

Determinants of Patient Satisfaction Across Healthcare Settings: A Systematic Review

Kholood Abdalduam Almatrafi¹, Zarhah Zain²

¹ School of Medicine, Lincoln University College, Malaysia, flower-ke@hotmail.com

² School of Medicine, Lincoln University College, Malaysia, zariyah@gmail.com

HOW TO CITE: ABSTARCT

Kholood Abdalduam Almatrafi,
Zarhah Zain (2026). Determinants of
Patient Satisfaction Across
Healthcare Settings: A Systematic
Review.
International Journal of Special
Education, 41(23s), 869 - 881

Background. Patient satisfaction is an important component of healthcare-quality assessment because it reflects patients' evaluations of interpersonal care, clinical and service processes, accessibility, organizational conditions, affordability, and the broader healthcare experience. However, satisfaction is a multidimensional and context-dependent construct, and its determinants vary across healthcare systems, service settings, and patient populations.

Objective. This systematic review aimed to synthesize recent empirical evidence concerning determinants, predictors, correlates, and associated factors of patient satisfaction across diverse healthcare settings.

Methods. Primary empirical studies published between 2021 and 2025 were eligible when they examined patient satisfaction or a closely related healthcare-satisfaction outcome and evaluated at least one determinant, predictor, correlate, associated factor, or qualitative driver. Following bibliographic reconciliation, 45 primary empirical studies were included in the narrative synthesis. Five systematic reviews or meta-analyses were retained separately as contextual evidence and were not counted in the primary-study denominator. Determinants were organized into seven domains: communication, empathy, trust, and patient-centered care; service and clinical-process quality; waiting time, accessibility, and continuity; financial access, insurance, and affordability; organizational, environmental, facility, and workforce factors; demographic, clinical, and psychosocial characteristics; and digital and technology-related factors. Because of substantial heterogeneity in populations, healthcare settings, satisfaction measures, and analytical methods, the findings were synthesized narratively.

Results. The evidence consistently indicated that patient satisfaction is associated with interacting interpersonal, service, organizational, accessibility, financial, patient-level, and technological characteristics. Service and clinical-process quality represented one of the most recurrent modifiable determinant domains. Organizational and environmental conditions, waiting

COPYRIGHT STATEMENT:

Copyright: © 2026 Authors.
Open access publication under the
terms and conditions
of the Creative Commons Attribution
(CC BY)
license (<http://creativecommons.org/licenses/by/4.0/>).

time and accessibility, and communication and patient-centered interaction were also repeatedly associated with satisfaction. Financial and insurance-related factors were important in several healthcare systems. Demographic, clinical, and psychosocial characteristics were frequently associated with satisfaction but showed considerable variation across settings. Digital and technology-related determinants constituted a smaller but increasingly important evidence domain.

Conclusion. Patient satisfaction is best understood as a multilevel outcome rather than as the product of a single determinant. Healthcare organizations should prioritize modifiable service-system factors, particularly service quality, communication, timely access, continuity, organizational conditions, and financial accessibility. Demographic and clinical characteristics should primarily be interpreted as contextual modifiers. Because much of the available evidence is cross-sectional, associations should not automatically be interpreted as causal effects.

Keywords: patient satisfaction, patient experience, healthcare quality, service quality, communication, healthcare access, patient-centered care, systematic review

1. Introduction

Patient satisfaction has become an increasingly important component of healthcare-quality assessment because it captures dimensions of care that are not fully represented by clinical outcomes, administrative indicators, or measures of technical performance. Satisfaction reflects how patients evaluate their interactions with healthcare professionals, the efficiency and accessibility of services, the organization of care, and the extent to which healthcare experiences correspond to their expectations, needs, and values. It may therefore incorporate perceptions of communication, responsiveness, respect, waiting time, privacy, cleanliness, accessibility, affordability, continuity, and perceived effectiveness. Contemporary reviews have consistently emphasized that patient satisfaction is a multidimensional construct and that its measurement varies considerably across healthcare settings (Akthar et al., 2023; Ferreira et al., 2023).

