

Consumer Behavior in Healthcare: Foundations, Trends and Future Research Directions

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Abstract

This study aims to examine consumer behavior in healthcare by consolidating fragmented findings, identifying dominant themes, and providing a coherent framework for future research. Through a systematic literature review, five interconnected research streams were identified: educational and behavioral interventions, system-level healthcare delivery, psychological and behavioral drivers, technology-mediated experiences, and demographic and social determinants. Based on this synthesis, four strategic directions are proposed for future research: patient-centered segmentation and behavioral profiling to tailor nursing services, experiential factors influencing patient satisfaction and loyalty; ethical and cultural dimensions of consumer expectations, especially in multicultural and aging populations, and consumer feedback and engagement in co-designing nursing services. These insights offer a roadmap for developing inclusive, responsive, and emotionally intelligent healthcare systems. The study contributes to the literature by integrating diverse perspectives into a unified structure, enabling researchers and practitioners to better understand and respond to evolving consumer needs in healthcare. Implications include the need for personalized care models, culturally sensitive frameworks, and investment in digital health tools.

Keywords: Consumer Behavior, Healthcare, Patient-Centered Marketing, Healthcare Marketing, Digital Health Tools.

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1. Introduction

Understanding consumer behavior in healthcare has become a critical research priority due to its profound impact on service quality, patient outcomes, and system efficiency. As healthcare systems undergo rapid transformation, driven by digital innovation, policy shifts, and evolving patient expectations, insights into consumer behavior are essential for adapting care models and technologies effectively. Patient experiences, shaped by factors such as communication, environment, and access to information, directly influence satisfaction and engagement [1].

The growing emphasis on patient-centered care demands a nuanced understanding of individual preferences to ensure meaningful participation and improved outcomes [2]. Moreover, the integration of telehealth and digital platforms requires behavioral insights to optimize usability and equity. As new models of care emerge, understanding how patients respond is vital for successful implementation [3]. In diverse and underserved populations, culturally sensitive approaches informed by behavioral research can enhance empowerment and adherence [4]. These converging challenges and opportunities underscore the pressing need for comprehensive research into consumer behavior in healthcare.

Despite its growing relevance, the study of consumer behavior in healthcare reveals several unresolved theoretical and practical gaps. One major concern is the contested notion of consumer sovereignty in

healthcare, which may be more aspirational than actual. Many consumers lack the ability, motivation, or opportunity to make informed choices about high-quality, cost-effective care, while healthcare providers may not be incentivized to compete in ways that benefit patients [5].

Additionally, there is evidence of a negative correlation between patient-centered care and healthcare consumerism, suggesting a potential conflict between these models that warrants further investigation. The absence of standardized behavioral models, compounded by confidentiality constraints and individual variability in health service needs, further complicates efforts to generalize findings [2]. The COVID-19 pandemic has introduced new behavioral dynamics that existing models fail to capture, highlighting the need for updated frameworks. Moreover, significant gaps persist between consumer expectations and perceptions of service quality, particularly in areas such as responsiveness and tangibility, which require targeted improvement and deeper exploration [6].

Given these conceptual and empirical challenges, there is a clear need for a systematic review to consolidate fragmented findings, identify dominant themes, and provide a coherent structure for future research. Such a review would clarify the antecedents and consequences of consumer behavior in healthcare, support the development of ethically grounded and culturally responsive care models, and guide the responsible integration of digital health technologies. This study undertakes an SLR to synthesize current knowledge,

trace theoretical advancements, and outline future research directions within this evolving domain.

The study is specifically guided by several research questions that shape its direction and objectives. First, it seeks to identify the key publication trends, geographic patterns, methodological approaches, and theoretical foundations that have influenced research on consumer behavior in healthcare. Second, the study aims to explore the performance profile of the field, including the leading authors, institutions, countries, and journals that have made significant contributions. Third, it investigates the core themes and knowledge structures that define the current landscape of consumer behavior in healthcare. Finally, the study aims to uncover the most promising directions for advancing theory and research in consumer behavior-driven healthcare.

This study contributes to the literature by systematically mapping the multidimensional landscape of consumer behavior in healthcare. It situates the topic at the intersection of behavioral science, health communication, and patient-centered care. Moving beyond fragmented approaches, the study introduces a comprehensive conceptual framework that integrates both psychological and systemic dimensions of consumer engagement. It elaborates on key antecedents and consequences, demonstrating how behavioral insights enhance personalization and trust while raising important ethical and cultural considerations. By proposing a forward-looking research agenda focused on emotion-aware segmentation, culturally sensitive interventions, ethical governance, and digital health equity, this study aims to serve as a foundational reference for scholars seeking to advance consumer-informed healthcare systems with analytical rigor and ethical responsibility.

2. Research Method

This study adopts a SLR methodology to ensure transparency, objectivity, and replicability, following a rigorously defined research protocol [7]. The review process was guided by the PRISMA framework, which includes four key stages: identification, screening, eligibility, and inclusion [8]. The initial search was conducted using the Scopus database, selected for its comprehensive coverage of peer-reviewed literature. The search targeted scientific journal articles published between 2005 and 2024, using the search terms consumer behavior or consumer behaviour and healthcare or health care or medical service or health service. The search was limited to the title, abstract, and keywords fields, and restricted to articles written in English. Subject areas were confined to business, management and accounting, economics, computer science, and decision science, ensuring relevance to both behavioral and healthcare domains.

The initial search retrieved 2,351 articles. During the identification stage, 1,822 articles were excluded for not meeting basic relevance criteria. The screening stage further refined the sample by excluding 6 articles

outside the predefined subject areas, resulting in 529 articles. After removing non-English publications (n=6), the sample was reduced to 523 articles. An additional 146 articles were excluded for not meeting eligibility criteria, such as lacking peer-review status or full-text availability.

