The Evolution of Health Insurance Research: A Bibliometric Exploration of Global Contributions and Emerging Themes

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Abstract: Modern healthcare systems would not be possible without health insurance, which offers financial security and allow people to obtain essential medical care without having to pay excessive payments. Health insurance has changed significantly throughout the years as a result of changing demographics, regulatory changes, and technology advancements. The amount of research in this field has increased, with an emphasis on how these advancements impact healthcare costs, quality, and access. Research has evaluated legislative changes, such as Affordable Care Act in United States, and examined whether different insurance schemes work to improve health outcomes. A multidisciplinary approach has been encouraged by the convergence of health insurance with public health, economics, and social justice, indicating important areas for further research. This study examines research trends in health insurance via bibliometric analysis. This study offers a comprehensive overview of publication trends in the field of health insurance through bibliometric analysis and visualization techniques. To achieve this, the research compiles and organizes 1,494 publications on health insurance from the Scopus database.This study offers a comprehensive review of the current state of health insurance research, highlighting significant topics, and useful connections that will inform future studies and the development of industry policies.

Keywords: Health insurance, insurance, bibliometric analysis, health insurance policies.

Introduction

Health insurance plays a crucial role in protecting households from the financial strain caused by out-of-pocket medical expenses (Spaan et al., 2012). The immense out-of-pocket medical costs that severely affect low-income individuals pose a serious financial burden on India's healthcare system(Xu Duo et. al, 2023).

When people with low incomes feel sick, they frequently turn to local clinics or public hospitals for free medical care. Unfortunately, there aren't numerous areas where you can get such free medical treatment. This is frequently the beginning of a difficult path. Many individuals in need of medical attention are compelled to borrow money from friends, family, or financial institutions in order to pay for their treatments. Some, on the other hand, have no other options, which leaves them untreated, unable to work, and sometimes even results in their early death.

The Indian government has implemented a number of publicly financed health insurance programs in an effort to reduce these expenses. Although private health insurance has grown as well, affluent households are primarily covered by it. Over the past 25 years, there has been a significant increase in bibliometric analyses within health insurance research, revealing trends, gaps, and new areas of interest. Important studies have examined subjects such as the efficiency of health insurance markets, the impact of private versus public insurance, and the inequalities in coverage and health outcomes among different demographic groups. A bibliometric study of the many scientific research that have been published in this field is still lacking.Using keywords such as "health insurance", "medical insurance", and "consumer behaviour", 1,494 relevant research articles were discovered using the PRISMA framework for systematic reviews from the Scopus database. A number of metrics, including publishing trends, citation frequency, eminent journals, and keyword analysis, were included in the analysis.The goal of the bibliometric approach is to uncover research themes and patterns within a specific area of interest by using selected indicators, such as citation indices (Khan et al., 2021). These analyses are facilitated by advanced analytical systems that can handle large datasets and employ visualization techniques (Calzadilla et al., 2021). The research outcomes provide a detailed view of how publication patterns and citation rates have changed over time, identify notable projects, influential authors, top journals, and prominent institutions, and feature a network analysis that illustrates the co-occurrence of keywords pertinent to health insurance.The bibliometric approach analyzes bibliographic data to identify clusters, examine citation and co-citation trends, and investigate internal linkages in the literature (Zainuldin and Lui, 2022).

The quantitative method, commonly known as the bibliometric approach, has appreciated in the management and finance fields nowadays. The following

research questions (RQs) are the focus of this study:

RQ1. What trends are emerging in the literature on health insurance?

RQ2.What were the key journals that significantly contributed to the field's development?

RQ3.Do the outcomes lined up with the bibliometric laws?