Interpersonal characteristics of healthcare are particularly prominent in the satisfaction

literature. Communication, empathy, respect, trust, information provision, and opportunities to ask questions may shape patients' understanding of their condition and influence how they interpret the competence and responsiveness of healthcare professionals. Ai et al. (2022) identified relationships among trust, the healthcare-service environment, and satisfaction in general-practice clinics, while Alodhialah et al. (2024) reported associations involving communication, healthcare characteristics, satisfaction, and loyalty. Among patients with chronic illnesses, Alhasan et al. (2025) similarly identified interpersonal and patient-centered dimensions as important components of satisfaction. These studies suggest that communication is not simply a courtesy-related characteristic but part of the broader process through which patients evaluate the quality and humanity of care.

Service and clinical-process quality constitute another major determinant domain. Patients evaluate whether healthcare organizations provide the services they expect, whether clinicians and nurses appear competent and

responsive, whether medicines and diagnostic services are available, and whether clinical processes are organized effectively. Kalaja and Krasniqi (2022) demonstrated associations between SERVQUAL dimensions and satisfaction in Albanian public hospitals, while Liu et al. (2024) examined nursing care, medical procedures, and other determinants of inpatient satisfaction. Pharmacy-related studies have likewise shown that medication availability, workflow, and pharmaceutical-care processes may affect satisfaction (Habte et al., 2023; Hasen & Negeso, 2021; Kebede et al., 2021; Molla et al., 2022). These findings reinforce the view that patient satisfaction reflects practical healthcare performance as well as interpersonal interaction.

Accessibility and waiting time represent highly visible features of healthcare delivery. Long delays, difficult transportation, lack of parking, travel distance, inefficient referral processes, limited continuity, and inadequate appointment systems may increase the burden of obtaining care. Alburmawi et al. (2024) identified associations between satisfaction and access-related characteristics in primary healthcare, while Md Nor et al. (2024) examined waiting and service-related factors in Malaysian primary care. In emergency settings, Mosleh et al. (2025) focused specifically on patient satisfaction with waiting time, and Takele et al. (2021) examined determinants of emergency-care satisfaction. The available evidence therefore suggests that accessibility should be understood broadly as the temporal, geographical, organizational, and practical effort required to obtain healthcare.

Financial conditions may also influence satisfaction. Insurance status, medication costs, service charges, payment arrangements, and financial burden may shape how patients evaluate healthcare, particularly in systems where out-of-pocket expenditure is substantial. Shure et al. (2023) compared insured and uninsured patients and identified factors associated with satisfaction, while Cynthia et al. (2025) similarly examined differences between insured and uninsured patients in Cameroon. These studies indicate that affordability may constitute a distinct dimension

of patient experience rather than merely a component of general access.

Organizational and environmental conditions provide an additional level of influence. Staffing, privacy, cleanliness, facility design, workflow, hospital type, waiting-area conditions, equipment, and service availability may affect satisfaction independently of individual clinician behavior. Aga et al. (2021) identified privacy and inpatient service characteristics as relevant to satisfaction, while Alemu et al. (2024) and Ezo et al. (2024) demonstrated the importance of privacy and service conditions in maternity care. Tessema et al. (2024) examined relationships among total quality management, service quality, trust, and patient satisfaction, whereas Tollera et al. (2025) investigated multiple organizational and facility-level factors within primary healthcare. This evidence highlights that patient satisfaction is partly a property of healthcare organizations and systems, not only of individual provider interactions.

Patient-level characteristics are also frequently examined. Age, sex, education, residence, income, occupation, health status, diagnosis, treatment outcome, previous healthcare utilization, and other clinical or sociodemographic variables may be associated with satisfaction (Albaqami & Alshagrawi, 2025; Alharbi et al., 2023; Belachew et al., 2024; Kagura et al., 2023). However, the direction and magnitude of these relationships are often inconsistent. A variable associated with satisfaction in one setting may be non-significant in another, suggesting that patient characteristics may function as contextual modifiers rather than universal determinants.