In the refining stage, non-journal and conference articles were excluded (n=146), narrowing the sample to 377 peer-reviewed journal articles. A final exclusion of 25 articles due to missing full-text access resulted in a final sample of 352 high-quality articles that directly addressed the research objectives. The inclusion criteria focused on peer-reviewed journal articles that examined consumer behavior in healthcare contexts. Exclusion criteria eliminated studies from non-peer-reviewed sources, non-English publications, articles without full-text access, and those unrelated to the defined scope. This rigorous selection process, summarized in Table 1, ensured that only the most relevant and credible sources informed the subsequent analysis.

Table 1. Research Protocol

| Research Protocol | Description |
|--------------------|--|
| Document type | Scientific articles from Journal |
| Source | Scopus Database |
| Time frame | 2005-2024 |
| Search field | Title, abstract & keywords |
| Language | English |
| Search terms | (consumer behavior OR consumer behaviour) AND (healthcare OR health care OR "medical service OR health service) |
| Subject area | Business, Management and Accounting; Economics; Computer Science; Decision Science. |
| Inclusion criteria | Articles focus on village-owned enterprise Studies originating from non-peer reviewed books, book chapters, practical reports, theses/ dissertations, working papers and predatory journals, non-English articles and articles without full text. |
| Exclusion criteria | |

The final sample of 352 peer-reviewed journal articles underwent a comprehensive bibliometric and content analysis to uncover the intellectual structure and thematic evolution of consumer behavior in healthcare. Bibliometric mapping was conducted using VOSviewer, which enabled the visualization of author collaboration networks and keyword co-occurrence patterns. This was complemented by an in-depth qualitative content analysis to identify major thematic clusters, conceptual developments, and emerging research frontiers within the field. This dual-method approach provided a robust analytical foundation, offering both macro-level insights into publication trends and micro-level understanding of theoretical contributions. The integration of these methods revealed critical knowledge gaps, highlighted underexplored areas, and informed a forward-looking research agenda for advancing the study of consumer behavior in healthcare. The entire review process, from

the initial database search to the final article selection and analysis, is illustrated in Figure 1.

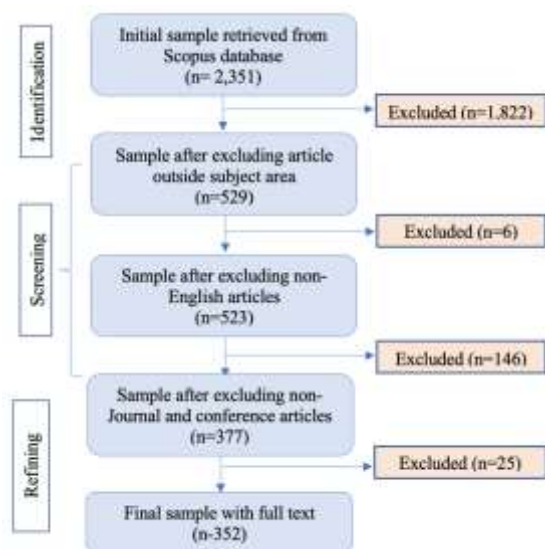


Figure 1. Article Selection Process

3. Result and Discussion

Figure 2 presents the annual publication trends on consumer behavior in healthcare from 1985 to 2025, illustrating a clear upward trajectory in scholarly interest over time. For over two decades, from 1985 through the early 2000s, publication activity remained minimal, reflecting limited academic engagement with the behavioral dimensions of healthcare. A gradual increase began around 2009, signaling the emergence of consumer-focused perspectives in health services research. This growth accelerated significantly in the post-2010 period, coinciding with the rise of digital health technologies and global health system reforms. The most dramatic surge occurred after 2020, with publication output peaking in 2025 at approximately 40 documents. This sharp increase aligns with the aftermath of the COVID-19 pandemic, which heightened awareness of patient experience, digital engagement, and behavioral health dynamics.

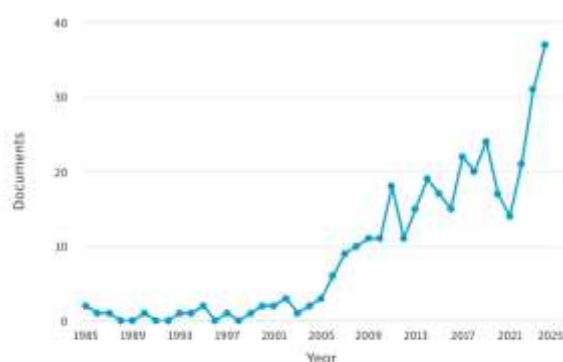


Figure 2. Number of Publication Per Year

The trend depicted in Figure 2 underscores a growing recognition among scholars of the importance of understanding consumer behavior to inform patient-centered care, health communication strategies, and the ethical deployment of healthcare innovations. It reflects

a broader shift toward integrating behavioral science into healthcare research and policy, marking consumer behavior as a foundational element in the future of health system design.

The earliest study in the dataset addressing consumer behavior in healthcare was published in 1985, marking the initial scholarly engagement with the topic. However, publication activity remained sparse for the next two decades, indicating limited academic focus on behavioral dimensions within healthcare systems. A gradual increase began around 2009, signaling the emergence of consumer-centered perspectives in health services research. Several studies have significantly contributed to the growth and visibility of this field. Notably, a multi-country examination of panic buying during the COVID-19 pandemic, which became a landmark study with over 400 citations [10], highlighting the behavioral responses to health crises. Another influential which explored the relationship between service quality, patient satisfaction, and loyalty in hospitals [10], offering a foundational framework for understanding consumer expectations in healthcare settings. Additionally, another important study provided critical insights into gaps in patient education and statin use [11], emphasizing the role of behavioral factors in medication adherence.

