

Patient Experience in the Digital Era: A Scoping Review of eWOM and Service Quality in Hospital Outpatient Care

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Abstract

Healthcare experiences have been transformed in the digital age by patients' communication. Electronic word of mouth (eWOM) is no longer simply a technical phenomenon. It plays an essential role in influencing the way that service quality and satisfaction are perceived in hospital outpatient care. Online feedback from patients can describe their positive and negative experiences, making eWOM a key means of gauging what matters most to them. In this scoping review, we investigate the ways in which eWOM reflects and influences service quality and patient experience in outpatient care. The goal was so hospitals could actually develop and implement solutions that are responsive to patient needs and sincere. The infusion of such digital insight can drive patient satisfaction and increase the hospital's reputation in the community. Following the PRISMA-ScR framework, a literature search was performed in the Scopus database (2013–2025) employing PCC-based keywords: electronic word of mouth, online review, hospital, and outpatient. Of 527 records, 14 studies fulfilled the inclusion criteria. A narrative synthesis of the data, including variables of eWOM, quality dimensions of service provision, and patient outcomes. Findings suggest eWOM has a notable impact on decision and hospital reputation. Negative reviews (particularly about waits, communication and staff attitude) weighed a bit heavier than positive ones. Responsiveness, assurance, empathy, and reliability stood out as the most relevant dimensions of service quality aligned to SERVQUAL. Digital feedback rose during the COVID-19 pandemic, with an increased emphasis on hygiene and safety. eWOM acts as an immediate feedback method of supplementing traditional quality assessments. Hospitals are encouraged to implement eWOM analysis techniques as part of their quality improvement systems in order to provide digitalized and patient-oriented care.

Keywords: *Electronic Word of Mouth (eWOM); Patient Experience; Service Quality; Hospital Outpatient Care; Digital Health; SERVQUAL; PRISMA-ScR.*



A. INTRODUCTION

Historically, the healthcare sector has relied on delayed incident reports to manage patient safety and service quality issues. In the advent of digital health technologies, a change has occurred radically. Electronic word-of-mouth (eWOM) can now provide instant feedback which deeply influences how hospital services received by the public. (Upe et al., 2024) This swift feedback lets patients both share information about things like healthcare services and find themselves. Therefore, online patient reviews now play a crucial role in determining how the quality of outpatient health care is evaluated (Huang et al., 2023).

In health care, eWOM spreads rapidly and spreads to a much larger audience than traditional word of mouth. Online reviews allow patients to assess service quality and mitigate healthcare risks. In fact, research indicates that a significant influence of eWOM on patient decision-making is the type of eWOM that will affect a patient to

choose a long-term provider (Raza & Dehury, 2021). Positive eWOM matters less than negative feedback and there needs to be focus to address the negative reviews made by the health provider in order to improve the customer experience. Surveys based on SERVQUAL and the Flower of Services model provide structured measures of outpatient service quality (Huang et al., 2023).

SERVQUAL, developed by Parasuraman, Zeithaml, and Berry, is based upon five dimensions including tangibility (physical facilities and equipment), reliability (ability to provide performance of a promise in a reliable manner), responsiveness (willingness to assist and perform in time), assurance (provision of knowledge and courtesy from staff or assurance and the capacity to build trust), and empathy (caring and attention to the person) (Parasuraman A et al., 1988; Zeithaml et al., 1996). It underpins a broadbased examination.

The Flower of Services highlights the differences between core services vs. supplementary services, which focus on different functions in patient care. Such frameworks not only identify what makes or breaks satisfaction but also point to areas of improvement. This, though, is a good basis for SERVQUAL, but some newer models, like CAHPS and IHI's Triple Aim, can give us a clearer picture (Huang et al., 2023; Taylor et al., 2025). CAHPS is based on questionnaires to emphasize patient-centered care, while IHI's Triple Aim focuses on improving patient experience, population health, and reducing costs (Berwick et al., 2008; Davies et al., 2008). By comparing these frameworks, it helps put our review in much broader context and outlines ways how to integrate and adapt them for contemporary health care.

