WoS) veri tabanında "*healthcare management*" konusunda yayınlanan bilimsel yayınlar, bibliyometrik analizle irdelenmektedir.

Bulgular

Temel Bilgiler

WoS veri tabanında yer alan ve otuz yılı (1991-2023) kapsayan "*healthcare management*" makalelerinin bibliyometrik analizi, kapsamlı bir genel bakış ortaya koymaktadır. 8.756 kaynaktan erişilen 46.631 belgenin 32.868'i makaledir ve ampirik katkılara güçlü bir vurgu yapmaktadır. Önemli hacme rağmen, yıllık %-3,27'lik büyüme oranı, muhtemelen çalışmanın tarama zaman dilimine atfedilen potansiyel bir yavaşlamaya işaret etmektedir. Araştırmanın disiplinlerarası doğası 175.170 yazar, 3.195 tek yazarlı çalışma ve 62.126 anahtar kelime ile kendini göstermektedir. 36.454 "*keywords plus*"ın varlığı, daha geniş temaların entegrasyonunu göstermekte ve sağlık hizmetleri yönetiminin gelişen doğasını vurgulamaktadır. Büyüme oranı bir düşüş gösterse de hacim, çeşitlilik ve tarihsel gidişat alanın akademideki kalıcı öneminin ve alaka düzeyinin altını çizmektedir.

Ortak Atıf Analizi

Sağlık yönetimi araştırmalarında, ortak atıf analizi farklı yazar kümeleri belirlemiştir. Kumar, Khan ve Ahmed gibi farklı yazarların yer aldığı 1. Küme, geniş bir yelpazede üretken araştırmalara işaret etmektedir. Küme 2, 3, 4, 5 ve 6, belirli katkıları ve araştırma temalarının birbiriyle bağlantılı doğasını vurgulayarak odaklanmış iş birliklerini sergilemektedir. Şekil 2'deki görsel

temsil, sağlık yönetimi araştırmalarının entelektüel omurgasını ve ilişkisel manzarasını haritalandırarak kapsamlı bir görünüm sunmaktadır.

Aziz Sheikh 53 yayınla başı çekerken, onu Wensing, Michel (45), McCloskey, Eugene (43) ve Cooper, Matthew (42) takip etmektedir. Diğer etkili katkıda bulunanlar arasında Pinnock, Hilary; Wickramasinghe, Nilmini; Braithwaite, Jeffrey ve Kanis, John A. 31 ila 39 yayınla yer almaktadır. Chavannes, Niels; Price, David; Kaye, Alan D.; ve Car, Josip gibi önemli isimler, her biri 20'den fazla yayınla sağlık yönetimi araştırmalarını önemli ölçüde şekillendirmiştir. Tablo 2, bu etkili yazarlara ve temel katkılarına ilişkin ayrıntılı bir genel bakış sunmaktadır.

Dergi ve Belge Analizi

WoS veri tabanından sağlık yönetimi araştırmaları kapsamındaki dergiler analiz edildiğinde, alana önemli katkılarda bulunanlar ortaya çıkmaktadır. "B.M.J. Open" 1.064 yayınla başı çekerken, onu "B.M.C. Health Services Research" ve "PLOS One" takip etmektedir. Diğer etkili dergiler arasında "International Journal of Environmental Research And Public Health" ve "Cureus Journal of Medical Science" yer almaktadır. Bu dergiler, "Studies in Health Technology and Informatics" ve "Journal of Clinical Nursing" gibi diğer dergilerle birlikte sağlık yönetimi söyleminin şekillenmesinde önemli bir rol oynamaktadır. Tablo 3 en iyi dergileri listelerken, Tablo 4 etkili makaleleri vurgulamaktadır.