These studies, among others, have shaped the trajectory of consumer behavior research in healthcare, reinforcing its relevance in the context of digital transformation, patient empowerment, and health system reform. Figure 3 illustrates a clear and sustained increase in scholarly citations related to consumer behavior in healthcare from 2000 to 2023, with particularly notable growth beginning around 2014 and accelerating sharply through 2023. The number of published documents and citations both show a consistent upward trajectory, with citations peaking at nearly 1,200 in 2023 and document output exceeding 30 publications. This trend reflects the expanding academic and practical relevance of understanding consumer decision-making, emotional engagement, and trust in healthcare services, especially in the context of digital transformation and patient-centered care.

Foundational studies have shaped the discourse by linking service quality to patient satisfaction and loyalty [9], offering a robust framework for healthcare branding. Similarly, another empirical work provided critical insights into panic buying behavior during the COVID-19 pandemic [9], highlighting the emotional and behavioral responses of consumers under crisis conditions. Different study emphasized the importance of patient education and behavioral factors in medication adherence [11], while Scott and Happell drew attention to the physical health disparities among mental health consumers, reinforcing the need for integrated care models. Different study explored transformative consumer behavior in post-pandemic contexts [12], underscoring the shift toward holistic and regenerative healthcare experiences.

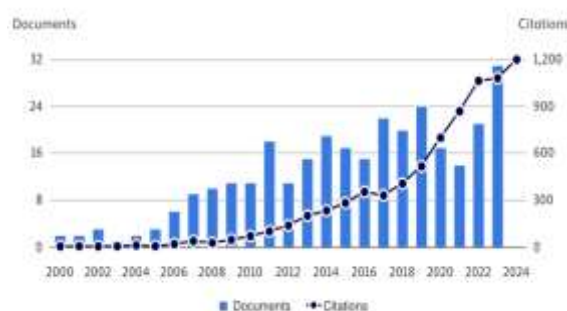


Figure 3. Number of Citations Per Year

These landmark studies collectively reveal three key trends. First, early research focused on service quality and behavioral intention laid the groundwork for understanding healthcare consumerism. Second, post-2020 studies emphasize emotional triggers, digital engagement, and crisis-driven behaviors. Third, interdisciplinary approaches have bridged technical, psychological, and social domains, reinforcing consumer behavior as a central determinant of healthcare effectiveness, equity, and innovation.

Table 2 highlights the top 10 most influential journals in consumer behavior research within healthcare, revealing a strong preference for specialized, high-impact publication venues. Leading the list is the *International Journal of Pharmaceutical and Healthcare Marketing* with 21 articles, followed by *Issues in Mental Health Nursing* (13 articles) and *Journal of Advanced Nursing* (7 articles). These journals have consistently published foundational studies that explore patient decision-making, service quality, emotional engagement, and behavioral responses to healthcare innovations.

Table 2. Most Influential Journals

| Rank | Journal Name | Of Articles |
|------|--|-------------|
| 1 | International Journal of Pharmaceutical and Healthcare Marketing | 21 |
| 2 | Issues in Mental Health Nursing | 13 |
| 3 | Journal of Advanced Nursing | 7 |
| 4 | Journal of Health Organization and Management | 6 |
| 5 | Health Marketing Quarterly | 6 |
| 6 | Journal of Healthcare Management | 6 |
| 7 | Nutrients | 6 |
| 8 | Journal of Psychiatric and Mental Health Nursing | 5 |
| 9 | Patient | 5 |
| 10 | International Journal of Health Care Quality Assurance | 4 |

The prominence of journals such as *Journal of Health Organization and Management*, *Health Marketing Quarterly*, and *Journal of Healthcare Management*, each with six articles, underscores the interdisciplinary nature of the field, bridging marketing, organizational behavior, and health systems research. Meanwhile, journals like *Nutrients*, *Patient*, and *Journal of Psychiatric and Mental Health Nursing* reflect growing interest in nutrition, mental health, and patient-centered care as key dimensions of consumer behavior.

This distribution reveals a clear hierarchy: established journals with strong branding and broad dissemination channels dominate scholarly output, while niche outlets contribute targeted, high-impact research. The dominance of healthcare-specific journals suggests that consumer behavior in this domain is increasingly recognized as a critical factor in shaping service delivery, policy, and innovation. These venues serve as essential platforms for advancing understanding of how patients interact with healthcare systems, make choices, and respond to evolving health technologies and communication strategies.

Figure 4 presents a comparative overview of the top 10 countries contributing to research in consumer behavior in healthcare, based on the number of published articles. The United States leads by a wide margin with approximately 150 articles, reflecting its dominant role in shaping global discourse through extensive academic and institutional engagement. Australia follows with around 90 articles, indicating strong regional interest and investment in healthcare consumer research. The United Kingdom, India, and Canada form a mid-tier group with 30–40 articles each, suggesting active but more focused contributions. China, Netherlands, Italy, Malaysia, and Singapore round out the list with fewer than 25 articles each, representing emerging or specialized research efforts.