B. METHODS

To promote transparency and rigorousness, we employed a scoping review following the PRISMA-ScR guidelines (Tricco et al., 2018). The PRISMA-ScR was appropriate as the focus focuses on health services, patient experiences and digital communication (Divya et al., 2025; Dodson et al., 2024; Huda et al., 2025). As there is methodological heterogeneity in the literature, instead of performing a quantitative analysis, this review illustrated the evidence through a mapping process. This review synthesized existing findings and gaps in research, as well as directed future research and practises on digital patient feedback and service quality. An extensive Scopus search included peer-reviewed journals of health care, the social sciences and management. We performed the search in October 2025, with focus on articles published in the English Language between 2013 and 2025, reflecting current digital health trends. The search strategy adhered to standard frameworks such as the PCC (Population, Concept, Context) framework and PRISMA-ScR recommendations. Boolean operators are then used to synthesize main terms: TITLE-ABS-KEY ("electronic word of mouth" OR eWOM OR "online review" OR "patient review") AND TITLE-ABS-KEY ("hospital" OR "outpatient" OR "healthcare services").

There were 527 records in the search. Scopus filters, on the other hand, also removed 154 irrelevant records, including those outside of healthcare, and 44 that didn't use research articles or did not code data in English. That left 329 records for

further screening. Screening manually, 273 records were excluded based upon exclusion of studies from studies because they did not meet the inclusion criteria, needing to be directly relevant to both eWOM and healthcare services. Studies that were excluded were those only that focused on traditional word-of-mouth, on nonmedical health-related topics or those performed outside of hospitals. Of the 56 full text articles we found, 27 were out of reach on account of restricted access or were missing full text. The 29 full text articles were subsequently validated for inclusion with increased specificity: studies that specifically addressed eWOM in hospital outpatient care and explored service quality were eligible. Accordingly, 15 articles were excluded for non-representation of eWOM, without concentrating on hospital and/or outpatient care, and without service quality analysis. Fourteen studies fulfilled all the criteria and were included in the final synthesis.

This process of selection used by the PRISMA Framework (Figure 1) is described in detail, describing the identification, screening, eligibility, and inclusion steps.

