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Mapping Research Trends in Social Media Integration into Health Communication Practices: A Bibliometric Analysis (2014–2024)

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Abstract

This study employs bibliometric methods to analyze 1,462 Scopus publications from 2014 to 2024 to identify research hotspots and map the evolutionary path of social media adoption into health communication practices. The findings illustrate the evident interdisciplinary nature of this research, dominated by Medicine and Social Sciences disciplines. The United States is overwhelmingly dominant, producing 50.48% of the total publications, while China and Australia are emerging steadily, reflecting increasing global interest in this research area. Thematic evolution indicates that early research investigated social media as a potential channel for disseminating health information. Since the COVID-19 outbreak in 2020, research agendas have shifted toward combating health misinformation, vaccine hesitancy, and infodemic phenomena, highlighting the critical role of social media in public health crisis communication. Since 2022, emerging topics such as AI-powered algorithms and adolescent health have gained increasing attention. While this research uncovered the research trajectory of social media adoption into health communication, it has some limitations regarding data sources, methodological diversity, and timeliness. Future research should emphasize exploring technological ethics, supporting global health equity, and pursuing mixed-methods approaches to advance the scientific application of social media in health communication.

Keywords: bibliometric, social media, health communication, AI, MHealth, information epidemics

1. Introduction

In the internet era, social media has become a focal platform for health communication (Thapliyal et al., 2024). The last decade has seen the rapid development of social media platforms such as Facebook, Twitter, Instagram, and WeChat, which has provided the public with an unprecedented level of exposure to health information, enabling individuals to seek, share, and discuss health topics in real time (Suryani, 2024). This development has facilitated real-time engagement between health organizations, practitioners, and the public, shifting the dynamics of health communication (Chaudhri et al., 2021). New dynamics in digital health storytelling (Jimenez et al., 2020), health promotion activities (Haugan & Eriksson, 2021), and public health interventions (Hartley & Perencevich, 2020) have also been introduced.

Existing research has gradually expanded from focusing on the dissemination of public health information to exploring how user-generated content shapes health behaviors (Lei et al., 2021). Scholars have also investigated the effectiveness of social media in health promotion (Stellefson et al., 2020), the spread of health misinformation (Suarez-Lledo & Alvarez-Galvez, 2021; Sylvia Chou et al., 2020), and the role of social media in crisis communication during public health emergencies (Malecki et al., 2021). Researchers generally agree that social media serves as both a facilitator of health literacy and a conduit for misinformation (Saleem & Jan, 2024). With the advancement of technologies such as artificial intelligence (AI), augmented reality (AR), and personalized content algorithms, the customization, delivery, and consumption of health information have been redefined (Rane et al., 2023). For instance, on platforms like TikTok and Xiaohongshu, AI-driven recommendation systems disseminate health-related content based on user behaviors and preferences (Kaňková et al., 2024). AR applications enable immersive experiences, such as virtual health consultations or interactive disease prevention activities (Asadzadeh et al., 2021). These changes show users now want health

information that connects emotionally, not just accurate facts. But fast tech changes created new problems like algorithm biases, privacy issues, and ethical debates about data-driven health actions. These problems show we need detailed studies on how social media is used in health communication.

Bibliometric analysis is a strong method. It tracks a research field's growth by counting publications, citations, and common topics. This method finds new research areas and major changes in the field (Kumar, 2025). Using this method helps spot trends in research, show important studies, and combine ideas from fields like communication, public health, and computer science. Reviewing research trends is key to see how topics change, find gaps, and predict future studies.Given this, the study uses bibliometric analysis to study how social media is used in health communication. It aims to show how researchers have studied this topic, found main areas, and suggested future work. The study focuses on two questions:

RQ1: Which authors, institutions, and countries have made the most significant contributions to this research field?

RQ2: What have been the salient themes in the integration of social media into health communication practices over the past decade, and how have the themes evolved?

2. Methodology

2.1 Data Collection

Bibliometric studies often use one database because many databases overlap and combining data from different sources is technically hard (Öztürk et al., 2024). This study used Scopus. Because Scopus is the second biggest global database, with over 87 million records, including new cross-field research (Gusenbauer, 2022). It covers many top journals in communication, public health, and computer science (Pranckutė, 2021). Also, Scopus has many basic data tools, letting researchers do quick checks (Baas et al., 2020; Kipper et al., 2020).