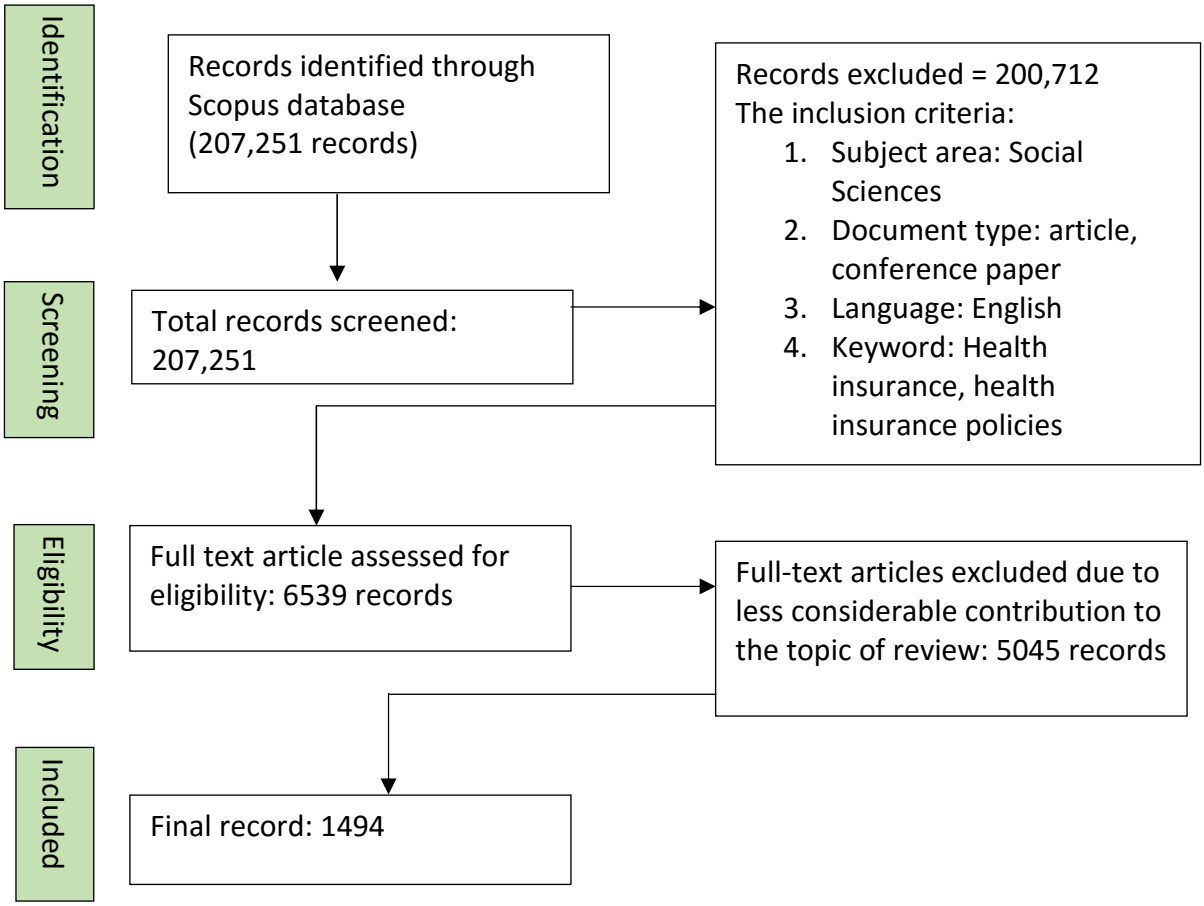
RQ4. Which keywords are most frequently used, and which are the main health insurance streams?

Research Methodology

The primary objectives of a review study are to identify areas that need more investigation and to shed light on the state of knowledge in a given sector. A review paper improves understanding of a certain topic by incorporating findings from earlier study. Systematic reviews, narrative reviews, and theme reviews are among the several forms of literature reviews. In 1969, Pritchard developed a more modern technique known as the bibliometric review, which includes a quantitative analysis of academic literature.This approach enhances the objectivity of literature reviews and facilitates the identification of novel trends and potential avenues for future research by methodically analyzing a large number of academic publications. As such, it serves as an essential tool for researchers, enabling them to pinpoint important inputs while mitigating subjective bias. We used two essential components of bibliometric analysis in this study: science mapping and performance analysis. Performance analysis evaluates many aspects of publications and citations, offering information on their productivity and impact.Scopus database was used to identify publications on health insurance which is largest abstract and citation database for peer-reviewed literature in the world and offers a thorough analysis of published articles on insurance. To gather all pertinent publications in this area, a search was conductedthrough the Scopus database using the keywords "health insurance", "health insurance policies", and "health". This search returned a total of 207,251 records from the Scopus database. The document count was further refined by filtering for language, document type, and research area, yielding a total of 1,494 records. A procedure where different records were extracted and subsequently screened using keyword phrases relevant in the field of marketing management was used to ensure the inclusion of all appropriate publications. Data such as publication title, author names and affiliations, journal details like name, number, volume, pages, publication date, abstract, cited references, and author-