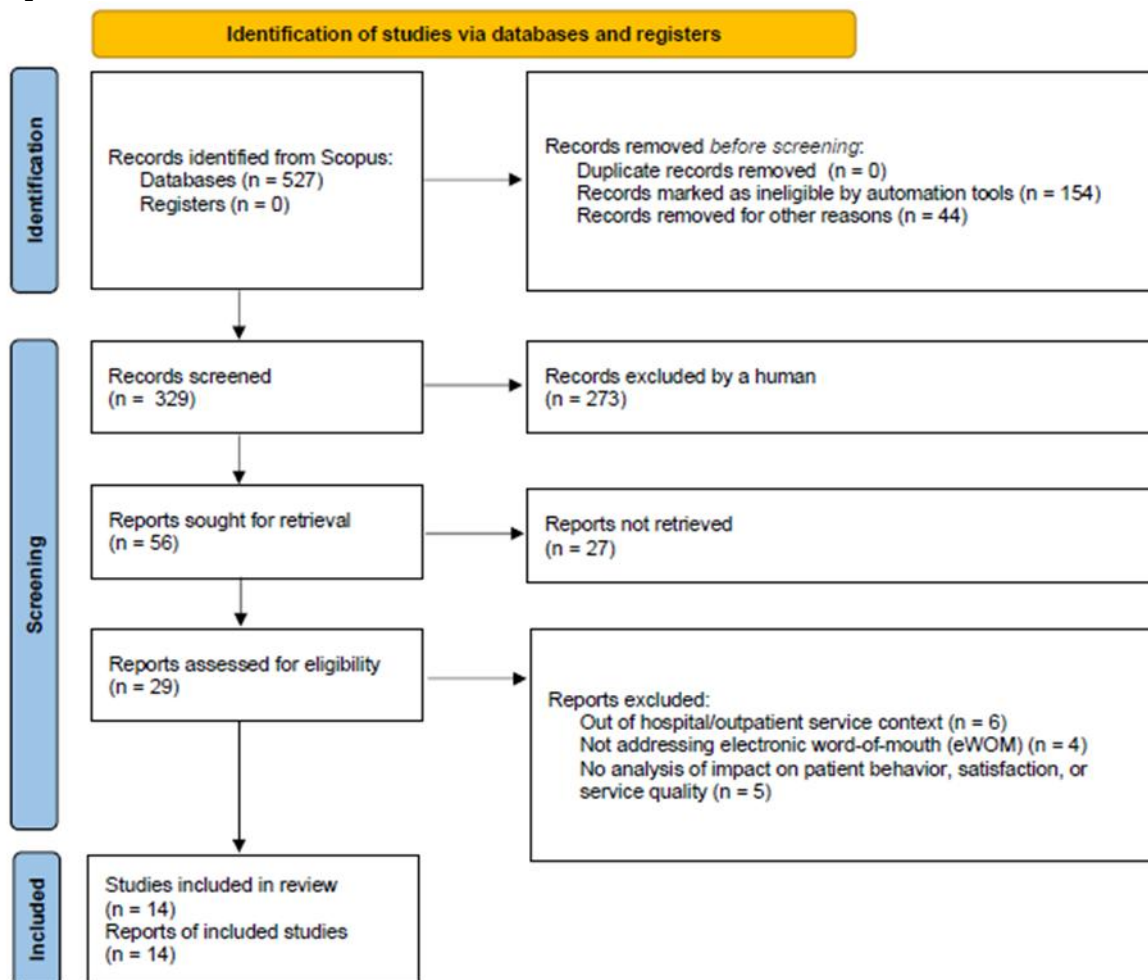


Figure 1. PRISMA Framework

C. RESULTS AND DISCUSSION

A total of 14 research articles identified from the Scopus database that satisfied the inclusion and exclusion criteria. The summary of these studies appears in Table 1, and per article authors, year, study name, sample characteristics, measurement variables, and main findings for each article are included. Range of research designs, sample sizes, and methods that were used to study eWOM and service quality in outpatient care are represented in the table. It also explains critical outcomes like patient satisfaction, main dimensions of service quality (responsiveness, assurance, empathy), and the relationship between online reviews and hospital reputation which summaries the main evidence for this paper.

Table 1. Article Matrix of Scoping Review

1	Huo et al., 2024	Impact Analysis of COVID-19 Pandemic on Hospital Reviews on Dianping Website in Shanghai, China: Empirical Study	30,317 online reviews (7,696 negative) from 88 top-ranked hospitals on Dianping, 2018–2023.	Review score (1–5) across three periods (pre-, during, post-COVID), region (Shanghai vs other areas), hospital type (general, children’s, maternity, tumor), and ten ChatGPT-derived “hospital-patient factor” categories of negative feedback (e.g., waiting time, staff attitude, environment).	Ratings peaked early in the outbreak then gradually declined; outbreak period had higher average scores but relatively more complaints about staff attitudes and cumbersome processes. Maternity hospitals scored highest, tumor hospitals lowest and worsened during COVID-19. ChatGPT classified negative comments with high accuracy and helped highlight key drivers of dissatisfaction.
2	Huang et al., 2023	Exploring Consumers’ Negative Electronic Word-of-Mouth of Five Military Hospitals in Taiwan through SERVQUAL and Flower of Services	1,259 negative Google Maps reviews on 5 regional-level military hospitals in Taiwan (first review–31 Dec 2022).	Negative eWOM (star rating, word count); SERVQUAL dimensions; Flower of Services stages (before/in/after service); pre- vs during-COVID period.	Negative reviews increased over time and surged after COVID. “Assurance” (staff attitude/professionalism) and “Responsiveness” (waiting time, explanations) were the weakest dimensions; in-service treatment/hospitalization and pre-diagnosis waiting generated most complaints. Longer reviews tended to have lower ratings, signalling the need to improve professionalism, responsiveness, and waiting-time management.
3	Izzudin et al., 2021	Patient Satisfaction and Hospital Quality of Care Evaluation in	1,825 Facebook reviews from 48 Malaysian public	Outcome: patient dissatisfaction (“doesn’t recommend”). Predictors:	73.5% of reviewers were satisfied. Complaints related to reliability, responsiveness, and empathy significantly