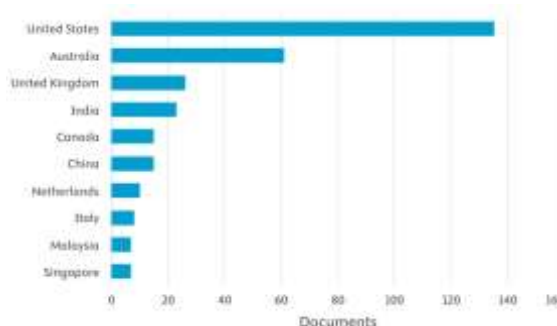


Figure 4. Most Influential Countries by Number of Articles

This distribution highlights a clear concentration of scholarly output in Western countries, particularly the U.S., Australia, and the U.K., which likely benefit from established healthcare systems, research funding, and interdisciplinary collaboration. Meanwhile, the presence of Asian countries such as India, China, Malaysia, and Singapore signals growing interest in healthcare consumerism, driven by digital health adoption and evolving patient expectations. Figure 6 presents a horizontal bar chart showcasing the top 10 institutions contributing to research on consumer behavior in healthcare, ranked by the number of published articles. CQ University Australia leads with 10 publications, indicating a strong institutional focus on healthcare consumer research, particularly in areas such as mental health, nursing, and patient engagement. Monash University and Griffith University follow closely with 8 articles each, reflecting their active roles in interdisciplinary healthcare studies and behavioral health. The University of Sydney and University of Melbourne

each contribute 6 articles, while RAND Corporation, known for its policy-driven research, also appears with a similar volume. Next Most Influential Affiliation on Figure 5.

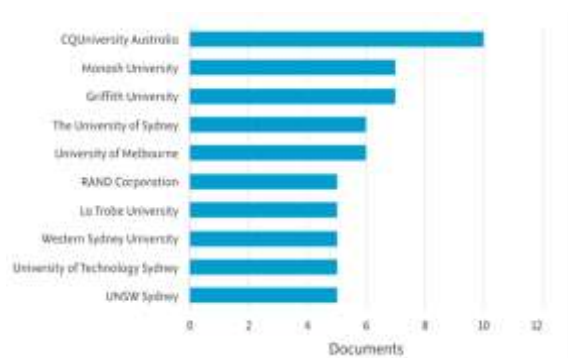


Figure 5. Most Influential Affiliation

The remaining institutions (i.e., La Trobe University, Western Sydney University, University of Technology Sydney, and UNSW Sydney), show moderate to emerging engagement, with article counts ranging from 2 to 5. This distribution highlights the dominance of Australian universities in this research domain, suggesting a regional emphasis on patient-centered care, healthcare innovation, and behavioral studies. The presence of RAND Corporation also points to the integration of policy and practice in shaping consumer behavior research. Overall, the chart reflects a concentrated but diverse institutional landscape, with both academic and applied research centers contributing to the evolving understanding of healthcare consumerism.

Table 3 presents the ten most-cited scholarly articles in consumer behavior within healthcare, highlighting foundational contributions that have significantly shaped both academic discourse and practical application. These landmark studies reflect a diverse range of themes, from crisis-driven behaviors to service quality, patient education, and integrative care, demonstrating the field's interdisciplinary depth. Leading the list is a study on panic buying during the COVID-19 pandemic has been cited 409 times, underscoring the emotional and behavioral volatility of consumers in health crises [9]. Followed closely with 387 citations, a study on large-scale survey on statin use, revealing critical gaps in patient education and adherence [11]. Different study linking service quality to patient satisfaction and loyalty contributes 384 citations [10], a cornerstone for healthcare branding and consumer retention strategies.

Table 3. Landmark studies on Consumer Behavior in Healthcare

| Cluster | Items (n) | Keywords | Issues/Thematic Focus |
|---------|-----------|---|---|
| 1 | 12 | Patient education, health literacy, communication, health promotion, informed decision-making, behavioral change, empowerment | Educational strategies and behavioral interventions in healthcare |
| 2 | 10 | Healthcare delivery, access to care, service quality, system efficiency, patient satisfaction, care models | System-level factors influencing consumer engagement |
| 3 | 9 | Consumer behavior, decision-making, health choices, preferences, trust, motivation, adherence | Psychological and behavioral dimensions of healthcare consumption |
| 4 | 8 | Digital health, telemedicine, mobile health apps, user experience, personalization, technology adoption | Technology-mediated healthcare experiences and consumer interaction |
| 5 | 13 | Demographics, gender, age, socioeconomic status, cultural factors, segmentation, equity, diversity | Demographic and social determinants of healthcare behavior |

Other influential works exposes the high prevalence of poor physical health among individuals with severe mental illness [13], and transformative consumer behavior in post-pandemic contexts [12], received 332 and 290 citations respectively. Maizes et al. advanced the discourse on integrative and patient-centered care [14], while Curtis et al. emphasized the translation of research into clinical nursing practice [15]. Guha et al. mapped the emergence of big data in healthcare operations [16], and Happell et al. highlighted the importance of consumer involvement in mental health education [17]. Collectively, these studies not only reflect the evolution of consumer behavior in healthcare but also signal a shift toward emotionally intelligent, ethically grounded, and data-informed engagement strategies [9] [17]. They serve as a roadmap for future research and innovation in patient-centered healthcare delivery.

This study utilizes VOSviewer 1.6.20 to conduct a comprehensive keyword co-occurrence analysis, offering a structured, data-driven exploration of consumer behavior in healthcare. As a powerful bibliometric tool, VOSviewer enables the visualization of complex knowledge networks, including citation linkages, bibliographic couplings, and co-authorship patterns. This approach helps map the epistemological landscape of healthcare consumer research, revealing how interdisciplinary themes converge to shape current understanding and future directions in the field [18]. The analysis identifies key interconnected concepts such as patient education, health care delivery, psychological aspects, consumer decision-making, and behavioral modeling. These constructs form the

intellectual foundation of healthcare consumer behavior studies, emphasizing both systemic and individual-level factors that influence how people engage with health services. The resulting network is organized into thematic clusters that reflect distinct research trajectories: educational interventions to improve health literacy, system-level innovations in care delivery, and psychological frameworks for understanding consumer choices. These clusters highlight the multidimensional nature of consumer behavior in healthcare, bridging clinical, behavioral, and informational domains to inform the design of more responsive, personalized, and effective healthcare systems.