supplied keywords were extracted from the Scopus database for each of the final 1494 records. Following this, a bibliometric analysis was carried out to identify the leading countries, affiliations, years, authors, and publications in the field of women's entrepreneurship.In addition, an analysis of co-occurring author-provided keywords was performed to track the progression of research in the field of health insurance and pinpoint potential future research pathways. To facilitate the intended use, a network diagram of keyword phrases in the field of health insurance was created using the VOS Viewer application and R-Studio.

Screening and selection process:



Source: Authors' compilation

Figure 1. PRISMA framework

The detailed approach used in this study for data gathering and analysis is illustrated in figure 1. Keyword identification, a thorough literature search, the removal of duplicate records, and data refining based on language, document type, and research fields were all steps in the process. Using VOS Viewer and Microsoft Excel, bibliometric analysis was performed. Additional analysis was done to find patterns in the field of health insurance research. The objective of the comprehensive analysis of the Data Collection and Analysis Approach is to ensure transparency and provide readers a comprehensive knowledge of the methods and techniques applied during the research.

Result and analysis

Top most global cited documents

"Most Cited Documents"

Paper	Total Citations	TC per Year	Normalized TC
DANIELS N, 1997, PHILOS PUBLIC AFF	497	17.75	8.65
ROEHRICH JK, 2014, SOC SCI MED	344	31.27	9.38
SILVERSTEIN M, 2002, J GERONTOL SER B PSYCHOL SCI SOC SCI	338	14.70	5.35
CALLAGHAN T, 2021, SOC SCI MED	327	81.75	32.17
MEHTA SH, 2008, J COMMUNITY HEALTH	303	17.82	8.12
MORRIS MD, 2009, J COMMUNITY HEALTH	268	16.75	8.19
SOHN H, 2017, POPUL RES POLICY REV	243	30.38	9.44
DE WEERDT J, 2006, J DEV ECON	210	11.05	3.60
HACKER K, 2011, SOC SCI MED	198	14.14	5.07
POLDER JJ, 2006, SOC SCI MED	186	9.79	3.18

Source: Authors' calculation

Table 1. Top most global cited documents

Table 1. represents top ten most global cited document in the field of health insurance. It shows the compilation of all the documents with total citation, total citation per year and normalized total citation

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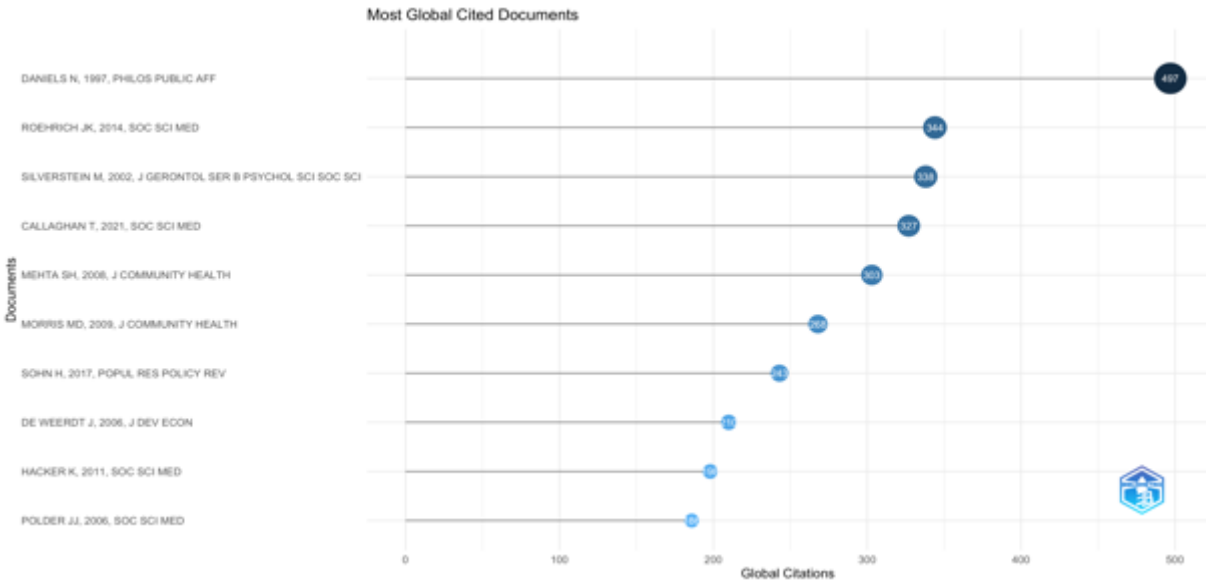