The study picked 2014 as the start because social media had grown by then. Platforms like Instagram and WeChat became popular worldwide (Romano, 2020). Tools like visual stories and AI chatbots started changing how health groups talk to people and helped add social media to health communication (Weingott & Parkinson, 2024). Also in 2014, smartphone use passed 30% globally (Tao & Edmunds, 2018). This led to more mobile health interactions, so mHealth became a key research area. The study goes up to 2024 to include the latest research. This period shows how social media changed from a helper in health communication to a main tool for health campaigns. To fully cover all relevant studies, we made a detailed search plan in Scopus:

"(TITLE-ABS-KEY ("social media" OR "social networking sites" OR "SNS" OR "Facebook" OR "Twitter" OR "Weibo" OR "Instagram" OR "TikTok") AND TITLE-ABS-KEY ("health communication" OR "health information dissemination" OR "health promotion communication" OR "public health communication" OR "disease communication")) AND PUBYEAR >2013 AND PUBYEAR <2025"

We used this search method and found 1,882 documents from Scopus. We removed non-English articles. This left 1,816 articles. To keep it focused, we kept only journal articles. We removed books, conference papers, and reviews. This left 1,462 articles for analysis.

2.2 Data Analysis

We found 1,462 articles and saved them as a dataset from Scopus. The dataset contained details like year, title, authors, journal, and citations. After checking this information, we saved the dataset as a CSV file to analyze later with VOSviewer. We used VOSviewer for analysis. This tool helps create and visualize bibliometric networks. These include studies on co-authorship, shared citations, and common keywords (McAllister et al., 2022). VOSviewer's tools are good at grouping large datasets into clear visual maps. This improves the quality of bibliometric research. Using VOSviewer gave strong support for answering the research questions with clear visual data.

3. Result

3.1 Which Disciplines, Authors, Institutions, and Countries Have Made the Most Significant Contributions to This Research Field?

3.1.1 Subject Distribution

Figure 1 shows how different fields study social media in health communication. Medicine and social sciences are the main fields, making up 38.4% and 22.9% of studies. The research also covers many fields, but most research comes from medicine and healthcare. The involvement of social sciences, computer sciences, and other fields further underscores the multidimensionality and inclusiveness of research in this domain.

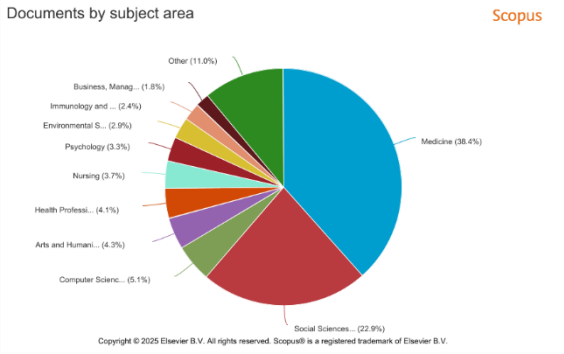

Figure 1. Documents by subject area

3.1.2 Key Authors

Co-authorship analysis conducted using VOSviewer identified 42 authors with five or more publications in this field. Fig. 2 presents an overview of the collaborative relationships among these authors and the distribution of their publication timelines. Each circle in the figure represents a node, with each node corresponding to an author. The size of the node is proportional to the author's publication count or frequency of collaboration — the larger the node, the more active the author is within the collaboration network. The color of each node indicates the average publication year, with the legend ranging from purple for 2014 to yellow for 2024. Notably, Fung, I.C.H. and Fu, K.W. occupy central positions in the network, characterized by frequent collaboration and early contributions to the field, marking them as pioneering figures in social media-driven health communication research. In contrast, the Unger, J.B. group has emerged more recently as a rising force, primarily focusing on adolescent health-related activities and behaviors on social media platforms. Furthermore, Dredze, M. has made substantial contributions across multiple research subfields, serving as a pivotal figure in fostering interdisciplinary collaboration.