		Malaysia Using SERVQUAL and Facebook Reviews	hospitals (2017–2019).	SERVQUAL dimensions in each review (tangibles, reliability, responsiveness, assurance, empathy) plus hospital and Facebook-page characteristics.	increased odds of dissatisfaction, especially in rural hospitals; tangibles and assurance were not significant. Facebook POR plus ML offers a practical, low-cost tool to monitor quality.
4	Rahim et al., 2021	Facebook Reviews as a Supplemental Tool for Hospital Patient Satisfaction and Its Relationship with Hospital Accreditation in Malaysia	All Facebook review comments (2018–2019) from 48 Malaysian public hospitals (25 accredited).	Facebook ratings vs conventional patient satisfaction survey scores; hospital characteristics and accreditation status.	Facebook review scores show a significant moderate correlation with patient satisfaction; higher online satisfaction is linked to urban and tertiary hospitals, while accreditation status is not significantly related to Facebook-based satisfaction.
5	Zhang et al., 2020	Exploring Types of Information Sources Used When Choosing Doctors	1,698,666 records from China’s Good Doctor online health community.	Patients’ main information source (online reviews, family/friends, doctor recommendation, etc.), decision difficulty, hospital level, urban/rural, specialty.	Online reviews are most used overall, but patients rely more on family/friends or doctor recommendations when decisions are harder or hospitals are not tertiary; privacy-related specialties favour online reviews, children’s care uses family/friends, surgery uses doctor recommendations.
6	Murray et al., 2025	Probabilistic Emotion and Sentiment Modelling of Patient-Reported Experiences	13,380 patient stories from the Australian Care Opinion platform (2012–2022).	Topic modelling of narratives; multi-label emotions and sentiment; Naïve Bayes emotion/sentiment classifier vs lexicon methods.	Emotions are driven mainly by patient–caregiver interactions (e.g. education vs dismissal) rather than clinical outcomes; the probabilistic model predicts emotions and sentiment with high accuracy (F1≈0.92), outperforming generic sentiment lexicons and offering an interpretable, scalable way to monitor patient experience.
7	Lu & Wu, 2019	How Online Reviews and Services Affect Physician Outpatient	474 physicians on two Chinese online health	Change in number of reviews and average rating; provision of online services; outpatient	More reviews have a stronger effect on outpatient visits than small rating changes; better reviews increase visits, and

		Visits: Content Analysis of Evidence from Two Online Health Care Communities	care communities.	visit volume (difference-in-difference design).	offering online services both increases visits directly and strengthens the effect of online reviews (online and offline channels are complementary).
8	Raza & Dehury, 2021	Dissatisfaction Factors That Influence Customers to Give Low Online Ratings to Hospitals	669 Google reviews of private for-profit hospitals in India.	Five coded dissatisfaction factors; testing which factors are over-represented in low ratings	Inferior medical care, inappropriate staff behaviour, and profiteering attitude are the three key factors significantly associated with low online ratings.
9	Maita et al., 2024	Relationship between Evaluation Factors and Star Ratings for Japanese Community Healthcare Institutions in Electronic Word-of-Mouth Reviews	147 Google reviews for 20 community institutions (2 hospitals, 18 clinics) in Hirosaki, Japan.	Coded positive/negative comments on communication, clinical practice, and medical institution factors; star ratings (linear regression).	Positive comments on communication, clinical practice and the institution all raise ratings; negative comments, especially about communication, sharply lower ratings—showing interpersonal communication is the strongest driver of eWOM scores.
10	Seltzer et al., 2022	Patient Experience and Satisfaction in Online Reviews of Obstetric Care: Observational Study	6,523 Yelp reviews of labour and delivery services for 919 US hospitals (2005–2017).	Star rating; topics from machine-learning topic modelling; correlation of topics with 5-star vs 1-star ratings.	High ratings stress excellent care, comforting staff, positive delivery experience, clean/modern facilities and good food; low ratings highlight lack of agency, complaints to management and discharge problems—showing online reviews capture experience domains beyond standard surveys.
11	Gu et al., 2018	Understanding the Role of Mobile Internet-Based Health Services on Patient Satisfaction and Word-of-Mouth	Survey of 494 users of a hospital's mobile Internet-based health service (China).	Perceived usefulness, confirmation, interactivity, facilitating conditions, perceived risk → satisfaction, continuance intention → word-of-mouth.	Satisfaction and continuance intention both positively affect WOM; satisfaction is driven by usefulness and confirmation, while continuance intention is influenced by usefulness, interactivity, facilitating conditions and (negatively) perceived risk.