Source: Authors' calculation

Figure 1. Graph of Most Cited Documents

Top most cited countries

A analysis of the 1494 publications regarding health insurance showed that different countries had published different opinions on the topic. The countries with the most citations in this field are listed below:

"Most Cited Countries"

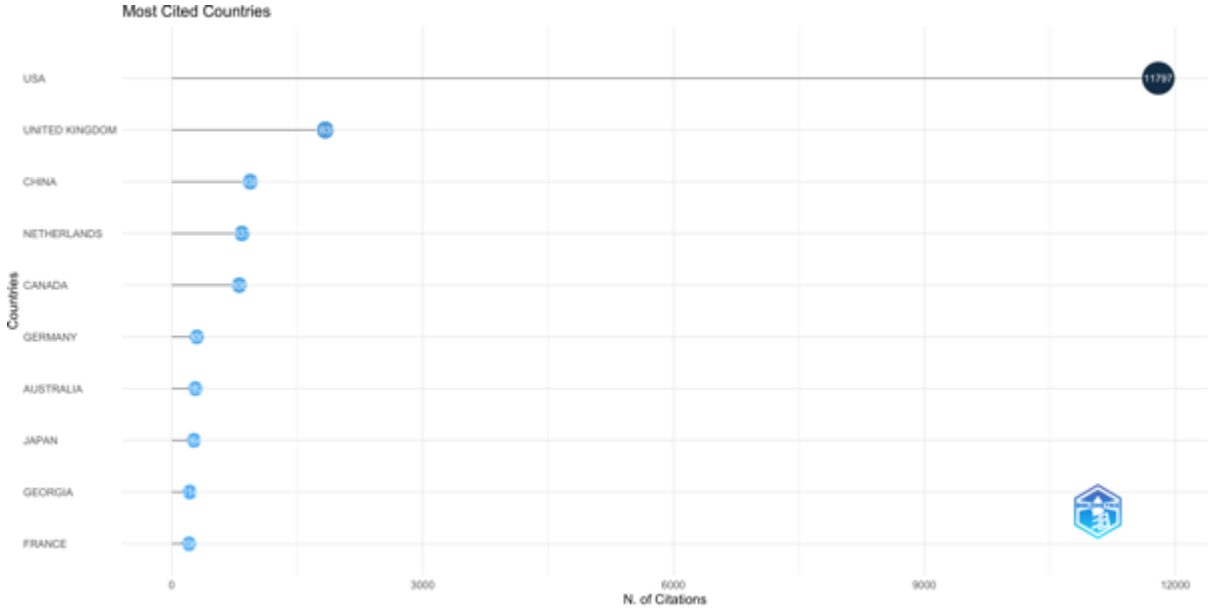
Country	TC	Average Article Citations
USA	11797	21.90
UNITED KINGDOM	1835	29.60
CHINA	938	11.90
NETHERLANDS	837	20.90
CANADA	806	17.10
GERMANY	300	6.00
AUSTRALIA	282	18.80
JAPAN	264	7.50

GEORGIA	214	26.80
FRANCE	206	15.80

Source: Authors' calculation, TC= Total citation

Table 2. Top 10 most cited countries

As shown in Table 2, the USA leads with 11,797 total citations,establishing it as the most influential country, followed by the United Kingdom (1,835), China (1,835), and the Netherlands (837). This indicates that these countries have contributed the most to citations related to health insurance. Over the past several years, The United States has consistently led in the number of citations, highlighting its comprehensive research and investigation into different aspects of health insurance.