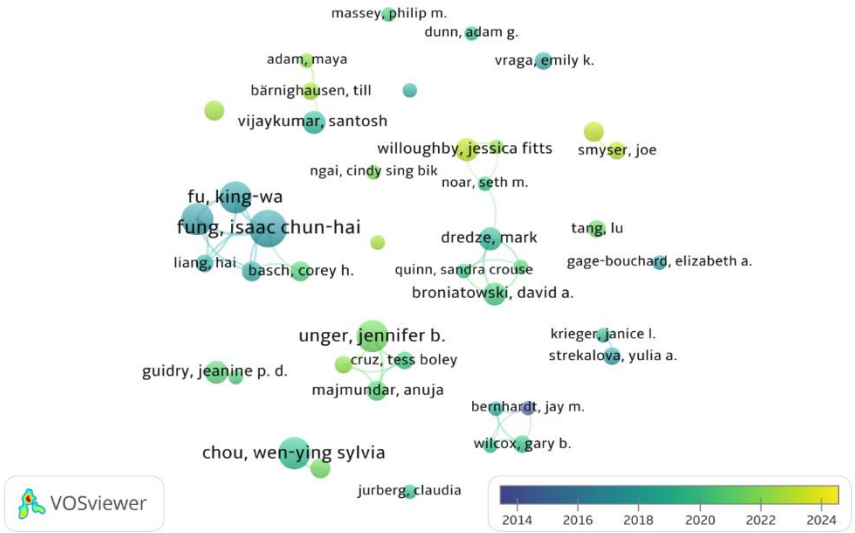

Figure 2. A graph of co-occurring authors by time

Table 1 highlights the five authors with more than ten publications in this field. Fung, I.C.H., who has published the most papers (n=13), focuses on data-driven health interventions, particularly pioneering research on enhancing public health response through social media(Fung et al., 2015). Fu, K.W., on the other hand, investigates the role of social media during public health emergencies, such as COVID-19 and the Ebola virus, exploring how the public accesses health information, spreads rumors, and shapes health behaviors through these platforms(Fu et al., 2016). Table 2 lists the top 10 most-cited authors. Dredze, M. ranks first, with his research centering on natural language processing and the dissemination of pandemic-related information, making him a key figure in interdisciplinary studies within this field(Dredze et al., 2016). Notably, Broniatowski, D.A., ranked second, demonstrates even greater influence, with one of his papers garnering 767 citations. Dredze, M. is also a co-author of this highly impactful 2018 study, which examined the impact of AI on health information dissemination, further advancing research into AI-driven health

communication on social media(Broniatowski et al., 2018). Another noteworthy scholar is Vraga, E.K., who ranks third with 992 citations across six papers. Interestingly, Vraga's total link strength is zero, indicating isolation within the co-authorship network. Nevertheless, her research plays a crucial role in understanding the management of health misinformation on social media platforms(Vraga & Bode, 2017), marking her as a significant contributor in this area.

Table 1. Top 5 Authors by Publications

Sr.No	Author	Publications
1	Fung, I.C.H.	13
2	Chou, W.Y.S.	11
3	Fu, K.W.	11
4	Tse, Z.T.H	11
5	Guidry, J.P.D.	10

Table 2. Top 10 Most Cited Authors

Sr.No	Author	Publications	Citations	Total Link Strength
1	Dredze, M.	8	1104	13
2	Broniatowski, D.A.	8	1047	12
3	Vraga, E.K.	6	992	0
4	Jamison, A.M.	5	948	10
5	Chou, W.Y.S.	11	426	6
6	Fung, I.C.H.	13	405	34
7	Fu, K.W.	11	394	31
8	Tse, Z.T.H	11	360	30
9	Bernhardt, J.M.	5	350	4
10	Dunn, A.G..	5	281	0

3.1.3 Affiliation Distribution

In terms of institutional output, Johns Hopkins University, University of Florida, and University of Georgia each published 27 papers, tying for first place. Other institutions followed closely behind, with publication counts gradually decreasing. However, as shown in Table 3, a notable pattern emerges: among the top 11 institutions in total publications, nine are based in the United States, with only one institution from China and one from Australia. This underscores the substantial contribution of U.S. institutions to research in this field.

Table 3. Top 10 Affiliations by Publications

Sr.No	Affiliation	Publication	Percentage	Country
1	Johns Hopkins University	27	1.85%	United States
2	University of Florida	27	1.85%	United States
3	University of Georgia	27	1.85%	United States
4	The University of North Carolina at Chapel Hill	26	1.78%	United States
5	The University of Sydney	24	1.64%	Australia
6	The University of Texas at Austin	23	1.57%	United States
7	The George Washington University	21	1.44%	United States
8	University of Pennsylvania	21	1.44%	United States
9	The University of Hong Kong	21	1.44%	China
10	University of Southern California	20	1.37%	United States
11	University of Minnesota Twin Cities	20	1.37%	United States

3.1.4 Country/Region Distribution

Statistical analysis reveals that the top ten countries in terms of publication volume (with Germany, Italy, and South Korea tied for tenth) collectively contributed 1,405 papers, accounting for 96.10% of the total publications. Notably, the United States leads with 738 publications, representing 50.48% of the total. As shown in Table 4, the U.S. produced more than five times the number of publications as the second-ranked country, China (n=138), highlighting the significant contribution of American scholars to this research field. China ranks second, comprising 9.44% of total publications, followed by Australia and the United Kingdom, each with 86 publications.Moreover, our review revealed a limited number of publications from regions such as Africa (e.g., South Africa, Nigeria) and Latin America (e.g., Brazil, Mexico), with fewer than 50 studies identified.

Fig.3 illustrates the distribution of citations across the top ten countries and regions. Combined with Tables 4 and Fig.4, the data indicate that the U.S. not only leads in publication volume but also dominates in total citations and

collaborative strength with other countries, reinforcing its pivotal role and broad international influence in shaping research on social media integration into health communication practices. Trailing behind are China (2,825 citations), Australia (2,081 citations), and the United Kingdom (1,694 citations), forming a second tier of influential contributors in this domain. A particularly noteworthy case is Qatar, which, despite producing only five publications, amassed 612 citations, indicating exceptionally high research quality in this area.