12	Rahim, Ibrahim, Musa, Chua, et al., 2021	Assessing Patient-Perceived Hospital Service Quality and Sentiment in Malaysian Public Hospitals Using Machine Learning and Facebook Reviews	1852 Facebook reviews from 48 Malaysian public hospitals (2017–2019).	Outcome: review sentiment (positive/negative). Predictors: SERVQUAL dimensions, hospital characteristics (type, region, bed size, urban/rural), Facebook page characteristics, accreditation status.	About 70% of reviews were positive. Reliability and empathy were most mentioned. Urban hospitals and the assurance dimension were linked with more positive sentiment. Tangibles and accreditation were not significantly associated with sentiment.
13	Lee et al., 2022	A comparative study of positive and negative electronic word-of-mouth on the SERVQUAL scale during the COVID-19 epidemic – taking a regional teaching hospital in Taiwan as an example	430 Google Maps reviews from one regional teaching hospital in Taiwan (2011–2021); 221 valid positive and 171 valid negative service-quality reviews after screening.	Sentiment (positive vs negative), SERVQUAL dimensions (tangibles, reliability, responsiveness, assurance, empathy), pre- vs post-COVID period.	During COVID-19, negative eWOM increased and surpassed positive. “Assurance” is the key concern in both positive and negative reviews; good reliability supports positive eWOM, while poor responsiveness (long waiting times) drives negative eWOM.
14	Taylor et al., 2025	Using Online Reviews to Drive Person-Centered Care: An HCAHPS-Validated Approach	Large set of manually annotated online patient reviews for US hospitals, aggregated and compared with HCAHPS ratings.	Machine-learning model predicting overall score and 7 patient-experience domains from review text; correlation with HCAHPS star ratings.	Model classifies review score and domain relevance with very high accuracy (~93–99%) and aggregated online-review metrics align significantly with HCAHPS, supporting use of online reviews as a real-time tool to monitor and benchmark person-centred care.

This discussion consolidates the critical findings from the scoping review and distills them into five significant themes to aid analysis of how both electronic word of mouth (eWOM) and service quality contribute to patient experience in hospital outpatient care. More precisely, they summarize, the thematic model of the study comprises: (1) current trends in the prevalence and complexity of eWOM and its influences; (2) key service quality dimensions in patients' self-reported experience; (3) the asymmetrical relationship between negative compared with positive online

feedback; (4) limitations in the ways that current research is conducted; and (5) lessons for management practices by the industry to improve its use in healthcare organizations. This organization is useful in examining the ways in which digital feedback from patients and quality of outpatient care in healthcare are related in the current healthcare environment.

eWOM Reviews on the Rise in Outpatient Treatment

Trends in eWOM are already emerging as online patients' reviews become increasingly frequent, complex and complicated because we have more patients who use online platforms as the place where to write reviews about their health practices.(Cheong et al., n.d.) When the COVID-19 pandemic arrived, negative reviews soared sharply, likely a response to shifting patient priorities, amplified emotions, and more focus on service responsiveness challenges (Lee et al., 2022). For instance, stories about repeated appointment delays and inadequate staff communication the emotional impact of service problems.

The findings emphasize the importance of dealing with these problems promptly by healthcare institutions. Then the tone of reviews differed by type of hospital and medical specialty, and it seemed that the type of institution played a role in the ways that patients described they experienced online. These indicators suggest that eWOM is no longer just a casual discussion; this is a telltale sign that hospitals are doing well. At the peak of the pandemic, online reviews provided patients with an outlet to air concerns about safety, empathy and communication. eWOM should be consistently tracked by hospitals as a digital metric of patient trust and satisfaction (Huang et al., 2023; Taylor et al., 2025).

Service Quality Problems Discovered In eWOM

The largest portion of service quality, including waiting times, appointment scheduling, and the speed of service delivery, was determined by many studies. Detecting the culprits of responsiveness issues can expose problems with workflows or staffing. To wit, undersupply of staff in the busy hours might lead to longer waits; inadequate scheduling systems likely slow down service. Comprehending these causes allows quality teams to address them appropriately. Patients also repeatedly referred to assurance (service staff professionalism and courtesy) as a source of satisfaction. Good communication, that is, clear information, empathy and emotional care was also a keystone in satisfaction overall, as well as patient loyalty (Izzudin et al., 2021; Lee et al., 2022).