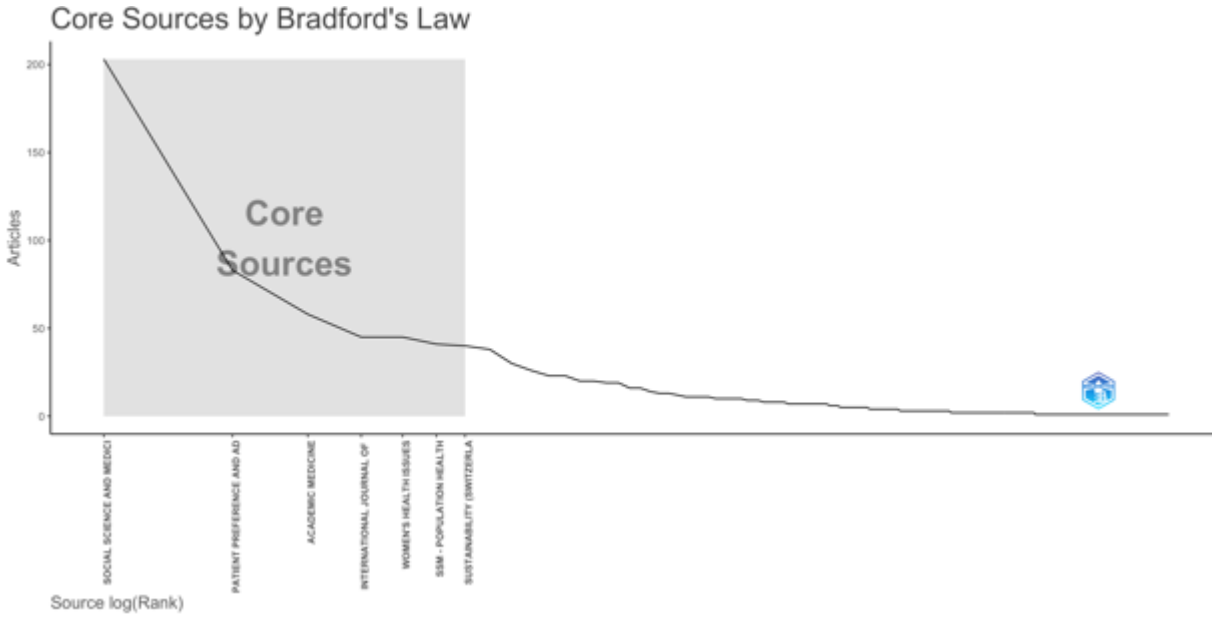
Source: Authors' calculation

Figure2. Graph of Most Cited Countries

The Law of Bradford

The law of Bradford examines the distribution of articles among journals and helps to identify the most important sources for a certain topic (Bradford, 1985). This law allows journals to be separated into three zones, with one-third of all articles placed in each zone. Similar numbers of articles, about one-third, are located in the core zone, Zone 1, and Zone 2 demonstrated (Singh et al., 2016). As we transition from the core zone to Zone 1, the number of journals grows, showing that a limited number of journals serve as the primary contributors. These are referred as "core zone journals". (Suryavanshi U. et. al., 2024). The law states that the first one-third of articles are produced by a few core journals (Zone I), which dominate the subject. The second one-third is published by a larger number

of journals (Zone II), while the final one-third is distributed across the widest range of sources (Zone III). In this study, The law of Bradford distribution shows that the main sources of health insurance research publications are "SOCIAL SCIENCE AND MEDICINE", "PATIENT PREFERENCE AND ADHERENCE", "ACADEMIC MEDICINE", and "INTERNATIONAL JOURNAL OF HEALTH POLICY AND MANAGEMENT", as seen in Figure 3.