Overall, the data reflect a noticeable geographical imbalance in global research output over the past decade, with the U.S. maintaining a dominant position while Asian countries are gradually closing the gap.Global research on this topic reveals a pronounced North–South divide. However, we also observe a growing emergence of localized health intervention studies in developing countries and regions, despite the substantial gap with high-income countries such as the United States. This trend indicates that, despite constraints related to resources and language, academic engagement in these areas is steadily increasing. As international academic collaboration deepens and research capabilities diversify, this landscape is likely to continue evolving in the future.

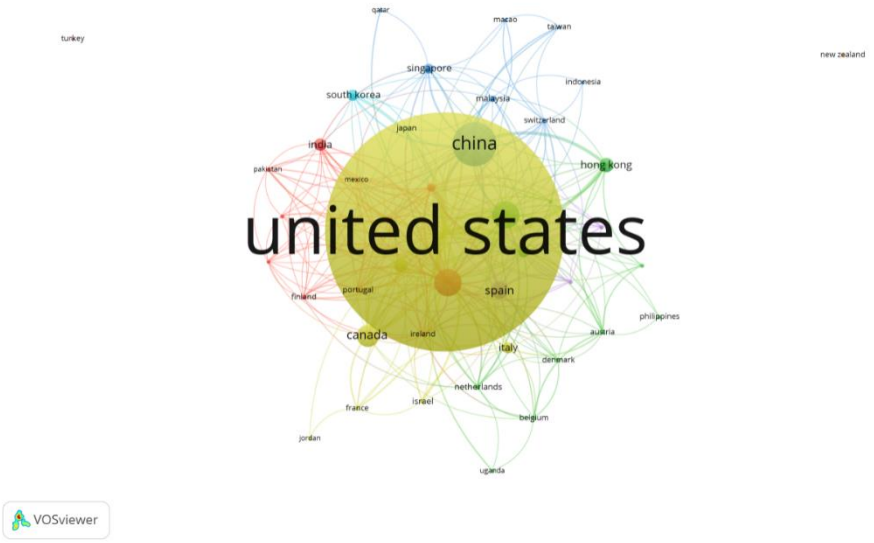

Figure 3. International Co-Authorship Network by Country or Territory

Table 4. Top 10 Countries/Territories by Publications

Sr.No	Country	Publications	Citation	Total link strength
1	United States	738	17199	300
2	China	138	2825	102
3	Australia	86	2081	43
4	United Kingdom	86	1694	58
5	Canada	69	1248	55
6	Spain	55	581	12
7	Hong Kong	45	946	75
8	Brazil	44	312	8
9	India	39	443	17
10	Germany	35	653	6
11	Italy	35	593	14
12	South Korea	35	753	36

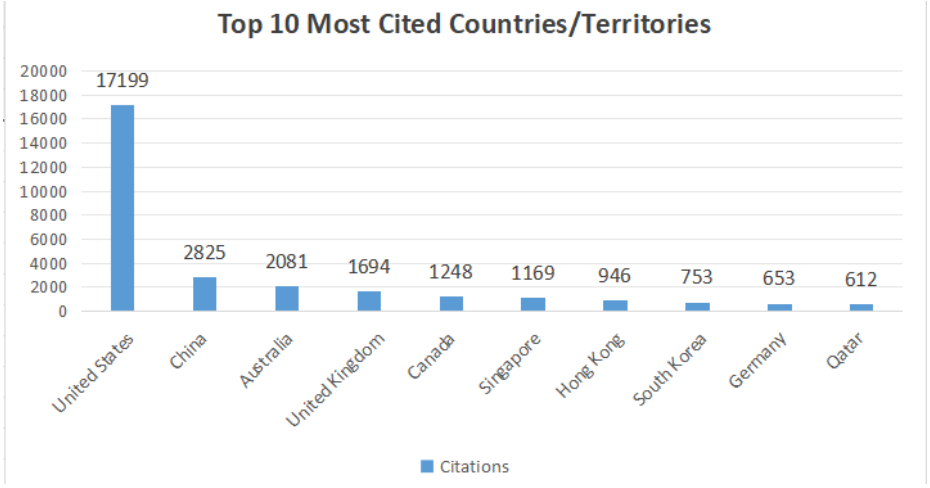

Figure 4. Top 10 Most Cited Countries/Territories

3.2 What Are the Thematic Evolution Trends in Social Media Integration into Health Communication Practices Over the Past Decade?