Figure 4 and table 3 present a keyword co-occurrence network within the domain of consumer behaviour in healthcare. The network is divided into five major thematic clusters, each highlighting a distinct stream of research. These clusters cover topics such as health information-seeking behavior, patient decision-making processes, consumer trust in digital health platforms, behavioral responses to telemedicine services, and the influence of emotional and psychological factors on healthcare choices. Collectively, these clusters reflect the multifaceted nature of consumer behaviour in healthcare, where personal beliefs, emotions, digital interactions, and socio-cultural influences shape how individuals engage with health services. The field underscores a shift toward patient-centered care, emphasizing how understanding consumer attitudes and perceptions can lead to more effective communication, greater adherence to treatment, and improved health outcomes.

Table 3 offers a cluster-based synthesis of high-frequency keywords associated with consumer behaviour in healthcare, derived from bibliometric analysis. This synthesis identifies key conceptual pillars in the literature and provides a structured foundation for advancing research into how consumers navigate healthcare choices in increasingly digital and emotionally nuanced contexts. Cluster 1 focuses on educational strategies and behavioral interventions aimed at empowering healthcare consumers. Core keywords such as patient education, health literacy, and behavioral change reflect the emphasis on equipping individuals with the knowledge and motivation to make informed health decisions. Studies highlight how past behavior and youth-centered approaches influence healthcare engagement [19] [20], while digital health communication's role in shaping consumer trust and willingness to pay for services is also explored [21].

Cluster 2 explores system-level factors that shape consumer experiences in healthcare. Keywords like healthcare delivery, access to care, and service quality highlight the structural and organizational dimensions that influence patient satisfaction and engagement. Research emphasizes teamwork and smart healthcare service models, showing how system design and innovation affect consumer willingness to engage and pay for services [22] [23]. Cluster 3 delves into the

psychological and behavioral aspects of healthcare consumption. Terms such as consumer behavior, decision-making, and adherence point to the internal drivers behind health-related choices. Studies provide insights into how digital marketing and IoT adoption influence consumer attitudes and trust [24] [25], while emotional and hedonic factors in elective healthcare decisions are also examined [26].

Cluster 4 centers on technology-mediated healthcare experiences, particularly through digital platforms. Keywords like telemedicine, mobile health apps, and user experience reflect the growing influence of digital tools in shaping how consumers interact with healthcare systems. Studies explore eHealth behaviors and service robot interactions, highlighting personalization and emotional engagement in digital health environments [27] [28]. Cluster 5 addresses the impact of demographic and social determinants on healthcare behavior. With keywords such as gender, age, socioeconomic status, and cultural factors, this cluster examines how diverse population segments experience and respond to healthcare differently. Studies underscore the importance of empathy, innovation, and segmentation in tailoring healthcare services to meet varied consumer needs [3] [29].

The overlay visualization of keywords in the figure 6 reveals a dynamic progression in health and consumer behavior research, characterized by thematic shifts and temporal evolution from 2010 to 2018. In the earlier phase (2010–2012), the research landscape was dominated by foundational terms such as human, female, and middle aged, indicating a strong focus on demographic profiling and general health studies. These keywords, rendered in yellow, suggest that early investigations were centered around understanding basic health parameters and consumer traits, often within clinical or psychological contexts. As the field matured (2013–2015), the emergence of terms like consumer, adult, and article marked a transition toward integrating behavioral insights and media analysis into health-related research. This period reflects a methodological expansion, where studies began to explore how consumer behavior intersects with health outcomes, possibly through surveys, content analysis, and observational studies.

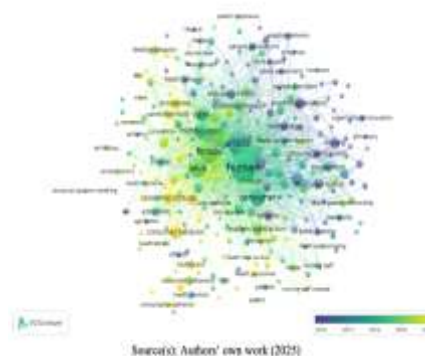


Figure 6. Overlay Visualization of Keywords Over Time

In the later stage (2016–2018), represented by blue-colored nodes, the visualization highlights a conceptual shift toward more specialized and interconnected themes. The prominence of co-occurrence relationships among terms suggests a growing interest in interdisciplinary approaches, combining insights from marketing, psychology, and public health. The clustering of terms and their increasing connectivity indicate a move toward holistic models of consumer engagement, where emotional, demographic, and behavioral factors are analyzed in tandem. Overall, the figure illustrates a clear trajectory from foundational demographic research to complex, behaviorally informed studies, underscoring the field's evolution toward nuanced, data-driven understandings of health and consumer dynamics.

Figure 7 reveals that the domain of nursing service quality and consumer behavior in healthcare has attracted sustained scholarly attention, as evidenced by the clustering and prominence of terms such as human, female, adult, consumer, and patient satisfaction. The heatmap highlights the centrality of demographic and experiential factors in shaping healthcare delivery, with strong semantic ties to healthcare systems, nursing care, quality assessment, and consumer decision-making. These interconnections suggest a growing interdisciplinary interest in understanding how patients, as consumers, perceive and respond to healthcare services.