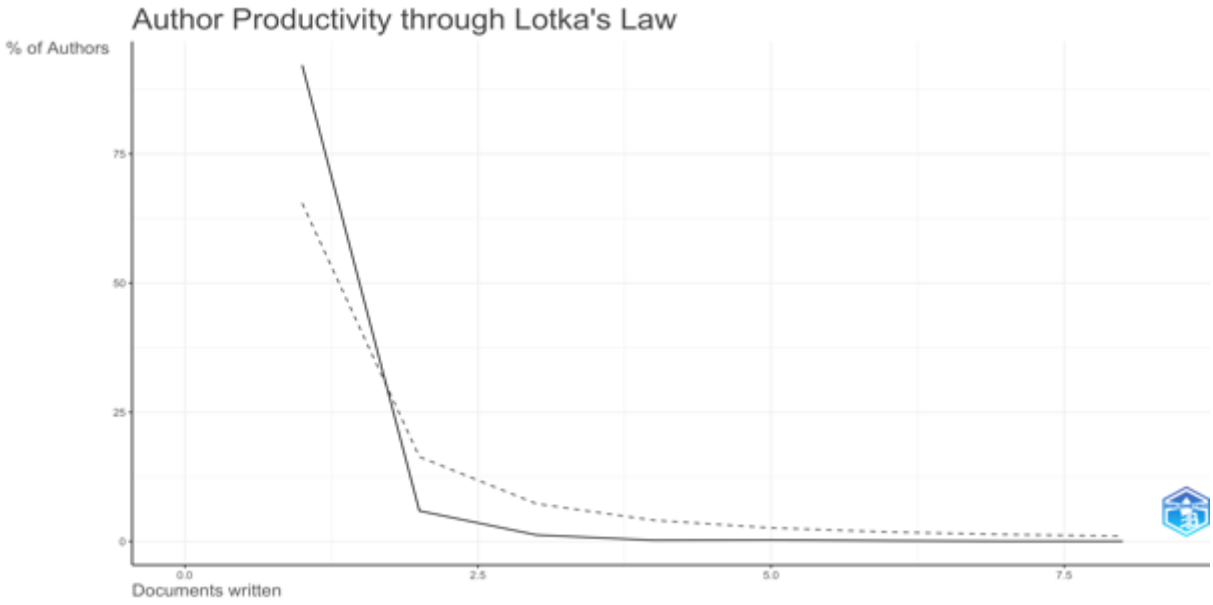
Source: Authors' calculation

Figure3. Distribution of The Law of Bradford

The Law of Lotka

In this study, The law of Lotka (Lotka, 1926), a bibliometric principle that describes the number of articles an author contributes to a specific field, was applied. According to Lotka's law, 60% of authors in a given field produce just one publication, 15% publish two articles, and 6.6% contribute three. Figure 4 compares this theoretical distribution with the actual data observed. The results show that in the field of health insurance, 92% of authors have only one publication, 5.9% have written two articles, and 1.2% have contributed three. Notably, despite increased attention on health insurance in recent years, the majority of authors (92%) have only written a single paper, which significantly diverges from Lotka's predicted 60%. Similarly, only 5.9% of authors have two publications, falling short of the expected 15%. The trend remains the same for those with three

publications. These findings suggest that author productivity in health insurance research does not align with Lotka's law, indicating that a small group of prominent authors is driving much of the work in this field. Expanding academic contributions in this area will provide future researchers with valuable resources.