3.2.1 Overall Trends in the Past Decade

According to Table 5, the annual publication volume in the field of social media and health communication increased from 34 papers in 2014 (2%) to 286 papers in 2024 (20%), reflecting a compound annual growth rate (CAGR) of 21.4%. This remarkable growth underscores the rising importance of social media in health communication over the past decade. From 2014 to 2019, research in this area experienced a phase of rapid expansion, with a CAGR of 24.3%, driven primarily by technological advancements and the increasing intersection of disciplines. Around 2014, social media emerged as a novel tool for health communication, with early studies focusing on its initial applications in health education. As mobile internet adoption surged globally, the rise of mobile health (mHealth) further propelled research in this domain. In 2020, the number of publications surged to 172 papers (12%), largely due to the outbreak of COVID-19, which shifted research priorities toward understanding the role of social media during public health crises. The share of publications addressing this topic increased by five percentage points (from 7% to 12%). The upward trend continued, reaching 286 papers (20%) in 2024. This surge in publications can be attributed to two primary factors. First, the COVID-19 pandemic positioned social media at the forefront of pandemic information dissemination, vaccine promotion, and misinformation management, sparking a wave of studies on the phenomenon of the "infodemic." Second, advancements in digital technologies — such as TikTok's video-based content, AI-driven content moderation, and blockchain for health data management — further enriched the research landscape, deepening investigations into the transformative impact of these innovations on health communication practices.

Table 5. Annual Publications (2014-2024)

Years	Total publication	Percentage
2014	34	2%
2015	37	3%
2016	75	5%
2017	77	5%
2018	80	5%
2019	101	7%
2020	172	12%
2021	193	13%
2022	185	13%
2023	222	15%
2024	286	20%

3.2.2 What Are the Key Themes in Social Media Integration into Health Communication Practices Over the Past Decade?

To explore the key themes in the integration of social media into health communication practices, we utilized VOSviewer to generate a keyword co-occurrence map (Fig.5). The analysis focused on author-provided keywords, initially identifying 3,003 unique terms. By adjusting the minimum occurrence threshold, we ultimately set the threshold at 10 occurrences, narrowing the analysis to 71 keywords.Given that one of our primary objectives was to identify emerging themes in this field, we excluded generic terms such as “methodology” and non-research-related terms like “issue.” Additionally, synonymous terms were merged to ensure analytical precision — for instance, “COVID-19” and “COVID-19 pandemic” were consolidated under “COVID-19.” After this refinement, the final analysis encompassed 69 keywords.

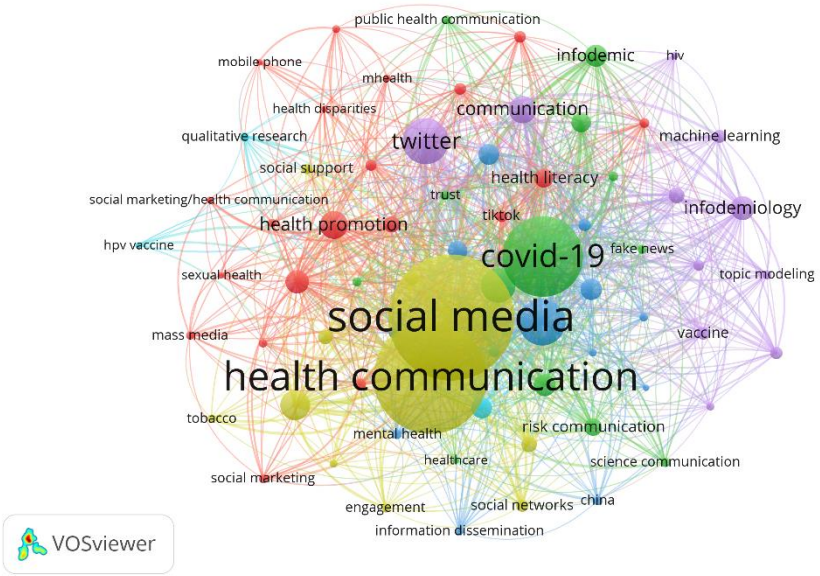

Figure 5. Author Keyword Co-occurrence Network

From Fig.5, the entire network structure appears to be intricately interwoven, indicating the extensive application of social media in health communication research, which has been explored from multiple perspectives. "Social media" and "health communication" emerge as the two most prominent nodes, not only closely linked to each other but also closely connected with many other keywords. This is primarily because social media has become a crucial channel for health communication, deeply integrated into health communication practices (Thapliyal et al., 2024). In addition, keywords such as "COVID-19," "misinformation," "health promotion," and "infodemic" are notably prominent, indicating the strong focus of researchers on the role of social media in the dissemination of health information and the associated challenges.

The yellow cluster contains several noteworthy keywords, including "social media," "health communication," and "engagement. "These keywords reveal that relevant studies mainly revolve around the roles of various social media platforms in health communication (Stellefson et al., 2020), Platforms such as Facebook, YouTube, and Instagram facilitate health communication on issues like "cancer" and "tobacco" by enabling user interaction, content creation, and information sharing. Research has shown that social media platforms can also provide social support to patients (Saiz & Nieto, 2021).