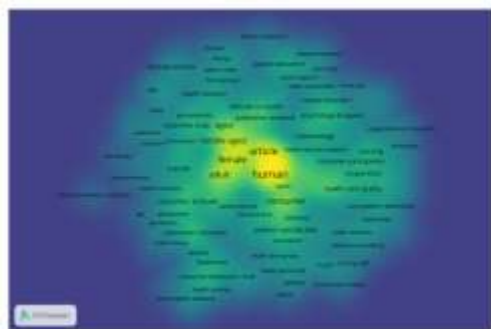


Figure 7. Emerging topics in research on CB in Healthcare

Despite the established foundation, the field remains ripe for further exploration, particularly in integrating behavioral insights, cultural expectations, and personalized care models into nursing service quality research. Using bibliometric mapping, this study identifies four key thematic directions for future research in consumer behavior in healthcare: patient-centered segmentation and behavioral profiling to tailor nursing services to diverse consumer groups, experiential factors influencing patient satisfaction and loyalty, including emotional and relational aspects of care, ethical and cultural dimensions of consumer expectations in healthcare, especially in multicultural and aging populations, and the role of consumer feedback and engagement in co-designing nursing services and improving care quality. These directions offer a roadmap for advancing both theoretical understanding and practical applications in the evolving landscape of healthcare consumerism.

Understanding consumer diversity in healthcare is essential for tailoring nursing services. Previous study emphasized the role of past behavior and perceived behavioral control in shaping pharmaceutical consumption, suggesting that behavioral profiling can predict healthcare choices [19]. Similarly, Woo et al. used discrete choice experiments to identify consumer segments willing to pay for smart healthcare services, highlighting the importance of demographic and psychographic variables in segmentation [23]. These studies suggest that future research should explore behavioral clustering models that integrate cultural, psychological, and experiential data to inform nursing care personalization.

Future studies could also investigate consumer typologies based on health literacy, digital engagement, and emotional responsiveness. For example, Anis & Tan found that digital marketing influences OTC drug purchasing behavior [24], indicating that consumer segmentation should account for media exposure and trust in online platforms. Integrating such behavioral data into nursing service design could improve responsiveness and satisfaction. Researchers should develop predictive frameworks that link segmentation profiles to nursing outcomes, enabling more targeted and effective care strategies.

Patient satisfaction is increasingly shaped by emotional and relational experiences. Previous studies demonstrated that empathetic communication significantly improved patient satisfaction scores, especially in domains like listening and respect. Similarly, Tabvuma et al. found that therapeutic partnerships between nurses and mental health consumers positively influenced clinical outcomes and personal wellbeing. These findings underscore the need for future research to explore emotional touchpoints in nursing care, such as empathy, attentiveness, and continuity, as key drivers of loyalty.

Moreover, studies like Kostich et al. revealed that nurse manager visibility and caring behaviors correlate with higher patient experience ratings. This suggests that relational dynamics within healthcare teams also affect consumer perceptions. Future research should examine how interpersonal factors, such as trust-building and shared decision-making, contribute to long-term engagement and repeat service use. Longitudinal studies could track how emotional satisfaction translates into behavioral loyalty, including adherence, advocacy, and reduced attrition.

Cultural and ethical expectations play a pivotal role in shaping healthcare experiences. Ndwiga et al. explored how Samoan women's spiritual beliefs and cultural norms influence their engagement with gestational diabetes care, revealing a disconnect between provider strategies and consumer values. Similarly, Zgambo et al. highlighted consumer-related barriers to HIV service uptake among youth in Malawi, including ignorance and clinic-related stigma [20]. These studies suggest that future research should focus on culturally

adaptive nursing frameworks that respect diverse belief systems and promote equitable access.

Ethical dimensions also intersect with consumer expectations. Anandan et al. found that mental health nurses' empathy is influenced by emotional contagion and altruism [29], which vary across clinical settings and work sectors. This points to the need for ethical training that enhances emotional intelligence and cultural competence. Future studies should investigate how ethical alignment between nursing practices and consumer values, such as autonomy, privacy, and fairness, affects trust and satisfaction, especially in aging and multicultural populations.

Consumer engagement is vital for co-designing responsive nursing services. Tabvuma et al. showed that caregivers' involvement in healthcare planning with Physical Health Nurse Consultants led to improved outcomes and reduced caregiver burden. Similarly, shadow coaching based on patient feedback improved provider communication and patient experience scores. These findings suggest that future research should explore structured feedback mechanisms, such as surveys, interviews, and digital platforms, to inform nursing service design.

Moreover, Alexander et al. emphasized the value of eHealth audit logs in understanding consumer behavior, offering scalable tools for feedback collection [27]. Engaging consumers in co-design workshops and participatory planning can foster transparency, empowerment, and innovation. Future studies should assess how feedback loops influence service adaptation, nurse-patient relationships, and care quality. Evaluating the actionability and impact of consumer input will be key to building inclusive and responsive nursing systems.