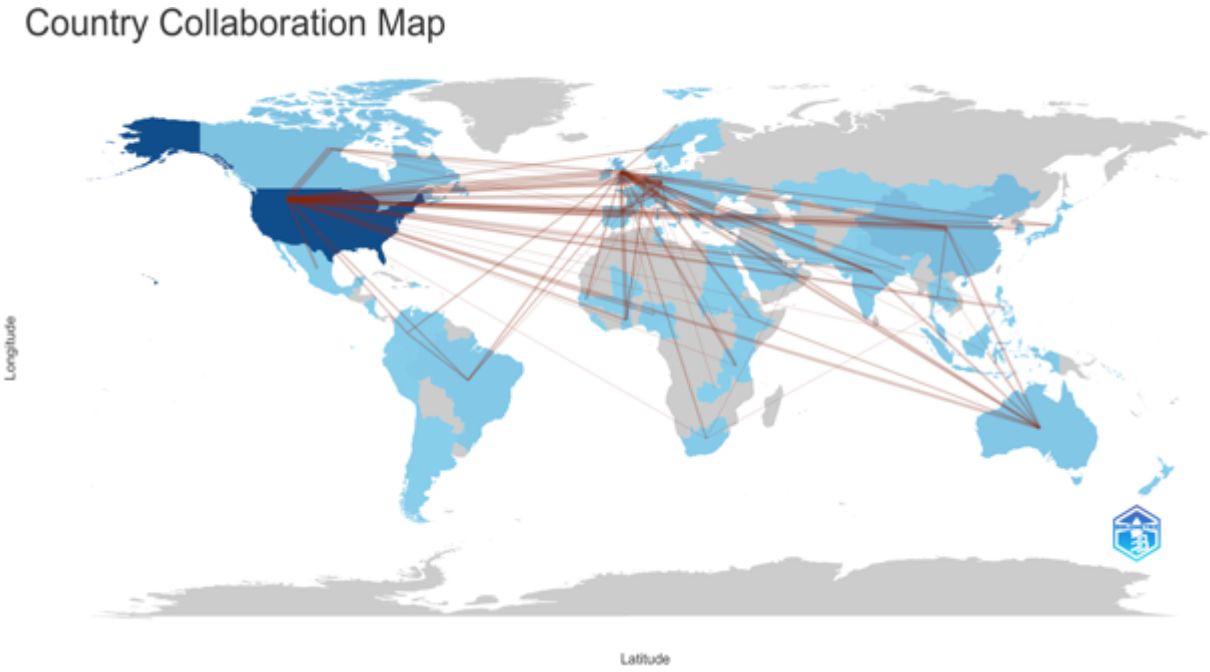


Source: Authors' calculation

Figure4. Distribution of The Law of Lotka

Country Collaboration Map

A common bibliometric method for examining a nation's social structure and collaboration trends is national collaboration. (Ghura et al., 2022). The geography of global collaboration in the area of health insurance is displayed in Figure 6. Grey denotes no publications, while a gradient from light blue to dark blue indicates an increase in published works. The red lines show collaborative networks between countries, with the strongest links seen between the United Kingdom and China, where authors co-authored ten documents. There is also a significant collaboration between Indian and Australian researchers, with five collaborative papers.The red lines indicate the other countries that are collaborating, including Spain, Italy, Poland, LAOS, and others.