The green cluster centers around the keyword "COVID-19," focusing on information dissemination and risk communication mechanisms during major public health emergencies. This cluster also includes secondary terms such as "infodemic," "risk communication," "science communication," "trust," and "public health communication," further emphasizing the significant impact of the COVID-19 pandemic on public health. Some studies suggest that social media played a crucial role in promoting vaccine uptake but also served as a breeding ground for misinformation (Limaye et al., 2021), illustrating the double-edged sword effect of social media in public health crises. This underscores the need for future research to strike a balance between communication efficiency and information quality (Nkemdilim, 2024).

The red cluster core keywords include "health promotion" and "health literacy," along with secondary terms such as "mHealth," "digital health," and "health disparities." In situations where face-to-face interactions are limited, mobile technologies have become a primary channel for health information dissemination, making mobile health (mHealth) a critical research topic (Arslan, 2016). Researchers have found that social media not only contributes to health promotion and health literacy improvement but also drives the development of digital health and mHealth research (Levin-Zamir

& Bertschi, 2018). How mobile networks and devices are integrated into health communication practices and how they become vital channels for disseminating health information are also key issues (Aceto et al., 2018).

The blue cluster features "public health" as the core keyword, with secondary terms such as "information dissemination," "mental health," and "health belief model." This cluster primarily investigates the impact of health information dissemination activities on public health within social media environments. The health belief model, originally developed to explain and predict health behaviors and address the reasons for individuals' failure to participate in disease prevention and screening programs (Rosenstock, 1974), has been repurposed in the social media era to achieve health education and promotion, ultimately improving public health (Raamkumar et al., 2020). Furthermore, two notable keywords in this cluster, "China" and "WeChat," illustrate the continuous deepening of health communication practices within local social media platforms in China. This reflects a growing focus on the role of indigenous social media in health communication, emphasizing the unique characteristics of China's social media landscape in public health promotion.

The purple cluster, with "infodemiology" as the central term, includes secondary keywords such as "artificial intelligence," "machine learning," "topic modeling," and "sentiment analysis," directly reflecting the trend of applying emerging technologies in the field of social media health communication.

Subsequently, we utilized VOSviewer to generate an overlay visualization of keyword co-occurrence to identify trends in keyword evolution (Fig.6). The color gradient in the lower right corner ranges from dark blue to yellow, representing the temporal trend from 2019 to 2024. Dark blue indicates earlier studies, around 2019, which primarily focused on social media platforms like Facebook, Twitter, and the Internet. Research during this period examined how these early platforms facilitated social support for chronic conditions such as diabetes and obesity. The transition from green to yellow highlights research from the most recent two years, where keywords like COVID-19, social media, public health, health communication, misinformation, and health literacy emerged — largely driven by the global pandemic. Yellow keywords represent the latest research hotspots, including digital health, adolescents, TikTok, and AI, reflecting a growing scholarly interest in leveraging video-based platforms and artificial intelligence to advance health communication. This shift underscores the increasing digitalization and integration of intelligent technologies in the field, signaling a new era in health communication research.

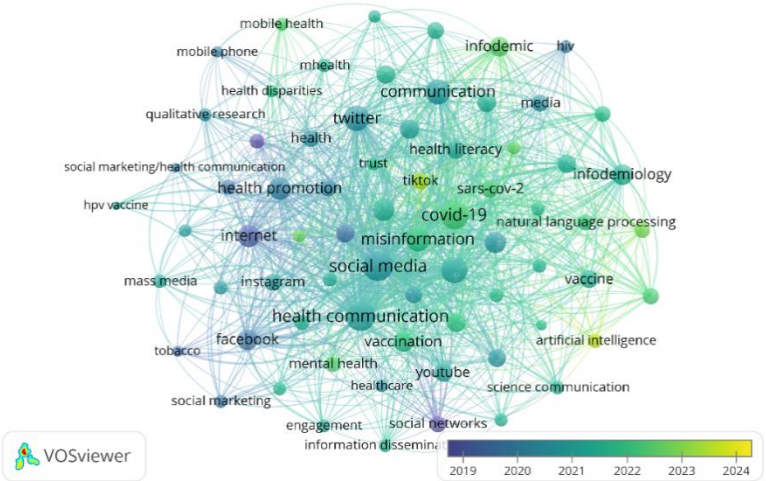

Figure 6. Overlay visualization of keyword co-occurrences

Finally, to further identify key research themes, we analyzed the ten most-cited articles with over 200 citations (Table 6). The earliest of these papers was published in 2015 and investigated how related stories on Facebook could help correct misinformation through algorithmic recommendations(Bode & Vraga, 2015). The most frequently cited article investigated the significant impact of Twitter bots and Russian troll accounts on vaccine-related online discussions. It found that different types of accounts exert varied influences, posing a threat to public health (Broniatowski et al., 2018). Interestingly, two articles published in 2017 and 2018 specifically investigated how to correct false health information on social media platforms. The authors of these studies emphasized that both platforms and public health professionals play a pivotal role in rectifying misinformation (Vraga & Bode, 2017; Waszak et al., 2018). Among the ten articles reviewed, five focused on the COVID-19 pandemic, underscoring the critical role of social media in health communication during public health crises. One of these articles analyzed user tweets to understand the public's