4. Conclusion

The objective of this study was to consolidate fragmented findings, identify dominant themes, and provide a coherent structure for future research on consumer behavior in healthcare. By synthesizing a wide range of literature, the study clarifies the antecedents and consequences of healthcare consumption and offers a structured framework for advancing both theoretical and practical understanding. The main research stream emerging from the analysis can be grouped into five interconnected domains. First, educational strategies and behavioral interventions emphasize the role of patient education, health literacy, and behavioral change in empowering individuals to make informed health decisions. Second, system-level factors, including healthcare delivery models, access to care, and service quality, shape consumer experiences and expectations. Third, psychological and behavioral aspects reveal internal drivers such as decision-making, emotional responses, and adherence. Fourth, technology-mediated healthcare experiences, through telemedicine, mobile health apps, and service robots, are reshaping how consumers interact with healthcare systems. Finally, demographic and social determinants

such as gender, age, socioeconomic status, and cultural background significantly influence healthcare behavior and expectations. From this synthesis, four key research directions are proposed to guide future inquiry: patient-centered segmentation and behavioral profiling to tailor nursing services to diverse consumer groups, experiential factors influencing patient satisfaction and loyalty, including emotional and relational aspects of care, ethical and cultural dimensions of consumer expectations in healthcare, especially in multicultural and aging populations, and the role of consumer feedback and engagement in co-designing nursing services and improving care quality. These directions offer a roadmap for developing more inclusive, responsive, and effective healthcare systems. The implications of this study are multifaceted. For healthcare practitioners and administrators, the findings underscore the importance of integrating behavioral insights and consumer segmentation into service design and delivery. Personalized care models informed by demographic and psychographic profiling can enhance patient satisfaction and loyalty. For policymakers, the study highlights the need to support culturally sensitive and ethically grounded healthcare frameworks that address the diverse needs of aging and multicultural populations. Additionally, the growing role of digital platforms in shaping consumer experiences calls for investment in user-centered technologies that promote trust, engagement, and accessibility. Despite its contributions, the study has several limitations. The synthesis relies on existing literature, which may be subject to publication bias and regional skewness, limiting the generalizability of findings across different healthcare systems. The clustering approach, while useful for thematic organization, may oversimplify complex interdependencies between behavioral, technological, and systemic factors. Furthermore, the rapid evolution of digital health tools and consumer expectations necessitates ongoing research to validate and refine the proposed framework. Future studies should incorporate longitudinal data, cross-cultural comparisons, and mixed-method approaches to deepen understanding and enhance the applicability of insights in diverse healthcare contexts.

References

- [1] Elfiondri, Zaitul, & Rina, N. (2021). Tradition, Cultural Contact and English for Tourism: The Case of Mentawai, Indonesia. *Heliyon*, 7(6), e07322. DOI: <https://doi.org/10.1016/j.heliyon.2021.e07322> .
- [2] AŞKUN, V., ÇİZEL, R., & AJANOVIC, E. (2021). Comparative Analysis of Factors Affecting Employee Performance According to Job Performance Measurement Method: The Case of Performing Artists. *Ege Akademik Bakis (Ege Academic Review)*, 29–45. DOI: <https://doi.org/10.21121/eab.874012> .
- [3] Chivu, R. G., Popa, I. C., Mociu, A., Savin, P. S., Popa, R. I., & Orzan, A. O. (2021). Sustainable Transformation of Consumer Behavior Vector Modeling in Determining the Decision to Choose a Medical Service in the Context of COVID-19. *Sustainability (Switzerland)*, 13(23). DOI: <https://doi.org/10.3390/su132313025> .
- [4] Wood, S., & Schulman, K. (2019). The Doctor of the Future is in: Patient Responses to Disruptive Health Care Innovations.