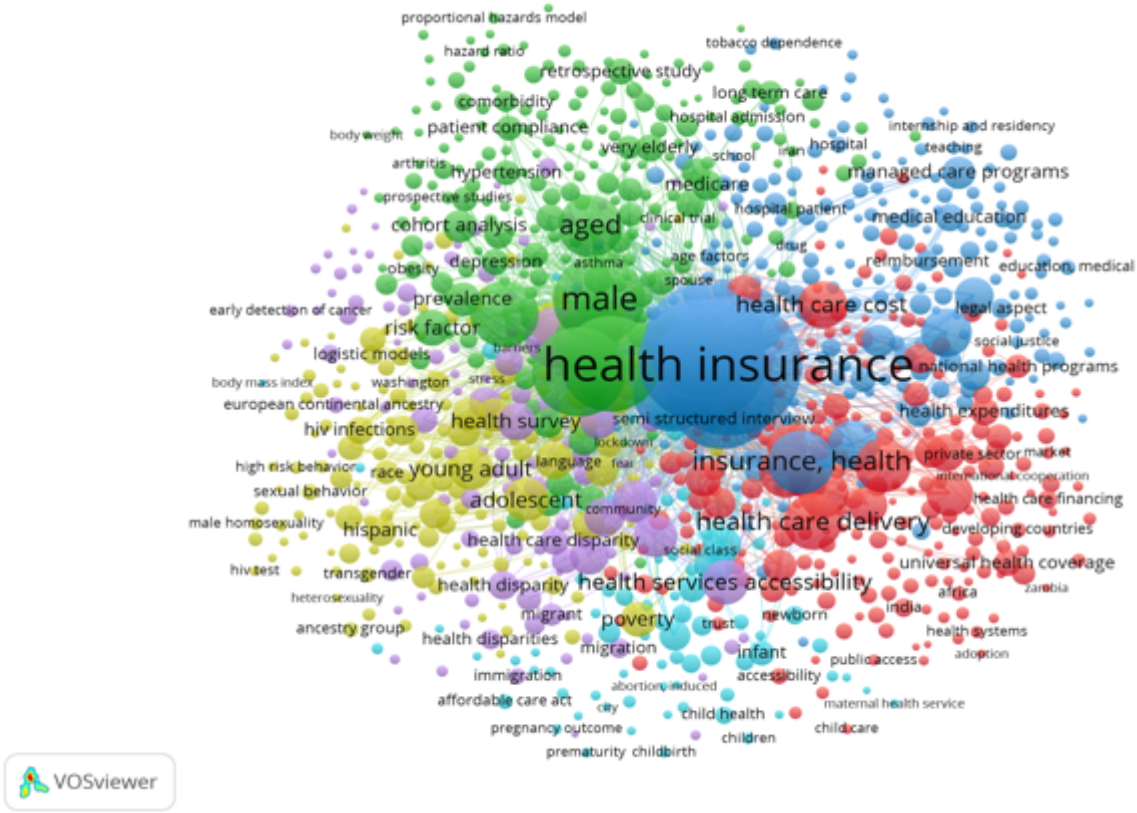


Source: Authors' calculation

Figure 5. Country collaboration map

Keyword Analysis

Keyword extraction from the SCOPUS database was done in order to understand the evolution of health insurance.The growth trends in a subject area were then ascertained using VOS Viewer.A network map displaying the co-occurrence of the author's keywords within the specific subject area was created using software. The evaluation of keyword co-occurrence was predicated on the existence of two keywords within the same publication.



Source: Authors' compilation

Figure 6. Keyword co-occurrence analysis

Figure 6 presents an overview of the co-occurrence network of frequently used keywords in the domain of health insurance, as identified by various authors, with a minimum occurrence threshold of five. The diagram illustrates the co-occurrence relationships between author-supplied keywords within the keyword network, analyzed using VOSviewer software. The analysis resulted in six main clusters. The yellow cluster highlights young adult as the most frequently used keyword, alongside others such as adolescent, risk factor, mass screening, sexual behavior, and poverty. The red cluster focuses on health care delivery, linked with terms like health care policy, health expenditures, government, anduncertainty.The blue cluster centers around health insurance, connected with keywords such as humans, insurance, economics, and organization and management. The purple cluster is associated with terms like social economics, health services accessibility,health disparity,migration, and health access. The green cluster features male, along with keywords such as female,aged,depression, Medicare, and major clinical study. Finally, the sky blue

cluster emphasizes insurance coverage, paired with keywords like sensitivity analysis,child care, infant, and the Affordable Care Act.

Conclusion and Discussion

A large number of people worldwide rely on health insurance to pay for their medical bills. But the inability to pay for health insurance is now a worldwide problem. Many people in low-income nations rely on free health examinations that do not cover major conditions, making this a particular challenge.Those without insurance and facing financial hardship are often left with no choice but to borrow money, which can push them further into poverty. As a result, many people choose to forgo treatment, leading to worsened conditions.o tackle this problem, the study carried out a bibliometric analysis of the topic with the goal of providing direction for future research.This study is noteworthy for being one of the first to highlight the health insurance. The analysis highlights the important role that prominent figures—including authors, organizations, journals, and ecosystems which play an important role in determining the direction of health insurance study.The study combines and arranges 1,494 health insurance-related publications from the Scopus database. In-depth examination of the state of health insurance research is provided in this article, along with useful links, notable authors, and significant concerns that will influence future studies and the development of health insurance industry.The findings showed that the USA is the highest cited country, with a total of 11,797 citations.The study used bibliometric laws to compare Bradford's and Lotka's laws with its observed results. The results were in line with Bradford's law but disagreed with Lotka's law.In this study, The law of Bradford distribution shows that the main sources of health insurance research publications are "social science and medicine", "patient preference and adherence", "academic medicine", and "international journal of health policy and management". The findings suggest that author productivity in health insurance research does not align with Lotka's law, indicating that a small group of prominent authors is driving much of the work in this field.China and the United Kingdom co-authored ten documents together, making them the top collaborators in the health insurance literature according to country collaboration analysis.This study has certain limitations even if it provides insightful information. It's possible that some items were unintentionally left out of

the selection process. Furthermore, the study only considers publications that are indexed by Scopus; additional databases like WOS and PubMed could be useful in future research. Although systematic literature reviews (SLRs) can be conducted in a clear, quantifiable, and repeatable manner with bibliometric analysis, other methods, such as methodology-driven or theory-focused reviews, may be investigated in subsequent research. Although this study only included a small number of publications, its conclusions will be a foundation for more investigation.

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