SERVQUAL and Flower of Services models are integrated within eWOM-based research to structure the interpretation of these digital narratives. These models show that reliability, empathy, and responsiveness continue to be key to how patients perceive quality, even in online spaces. The concordance of eWOM findings with conventional service quality domains corroborate these models as potential tools for digital quality assessment and continual improvement within outpatient care (Huang et al., 2023).

Negative versus Positive eWOM Impact

A frequent revelation is that negative eWOM affects patient decisions, as well as a hospital reputation more than positive reviews. (Lee et al., 2022) Staff rudeness, indifference or slow procedures, which can negatively influence the lives of patients, or be ignored or even treated like an issue, tend to crop up in patient stories and tarnish a hospital's reputation (Huang et al., 2023). The trend toward negative feedback indicates the importance of active management of digital feedback.

Hospitals must regard negative eWOM as an opportunity to discover service challenges and to improve, not just a threat to their reputation. Instituting a feedback-to-action process allows criticism to be transformed into constructive feedback and promotes real-time learning. Fast, emotionally responsive responses and direct solutions will lessen the effects of negative reviews and encourage public trust. Periodically monitoring trends in feedback allows hospitals to determine whether their behavior is effective and cultivates a culture of transparency and accountability, both of which contribute to bolster digital reputation (Huang et al., 2023; Taylor et al., 2025).

Limitations and Future Research Suggestions

Although eWOM provides valuable insights about patients' experiences, it faces some research hurdles. They have included selection bias, since reviews typically embody extreme experience; and differences in reliability because reviews across platforms are anonymous and inconsistent; and digital inequality, meaning some groups are underrepresented (Seltzer et al., 2022). Also, as none of the studies use standard measures, results are difficult to compare. These constraints imply that careful interpreting, improved research procedures and the use of variety of data sources will be imperative in future research on eWOM.

A method to further study the phenomenon would be to make triangulation with traditional satisfaction measures (e.g., HCAHPS or hospital-based questionnaires) with the aim of optimizing future studies (Taylor et al., 2025). Leveraging advanced tools, including Python-based NLP toolkits (such as NLTK or spaCy) and machine learning platforms (such as TensorFlow or scikit-learn) for sentiment assessment can improve eWOM interpretability and real-time quality control (Setiawan, 2024; Wang et al., 2024). By investigating eWOM in various cultural/healthcare settings, results will also enhance the reliability of the findings and aid in establishing standard eWOM indicators for health system evaluation (Kusawat & Teerakapibal, 2024).

Real-World Implications for Health care of Hospital Executives

This review raises a number of practical opportunities for hospital leaders interested in enhancing the quality of outpatient services in the digital age and seeks to present the following key implications. Implementing digital sentiment analysis into hospital dashboards will also help detect service problems early and address

these in a timely manner to address patient concerns (Murray et al., 2025). Patient-experience officer or equivalent role that monitors an eWOM should be appointed by hospitals to hold them accountable. This role would improve the integration of eWOM and establish a clear liaison with digital feedback (Taylor et al., 2025).

Healthcare professionals need specialized training in communication and empathy to account for common reasons for dissatisfaction identified in online reviews (Raza & Dehury, 2021). Tying eWOM trends to accreditation and performance management systems can help in turning patient feedback into useful quality metrics (Rahim, Ibrahim, Musa, & Chua, 2021). Combining eWOM management with hospital governance provides the foundation for hospitals to embrace transparency, accountability, and responsiveness to enhance care in a culture of transparency and accountability that enhances patient experience (Chen et al., 2022; Taylor et al., 2025).

D. CONCLUSIONS

This scoping review demonstrates that eWOM plays a moderating role on the perceptions, experiences and decisions of the patients about the hospital outpatient facilities. Negative eWOM -- typically involving responsiveness as well as the attitude of staff, communication and quality of care -- appeared to influence patients' decision-making and hospital reputation more strongly in studies. These results give an empirical backing to the idea that patient experience in the outpatient setting is associated with perceived online service quality. Responsiveness and communication are vital to quality medicine and the development of the trust between hospitals and their patients.

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