concerns during different phases of a public health crisis, identifying shifts in emotional responses over time (Abd-Alrazaq et al., 2020). Another study found a strong correlation between the frequency of social media use during public health emergencies and users' mental health conditions(Chao et al., 2020). Furthermore, social media was highlighted as a valuable tool for health promotion during crises. Two additional articles explored health literacy issues, revealing that individuals with low health literacy are more likely to use and trust social media platforms and blogs with uncertain information quality(Chen et al., 2018; Li & Liu, 2020). This tendency exposes them to large amounts of low-quality health information, potentially jeopardizing their health. Moreover, one study emphasized the importance of leveraging social media to disseminate reliable information during public health emergencies. It also stressed the need to enhance public health literacy, particularly eHealth literacy, to help individuals better navigate digital health information and make informed decisions(Vraga & Bode, 2017). Most of these representative studies are primarily quantitative in nature, relying on survey-based data analysis. The data samples mainly cover diverse regions such as China and the United States, with research timelines concentrated during the early stages of the COVID-19 pandemic. Only a few studies address the long-term impacts. Therefore, future research in this field should place greater emphasis on qualitative approaches, broaden the diversity of data samples, and extend the temporal scope to examine sustained effects over time.These studies collectively demonstrate the double-edged nature of new media in health communication. On the one hand, the variability in content quality across platforms can amplify public panic; on the other hand, when used appropriately, new media can serve as an effective channel for disseminating authoritative health information. Notably, corrections from credible sources tend to be more effective than those from ordinary users, underscoring the importance of maintaining institutional trustworthiness.Moreover, higher levels of eHealth literacy and disease-specific knowledge significantly enhance the public's ability to effectively engage with health information on social media and adopt appropriate preventive behaviors. As such, improving global eHealth literacy has become an urgent priority.

Table 6. Top 10 Most Cited Articles

Authors	Title	Year	Citation
Broniatowski D.A.; Jamison A.M.; Qi S.; AlKulaib L.; Chen T.; Benton A.; Quinn S.C.; Dredze M.	Weaponized health communication: Twitter bots and Russian trolls amplify the vaccine debate	2018	1384
Abd-Alrazaq A.; Alhuwail D.; Househ M.; Hai M.; Shah Z.	Top concerns of tweeters during the COVID-19 pandemic: A surveillance study	2020	583
Bode L.; Vraga E.K.	In Related News, That Was Wrong: The Correction of Misinformation Through Related Stories Functionality in Social Media	2015	424
Lwin M.O.; Lu J.; Sheldenkar A.; Schulz P.J.; Shin W.; Gupta R.; Yang Y.	Global sentiments surrounding the COVID-19 pandemic on Twitter: Analysis of Twitter trends	2020	336
Vraga E.K.; Bode L.	Using Expert Sources to Correct Health Misinformation in Social Media	2017	334
Waszak P.M.; Kasprzycka-Waszak W.; Kubanek A.	The spread of medical fake news in social media – The pilot quantitative study	2018	287
Chen X.; Hay J.L.; Waters E.A.; Kiviniemi M.T.; Biddle C.; Schofield E.; Li Y.; Kaphingst K.; Orom H.	Health Literacy and Use and Trust in Health Information	2018	264
Al-Dmour H.; Masa'deh R.; Salman A.; Abuhashesh M.; Al-Dmour R.	Influence of social media platforms on public health protection against the COVID-19 pandemic via the mediating effects of public health awareness and behavioral changes: Integrated model	2020	226
Chao M.; Xue D.; Liu T.; Yang H.; Hall B.J.	Media use and acute psychological outcomes during COVID-19 outbreak in China	2020	208
Li X.; Liu Q.	Social media use, eHealth literacy, disease knowledge, and preventive behaviors in the COVID-19 pandemic: Cross-sectional study on chinese netizens	2020	203

4. Discussion

This study systematically analyzes the research hotspots and evolutionary trends of social media in health communication practices from 2014 to 2024, based on 1,462 publications retrieved from the Scopus database. The findings reveal that social media has gradually become a core channel for health communication, transforming the way people access and share health information.

