

# PRESCRIPTIONS BEYOND PILLS: A SCIENTOMETRIC MAPPING OF PHARMACY IN SOCIAL MARKETING AND PUBLIC HEALTH

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## ABSTRACT

### BACKGROUND

The expanding role of pharmacies in community health, driven by social marketing, requires careful examination. This study examines the historical environment, analyzing the themes, contributors, and trends that have influenced this dynamic intersection.

### OBJECTIVE

The study uses scientometric analysis to uncover trends in the symbiotic interaction between pharmacy and social marketing campaigns. By identifying contributions, themes, and collaborative networks, this study provides valuable insights for future research and practical applications in the fields of community health and pharmaceutical practice.

### METHOD

The study utilised a meticulous strategy, incorporating the utilisation of Biblioshiny for scientometric analysis, specific keywords for document retrieval, and a dataset sourced from the Scopus database.

### RESULTS

The study scrutinized 120 documents published over 43 years. An annual growth rate of 1.63% was found in the trend in publications. The USA was the leading contributor, followed by Canada and the UK. Key findings identified four thematic clusters, top journals such as the Australian Journal of Pharmacy, and high-frequency keywords such as 'social marketing' and 'family planning'.

### CONCLUSIONS

This study provides an overview of the main discoveries, consequences, and recommendations for future research and practice in the subject of social pharmacy. Emphasising the crucial importance of pharmacists, the ever-changing nature of the field, and the possible influence on community health and knowledge through social marketing campaigns.

### KEYWORDS

pharmacy, social marketing, community health, scientometric analysis, health education.

## INTRODUCTION

Social marketing endeavors to modify or uphold individuals' conduct for the betterment of both individuals and society [1]. Today, pharmaceutical businesses have enhanced community health and engagement by adopting social marketing strategies [2]. Kang and team [3] highlighted how social marketing messages in anti-smoking advertisements shape behavioral intentions through emotional and cognitive responses—an approach parallel to pharmacy-led public health initiatives beyond pharmacotherapy. Notably, pharmacies have successfully utilized social media platforms to become significant hubs for health education and wellbeing [4]. These channels are used to disseminate health information, including specifics about medications and recommendations for well-being, hence augmenting health literacy [2]. Nowadays, pharmacists employ social marketing strategies to enhance medication adherence. SMS reminders, smartphone applications, and websites provide prescription reminders and information [5]. These endeavors enhance well-being and enable individuals to take charge of their health. Healthcare workers are praised for their dedication and perseverance in treating patients. During the pandemic, they were crucial to the healthcare system. They contributed to hospital emergency preparation, inpatient telemonitoring, and global COVID-19 treatment and preventive recommendations [6,7]. In addition, community pharmacies delivered medications to patients' residences to minimize physical interaction. In addition, they offered patient counseling and drug reconciliation using interactive platforms. Following the availability of COVID-19 vaccines, pharmacists offered instruction, guidance, supervision, and documentation of any unfavorable incidents. These pharmacists played a crucial role in disseminating information to the public regarding the disease, encompassing symptoms, transmission, home remedies, and methods of infection prevention. In addition, they heightened knowledge about vaccines too [7]. Thus, due to the increasing importance of pharmacy and related social marketing initiatives, it is crucial to comprehend the dynamics of its relationships under several facets. This investigation has significance as it provides valuable information about the academic community focused on pharmacy and social marketing initiatives. It includes details about the prominent authors, journals, and organizations involved in this field.

Recent studies emphasize the expanding role of various digital tools in pharmacy-led health promotion. Pharmacies are increasingly making use of digital marketing, mobile apps, and social media platforms to improve health behavior, medication adherence, and engagement of the patients [8]. A study by Kassem and others [9] points out that making use of strategic campaigns led by pharmacies significantly improves public health literacy, uptake of vaccination, and preventive care outreach. Further, in 2024, a team of researchers proposed a behavior change model integrating digital marketing strategies such as personalized messaging and mobile intervention [10]. Such initiatives of pharmacies drive proactive health decisions in the community.