Coğrafi analiz, sağlık yönetimi araştırmalarının küresel görünümünü ortaya koymaktadır. ABD 40.934 yayınla başı çekerken, onu İngiltere ve Avustralya takip etmektedir. İtalya, İspanya, Fransa ve Almanya gibi Avrupa ülkeleri de önemli katkılarda bulunmaktadır. Çin ve Hindistan ise araştırma alanındaki artan güçlerini sergilemektedir. Şekil 3, ülkelere göre akademik çalışma yoğunluğunu görsel olarak temsil ederken, Tablo 5 en üretken ilk on ülkeyi detaylandırmaktadır.

Yazar Anahtar Kelimelerinin Analizi

Yazar anahtar kelimelerinin incelenmesi, sağlık yönetimi araştırmalarında hâkim olan temalar ve gelişen eğilimler hakkında fikir vermektedir. Şekil 4'te gösterildiği gibi tematik kümeler, çeşitli odak noktalarını ortaya koymaktadır. Küme 1, "COVID-19" ve nüfus sağlığı yönetiminin daha geniş yönlerini içeren halk sağlığı endişelerine odaklanmaktadır. Küme 2, "yapay zekâ" ve "nesnelerin interneti" ile teknolojik dönüşümü vurgulamaktadır. Küme 3, sağlık teşhisinde makine öğreniminin artan önemini vurgulayarak teknik yönleri araştırıyor. Bu analiz, kamu sağlığı politikalarından en son teknolojik yeniliklere kadar alanın dinamik ve hızla gelişen manzarasını yansıtmaktadır.

Kelime Bulutu Analizi

Sağlık yönetimi yayınlarındaki özetlerden elde edilen kelime bulutu analizi, alandaki merkezi temaları ve odak noktalarını görsel olarak vurgulamaktadır. "Sağlık çalışanları", "COVID-pandemisi" ve "halk sağlığı" gibi terimlerin öne çıkması, insan kaynaklarına, küresel sağlık sorunlarına ve halk sağlığı önlemlerine güçlü bir vurgu yapıldığını göstermektedir. "Ruh sağlığı", "hasta güvenliği" ve "hastalık yönetimi" gibi terimler sağlık hizmetlerinin çok yönlü doğasını yansıtırken, metodolojik terimler çeşitli araştırma metodolojilerinin altını çizmektedir. "Sağlık hizmetleri maliyetleri" ve "kalite iyileştirme" gibi terimlerin tekrarlanması, sağlık hizmetleri sistemlerini optimize etmeye yönelik devam eden çabaları vurgulamaktadır. Bu analiz, sağlık yönetimi araştırmalarındaki mevcut önceliklere ve zorluklara ilişkin kapsamlı bir bakış açısı sunmakta, dinamik ve çok yönlü doğasını tasvir etmektedir.

Tematik Analiz

Sağlık yönetimi araştırmalarında 1991'den 2023'e kadar uzanan tematik evrim analizi, araştırma önceliklerindeki dinamik değişimleri ortaya koymaktadır. İlk yıllarda "akciğer hastalıkları" vurgulanırken, 2017 yılına kadar "sağlık çalışanları" ve "sağlık sistemi" odaklı bir döneme geçilmiştir. 2018'de "COVID-19 pandemisinin" ortaya çıkması, 2022'ye kadar devam eden ve küresel krizleri ele alan önemli bir değişime işaret etmektedir. 2023'te kapsam "atık yönetimi", "tedarik zinciri" ve "yapay zekâ" konularını da kapsayacak şekilde genişleyerek sağlık yönetimi alanında gelişen zorluklara ve fırsatlara dinamik bir yanıtı yansıtmıştır. Tematik evrim, alanın küresel olaylara, teknolojik ilerlemelere ve sistemik zorluklara uyum sağlama kabiliyetinin altını çizmektedir.

Sonuç

Sağlık yönetimi araştırmalarının WoS veri tabanından yararlanılarak yapılan kapsamlı bibliyometrik analizi, alanın gelişimine ışık tutmaktadır. İş birliği ağları, etkili dergiler ve ortak atıf modelleri, sağlık yönetimi araştırmalarının disiplinler arası doğasının altını çizmekte ve politika oluşturma, uygulama ve akademideki paydaşlar için stratejik bir rehber sunmaktadır.