Firstly, the study indicates a high degree of interdisciplinarity in research on health communication practices within social media. Medicine (38.4%) and social sciences (22.9%) are the dominant disciplines, reflecting the need for the scientific rigor of medical knowledge and the deep understanding of social behavior and psychology provided by social sciences. Medical research focuses on the applications of social media in health education, disease prevention, and

health promotion (Chen & Wang, 2021), while social science research delves into how social media influences health behaviors and social support (Kilb, 2022). Notably, the field of computer science (accounting for 5.1%) has shown a rising involvement, suggesting a potential paradigm shift toward technology-driven approaches. For instance, the application of natural language processing (NLP) and machine learning in epidemic information monitoring marks a transition from traditional to data-intensive research methods in health communication(Combi & Pozzi, 2021). However, structural barriers to interdisciplinary collaboration persist, as the network connections between medical and computer science researchers remain relatively loose, underscoring the need for greater methodological integration and joint research designs in future studies.

Secondly, in the global field of research on social media and health communication, the United States holds an absolute leading position, accounting for 50.48% of publications and receiving a total of 17,199 citations. American research predominantly focuses on health management during public health crises (Hartley & Perencevich, 2020) and the innovative applications of emerging technologies in health communication (Khezr et al., 2019). China ranks second with 9.44% of the total publications, yet the research themes differ from those of the United States. Chinese studies primarily concentrate on the local practices of social media platforms, emphasizing health communication and public opinion monitoring on domestic platforms (Hou et al., 2020). This focus reflects a limited degree of integration with the global research frontier.Future efforts should further promote health communication research in non-English-speaking and developing countries, particularly through closer collaboration between leading institutions—such as the World Health Organization and the U.S. Centers for Disease Control and Prevention—and local academic teams. Such partnerships are essential for the co-development of standardized frameworks for global health information governance. These initiatives can lower barriers to participation and foster more inclusive academic contributions on a global scale. Overall, the geographic distribution of research in this field is uneven, highlighting disparities in academic resource allocation and underscoring the need for strengthened South-South cooperation in future research to reshape the existing landscape.

Lastly, the thematic evolution of research in this field over the past decade reveals dynamic shifts in research priorities. From technology-driven initiatives to the instrumental use of social media following public health emergencies, and now to meet the increasing demands of society, social media has successfully established itself as an indispensable channel for health communication. Chronologically, research from 2014 onwards centered on the application of social media platforms in health communication, focusing on the mediating role of social media in managing chronic diseases such as diabetes and obesity (Patel et al., 2015). This aligns with the user-generated content (UGC) model that characterized social media platforms at the time. The COVID-19 pandemic in 2020 marked a pivotal turning point, as research priorities rapidly shifted to health crisis communication, resulting in a sharp increase in publication volume. Social media became the main place for the "infodemic." During this time, researchers studied both good and bad effects of social media. Experts said platform algorithms helped spread vaccine information faster (Venegas-Vera et al., 2020). But wrong information also spread (Muhammed T & Mathew, 2022), causing people to doubt vaccines and panic. At the same time, new research methods appeared. These included using computer tools to study health opinions in real time and tracking how health rumors spread through social networks. These methods were important steps. After 2022, as the pandemic gradually subsided, technological advancements once again drove the research agenda into a new phase. AI-driven personalized recommendations, AR-based virtual consultations, and other cutting-edge technologies became focal points in health communication (Akhtar & Rawol, 2024). Issues like teen mental health and digital health skills are getting more attention from researchers. Technology is advancing quickly. This is creating more need for managing digital health. This means making services better and faster and keeping data safe and private. The ethical dilemmas and potential solutions of digital health governance urgently require innovative research approaches.

5. Conclusion

This study employs a bibliometric analysis to systematically map the knowledge structure of social media-driven health communication research. By revealing the disciplinary distribution, it highlights the interdisciplinary nature of social media health communication. Additionally, the study identifies key themes and evolving trends through keyword analysis, providing valuable references for the deep integration and advancement of social media and health communication in the future. The findings help public health policymakers, health workers, and social media platforms. Policymakers can use social media to share health information better and make health actions more accurate and timelier. Health workers should use videos and live streams to make health information more engaging and interactive. Social media platforms also need to check content better to stop false health information. But studying has limits. It only used data from Scopus, so some studies from other places might be missed. The tools used had limits, so the study didn’t look closely at the details of the research. Also, fast changes in technology and how people use social media might make the study’s results less valid over time.

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Authors contributions

YSL Contributed to the conception, design, and writing of the entire manuscript. Led the data collection, analysis, and interpretation of the literature included in this review. Responsible for drafting and revising the manuscript.Prof. EM Provided significant guidance and feedback throughout the manuscript preparation. Reviewed and critically revised the manuscript for important intellectual content. Dr.AAA Contributed to the critical revision of the manuscript and provided academic supervision. Offered valuable insights and suggestions to enhance the quality of the work.and YLL was primarily responsible for the preliminary cleaning and verification of research data, partial literature screening and coding, and assisted in the preliminary drawing of charts and basic data analysis, providing important foundational support for the orderly progress of the research. All authors read and approved the final manuscript.

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