To shape the developments mentioned above, Kotler's social marketing model offers interesting insights. The marketing mix, or the 4 Ps (Product, Price, Place, and Promotion), can be mapped onto the context of pharmacy as well. Various services and medications represent the "product," and insurance mechanisms and cost-effectiveness relate to the price. Community presence of the pharmacies relates to the "place," and various health campaigns, such as the use of digital tools for pharmacy engagement, represent the "promotion." This mapping shows how pharmacies employ various marketing strategies not only to influence the behavior of consumers but also to enhance public health outcomes [1]. Additionally, behavior change frameworks—such as the Health Belief Model and Theory of Planned Behavior—provide insight into how pharmacy-led initiatives can drive behaviors like medication adherence and vaccine uptake [2].

## METHOD

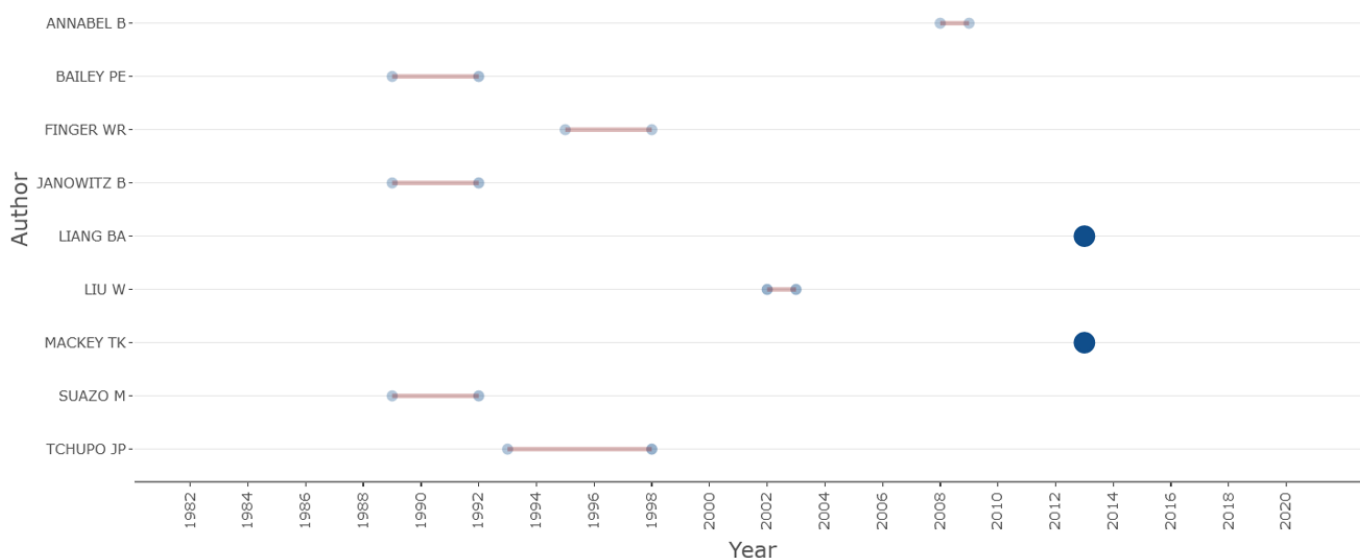
This study performed a scientometric analysis using Biblioshiny [11]. A total of 120 documents were fetched from the Scopus database during January 2024. The keywords used in the research were "Pharmacy" OR "Social pharmacy" AND "Social marketing." The research was limited to the documents published between 1980 to 2023. Peer-reviewed journal articles, reviews, and conference papers were included in the study. Editorials, book chapters, letters, and non-English publications

were excluded from the study. Before data analysis, the data were subjected to a cleaning process. Duplicates were identified and removed. Further, keywords were standardized, such as harmonizing variants such as “pharmacies” and “pharmacy.” This helped to consolidate the related terms and improve the coherence of the co-word and thematic analysis. The results were interpreted using conceptual, intellectual, and social structures. The collaboration network used in this research consisted of approximately 50 authors and 70 edges. The average degree centrality was 2.8, and the network density of 0.058. The modularity score was 0.68. For the keyword co-occurrence network, the average edge weight was 3.1, and the clustering coefficient of 0.42.