- Journal of the Association for Consumer Research*, 4(3), 231–243. DOI: <https://doi.org/10.1086/704106> .
- [5] Pearson, T., Obst, K., & Due, C. (2023). Culturally and Linguistically Diverse Men's Experiences of Support Following Perinatal Death: A Qualitative Study. *Journal of Clinical Nursing*, 32(15–16). DOI: <https://doi.org/10.1111/jocn.16465> .
- [6] Moher, D., Shamseer, L., Clarke, M., Ghersi, D., Liberati, A., Petticrew, M., ... Whitlock, E. (2016). Preferred Reporting Items for Systematic Review and Meta Analysis Protocols (PRISMA-P) 2015 Statement. *Revista Espanola de Nutricion Humana y Dietetica*, 20(2), 148–160. DOI: <https://doi.org/10.1186/2046-4053-4-1> .
- [7] Islam, T., Pitafi, A. H., Arya, V., Wang, Y., Akhtar, N., Mubarik, S., & Xiaobei, L. (2021). Panic Buying in the COVID-19 Pandemic: A Multi-Country Examination. *Journal of Retailing and Consumer Services*, 59. DOI: <https://doi.org/10.1016/j.jretconser.2020.102357> .
- [8] Cohen, B., Hyman, S., Rosenberg, L., & Larson, E. (2012). Frequency of Patient Contact With Health Care Personnel and Visitors: Implications For Infection Prevention. *Joint Commission Journal on Quality and Patient Safety*, 38(12), 560–565. DOI: [https://doi.org/10.1016/S1553-7250\(12\)38073-2](https://doi.org/10.1016/S1553-7250(12)38073-2) .
- [9] Ateljevic, I. (2020). Transforming the (Tourism) World for Good and (Re)Generating The Potential 'New Normal'. *Tourism Geographies*, 22(3), 467–475. DOI: <https://doi.org/10.1080/14616688.2020.1759134> .
- [10] Scott, D., & Happell, B. (2011). The High Prevalence of Poor Physical Health and Unhealthy Lifestyle Behaviours in Individuals With Severe Mental Illness. *Issues in Mental Health Nursing*, 32(9), 589–597. DOI: <https://doi.org/10.3109/01612840.2011.569846> .
- [11] Maizes, V., Rakel, D., & Niemiec, C. (2009). Integrative Medicine and Patient-Centered Care. Explore: *The Journal of Science and Healing*, 5(5), 277–289. DOI: <https://doi.org/10.1016/j.explore.2009.06.008> .
- [12] Mills, J., Field, J., & Cant, R. (2009). The Place of Knowledge and Evidence in the Context of Australian General Practice Nursing. *Worldviews on Evidence-Based Nursing*, 6(4), 219–228. DOI: <https://doi.org/10.1111/j.1741-6787.2009.00163.x> .
- [13] Guha, S., & Kumar, S. (2018). Emergence of Big Data Research in Operations Management, Information Systems, and Healthcare: Past Contributions and Future Roadmap. *Production and Operations Management*, 27(9), 1724–1735. DOI: <https://doi.org/10.1111/poms.12833> .
- [14] Zgambo, M., Arabiat, D., & Ireson, D. (2021). Uptake of Health Services by Youth Living With HIV: A Focused Ethnography. *International Nursing Review*, 68(3), 299–307. DOI: <https://doi.org/10.1111/inr.12638> .
- [15] Phan, T. A., Le, T. M. T., & Pham, B. T. T. (2024). Live Influence: Redefining Credibility and Attractiveness in Healthcare Livestreaming. *Howard Journal of Communications*. DOI: <https://doi.org/10.1080/10646175.2024.2429454> .
- [16] Weingart, S. N., Coakley, M., Yaghi, O., Shayani, A., & Sweeney, M. (2021). Teamwork Among Medicine House Staff During Work Rounds: Development of A Direct Observation Tool. *Journal of Patient Safety*, 17(4), E313–E320. DOI: <https://doi.org/10.1097/PTS.0000000000000597> .
- [17] Woo, J., Shin, J., Kim, H., & Moon, H. (2022). Which Consumers are Willing to Pay for Smart Car Healthcare Services? A Discrete Choice Experiment Approach. *Journal of Retailing and Consumer Services*, 69, 103084. DOI: <https://doi.org/10.1016/j.jretconser.2022.103084> .
- [18] Anis, M. S., & Tan, M. L. (2024). Exploring OTC Drug Consumers' Perception Towards Online Shopping and Digital Marketing Through Qualitative Interviews: A Sample from Malaysia. *International Journal of Healthcare Management*, 17(1), 168–176. DOI: <https://doi.org/10.1080/20479700.2022.2163865> .
- [19] Negm, E. (2023). Internet of Things (IoT) Acceptance Model Assessing Consumers' Behavior Toward the Adoption Intention of IoT. *Arab Gulf Journal of Scientific Research*, 41(4), 539–556. DOI: <https://doi.org/10.1108/AGJSR-09-2022-0183> .
- [20] Quintal, V., Sood, A., & Phau, I. (2024). Exploring the Emotions and Decision-Making of Consumers for Elective Healthcare and Hedonic Adaptation. *International Journal of Pharmaceutical and Healthcare Marketing*, 18(3), 398–414. DOI: <https://doi.org/10.1108/IJPHM-06-2023-0056> .
- [21] Alexander, S., Raps, S. J., Wu, T., Caban, J., & Talbot, L. (2023). Characterizing eHealth Behaviors in Health Consumers: An Audit Log Analysis. *CIN - Computers Informatics Nursing*, 41(11), 845–850. DOI: <https://doi.org/10.1097/CIN.0000000000001080> .
- [22] De Keyser, A., & Kunz, W. H. (2022). Living and Working With Service Robots: A TCCM Analysis and Considerations for Future Research. *Journal of Service Management*, 33(2), 165–196. DOI: <https://doi.org/10.1108/JOSM-12-2021-0488> .
- [23] Anandan, R., Cross, W. M., Nguyen, H., & Olosoji, M. (2024). Mental Health Nurses' Empathy Towards Consumers with Dual Diagnosis: A Descriptive Study. *Journal of Clinical Nursing*, 33(8), 3199–3211. DOI: <https://doi.org/10.1111/jocn.17011> .
- [24] Li, J., & Wei, R. (2022). VOSviewer Application Status and it's Knowledge Base. *Journal of Library and Information Science in Agriculture*, 34(6), 61–71. DOI: <https://doi.org/10.13998/j.cnki.issn1002-1248.21-0843> .
- [25] Arai, H., Ouchi, Y., Toba, K., Endo, T., Shimokado, K., Tsubota, K., ... Ohshima, S. (2015). Japan as the Front-Runner of Super-Aged Societies: Perspectives from Medicine and Medical Care in Japan. *Geriatrics and Gerontology International*, 15(6), 673–687. DOI: <https://doi.org/10.1111/ggi.12450> .
- [26] Liu, Y. e., Norman, I. J., & While, A. E. (2013). Nurses' Attitudes Towards Older People: A Systematic Review. *International Journal of Nursing Studies*, 50(9), 1271–1282. DOI: <https://doi.org/10.1016/j.ijnurstu.2012.11.021> .
- [27] Glette, M. K., Røise, O., Kringeland, T., Churrua, K., Braithwaite, J., & Wiig, S. (2018). Nursing Home Leaders' and Nurses' Experiences of Resources, Staffing and Competence Levels and the Relation to Hospital Readmissions - A Case Study. *BMC Health Services Research*, 18(1). DOI: <https://doi.org/10.1186/s12913-018-3769-3> .
- [28] Akhu-Zaheya, L., Al-Maaitah, R., & Bany Hani, S. (2018). Quality of Nursing Documentation: Paper-Based Health Records Versus Electronic-Based Health Records. *Journal of Clinical Nursing*, 27(3–4), e578–e589. DOI: <https://doi.org/10.1111/jocn.14097> .
- [29] Kostich, K., Lasiter, S., Duffy, J. R., & George, V. (2021). The Relationship between Staff Nurses' Perceptions of Nurse Manager Caring Behaviors and Patient Experience: A Correlational Study. *Journal of Nursing Administration*, 51(9), 468–473. DOI: <https://doi.org/10.1097/NNA.0000000000001047> .