## RESULTS

The study reported documents over 43 years (1980-2023). The annual growth rate of the chosen theme was 1.63. Average citations per year were maximum in the year 2020. Australian Journal of Pharmacy hosted the maximum number of articles on the chosen theme, followed by Social Marketing Update and Social Marketing Forum. Na Na was the author who had the highest publication frequency (n=6) followed by followed by Prominent authors were Annabel (n=2), Bailey (n=2) and so on (Figure 1). As per Lotka's law of authors' productivity, 302 authors wrote at least one document on the theme used in this research, followed by 10 authors who had written 2 papers. As per Bradford's Law, seven journals were in zone 1 (highly relevant), 28 in zone 2 (mediocre relevant), and 85 in zone 3 (less relevant). The University of California was the major contributor to the theme of the study. The USA contributed the most to this field of research (Table 1), followed by Canada and the UK. The top-cited paper in the world was written by Beradi [12] and team, published in the International Journal of Pharmaceuticals. Other top-cited papers were authored by Bustreo and his team [13], and A thematic map analysis indicated the formation of four quadrants. Motor, niche, basic, and declining themes. Health promotion, attitude, and practices fell into basic themes. These themes have low relevance but a high degree of development. Healthcare delivery in the South African context fell into motor themes (high relevance and development degree). Drug marketing and controlled studies fell into niche themes (High relevance but low development degree). Hospital pharmacies, medical waste disposal, etc, were in a declining theme (low relevance and development degree). The USA was the highest collaborator (Figure 2), mainly collaborating with India, Canada, and so on. The most commonly used words were social marketing, family planning, contraception, etc. A concurrence network revealed the formation of 3 major clusters (Figure: 3). The first clusters were predominated by social marketing by pharmacists encouraging the use of condoms. The second cluster focused on the promotion of various healthcare planning schemes by pharmacists.

**FIGURE 1: YEARLY TREND OF AUTHORS' RESEARCH OUTPUT, SHOWING HOW PUBLICATION ACTIVITY IN THE FIELD HAS EVOLVED AND INTENSIFIED ACROSS DIFFERENT YEARS**





## DISCUSSION

Based on the findings of the 43-year study that spans from 1980 to 2023, theoretical implications have been uncovered that provide light on the dynamic character of the topic that was investigated. A theoretical framework for analysing the decline and flow of research themes is suggested by the cyclic pattern that was identified in the motor, niche, basic, and declining quadrants. This framework may be a reflection of variations in societal requirements, technological breakthroughs, or policy objectives. This highlights the worldwide nature of scientific research and prompts theoretical inquiries into the elements that shape international leadership and partnership dynamics. The supremacy of the United States of America and the University of California highlight the global nature of scientific research. The prominence of particular writers and journals, most notably Na Na and the Australian Journal of Pharmacy, presents an opportunity for theoretical investigation into the influence that individual scholars and publication outlets have on the formation of research agendas. The co-occurrence network analysis provides theoretical insights into the interconnection of research issues and the diffusion of innovations. It does this by highlighting clusters such as condom social marketing and financial planning, among other examples. In addition, the identification of developing difficulties and worldwide partnerships by the study, in particular with India and Canada, may give rise to theoretical considerations regarding the adaptability of research to modern challenges and the role that international collaboration plays in the advancement of scientific inquiry. Researchers are encouraged to explore emergent issues, address relevance and development gaps, and collaborate globally to improve their work's impact and application. The most regularly used words suggest that studying social marketing, family planning, and contraception in more detail may enhance knowledge. Active engagement in the community holds similar importance. Pharmacies may employ social media platforms to promote health lectures, seminars, and immunization campaigns [8]. Online forums and groups enable the sharing of stories, seeking of advice, and discussion of health issues, promoting unity and friendship among community members [14]. Pharmacies may partner with public health organisations to execute focused health initiatives to enhance awareness, address health issues, and encourage proactive actions. To increase their reach and interaction, pharmacies may establish partnerships with influencers and generate interactive content like quizzes and polls. This strategy improves the accessibility and comprehensibility of health information. Pharmacies are efficient in responding to social media evaluations and feedback. This exemplifies a commitment to guaranteeing client satisfaction and cultivating confidence throughout the community. Pharmacies may expand their range of services beyond simply dispensing medicines by adopting new trends and employing social marketing tactics [15]. These health clinics may function as central hubs in the community, utilising innovative approaches to improve health outcomes, include including the community, and cater to the diverse health needs of their patients.

## CONCLUSION

Pharmacists play a major role within social pharmacy by addressing various social concerns related to health promotion, family planning, and contraception while actively contributing to public health initiatives such as infectious disease control and immunization. Their active involvement in research, social marketing, and healthcare delivery at both national and global levels shows their commitment to advancing the well-being of the community. By organizing various campaigns such as health screenings, educational workshops, and awareness campaigns, pharmacists disseminate major information on vaccination schedules, illness prevention, and healthy living. This collaborative and evolving role highlights their position as trusted healthcare advisors, dedicated to empowering individuals, fostering preventive health behavior, and shaping the future of pharmaceutical practice and research.

## References

1. Baptista N, Alves H, Pinho J. The case for social support in social marketing. *RAUSP Manag J.* 2021;56. doi:10.1108/RAUSP-08-2020-0193.
2. Fukushima N. Social pharmacy: Its performance and promise. *Yakugaku Zasshi.* 2016;136. doi:10.1248/yakushi.15-00280.

3. Kang J, Lin CA, Roy D. Effects of smokers' recent cessation failure on their responses to threat appeals in anti-smoking ads. *Asia Pac J Health Manag.* 2025;20:187–196.
4. Chen E, Divall M. Social media as an engagement tool for schools and colleges of pharmacy. *Am J Pharm Educ.* 2018;82. doi:10.5688/ajpe6562.
5. Almarsdóttir AB, Kaae S, Traulsen JM. Opportunities and challenges in social pharmacy and pharmacy practice research. *Res Social Adm Pharm.* 2014;10. doi:10.1016/j.sapharm.2013.04.002.
6. Khojah HMJ. Community pharmacy services and preparedness during COVID-19 outbreak in Madinah, Saudi Arabia. *Saudi Pharm J.* 2020;28. doi:10.1016/j.jsps.2020.09.004.
7. Parajuli DR, Khanal S, Wechkanukul KH, Ghimire S, Poudel A. Pharmacy practice in emergency response during the COVID-19 pandemic: Lessons from Australia. *Res Social Adm Pharm.* 2022;18. doi:10.1016/j.sapharm.2021.08.013.
8. Alyahya M, Dhruvakumar S, Siddegowda SH, Sreeharsha N. Impacts of digital marketing on the pharmacies community in Saudi Arabia and determining the future model of the industry: A cross-sectional questionnaire-based study. *Indian J Pharm Educ Res.* 2022;54:1032–1037. doi:10.5530/ijper.54.4.174.
9. Kassem RG, Mbata AO, Usumerai PA, Abass LA, Ogbewe EG. Pharmacy marketing for public health impact: Promoting preventive care and health literacy through strategic campaigns. *World J Adv Res Rev.* 2023;18:137–145.
10. Dada SA, Adekola AD. Leveraging digital marketing for health behavior change: A model for engaging patients through pharmacies. *Int J Sci Technol Res Arch.* 2024;7:0063. doi:10.53771/ijstra.2024.7.2.0063.
11. Aria M, Cuccurullo C. bibliometrix: An R-tool for comprehensive science mapping analysis. *J Informetr.* 2017;11:959–975. doi:10.1016/j.joi.2017.08.007.
12. Berardi A, Perinelli DR, Merchant HA, Bisharat L, Basheti IA, Bonacucina G, Cespi M, Palmieri GF. Hand sanitisers amid COVID-19: A critical review of alcohol-based products on the market and formulation approaches to respond to increasing demand. *Int J Pharm.* 2020;584. doi:10.1016/j.ijpharm.2020.119431.
13. Bustreo F, Harding A, Axelsson H. Can developing countries achieve adequate improvements in child health outcomes without engaging the private sector? *Bull World Health Organ.* 2003;81.
14. Mirzaei A, Carter SR, Schneider CR. Marketing activity in the community pharmacy sector – A scoping review. *Res Social Adm Pharm.* 2018;14. doi:10.1016/j.sapharm.2017.03.056.
15. Sakhnatska N, Aliekperova N, Kosyachenko K, Kostenko A. The application of digital tools in Ukrainian pharmacies within holistic marketing. *Pharmacia.* 2023;70. doi:10.3897/pharmacia.70.e108555.