The expansion of telemedicine and digitally mediated care has added another dimension to satisfaction research. Patients may evaluate technical reliability, privacy, video quality, provider digital competence, convenience, and their own comfort with technology. Orrange et al. (2021) identified telemedicine characteristics associated with satisfaction and trust during the COVID-19 pandemic, while Neumann et al. (2025) examined determinants of telemental-

health satisfaction in Germany. Secondary evidence also indicates considerable heterogeneity in how telemedicine satisfaction is measured, with many studies relying on nonstandardized instruments (Chagas et al., 2024; Du & Gu, 2024).

Despite the breadth of the literature, evidence remains fragmented across healthcare systems, clinical settings, measurement tools, and analytical methods. Previous reviews have demonstrated that determinants of satisfaction include provider behavior, service quality, accessibility, affordability, waiting time, organizational conditions, and patient characteristics (Akthar et al., 2023; Ferreira et al., 2023; Olesen & Bathula, 2022). However, recent primary research has expanded rapidly across traditional and digital settings. A contemporary synthesis is therefore useful for identifying recurrent determinant domains and distinguishing modifiable healthcare-system factors from contextual patient characteristics.

The objective of this systematic review was to synthesize empirical evidence published between 2021 and 2025 concerning determinants of patient satisfaction across healthcare settings. The review focused on seven interconnected domains: communication, empathy, trust, and patient-centered care; service and clinical-process quality; waiting time, accessibility, and continuity; financial access, insurance, and affordability; organizational, environmental, facility, and workforce characteristics; demographic, clinical, and psychosocial characteristics; and digital and technology-related determinants.

2. Methods

2.1 Review Design and Eligibility Criteria

This review used a systematic-review framework with narrative synthesis. Primary empirical studies published between January 2021 and December 2025 were eligible when they examined patients or healthcare-service users, evaluated patient satisfaction or a closely related healthcare-satisfaction outcome, and investigated at least one determinant, predictor, correlate,

associated factor, or qualitative driver of satisfaction.

Eligible studies included quantitative, qualitative, observational, cross-sectional, mixed-methods, and other primary empirical designs conducted in healthcare settings. Systematic reviews, meta-analyses, scoping reviews, conceptual papers, editorials, and other secondary publications were excluded from the primary evidence synthesis but could be retained for contextual interpretation.

2.2 Bibliographic Reconciliation and Evidence Set

The reconciled reference ledger contained 50 publications. Five publications, Akthar et al. (2023), Chagas et al. (2024), Du and Gu (2024), Ferreira et al. (2023), and Olesen and Bathula (2022), were secondary systematic reviews or meta-analyses and were retained only as contextual evidence. The remaining 45 publications constituted the primary empirical evidence set used in the narrative synthesis.

Bibliographic reconciliation prioritized DOI and PMID matching where available, followed by comparison of article titles, authors, and publication years. Because complete historical database-identification, duplicate-removal, and screening records were unavailable for full reconstruction, upstream PRISMA counts were not retrospectively estimated. This approach was adopted to avoid generating unsupported identification or screening numbers from the final included-study denominator.

2.3 Data Extraction and Determinant Classification

Study-level information included author and year, healthcare setting, study design, patient population, satisfaction measure, analytical approach, and principal determinants associated with satisfaction. Findings were grouped into seven domains: interpersonal and patient-centered care; service and clinical-process quality; waiting time, accessibility, and continuity; financial access and insurance; organizational and environmental factors; demographic, clinical, and

psychosocial characteristics; and digital or technology-related factors.

Where possible, greater interpretive weight was given to findings retained after multivariable or model-based analysis than to simple bivariate associations. Qualitative evidence was used to contextualize patient experiences and identify mechanisms not easily captured in quantitative models. Because the studies differed substantially in populations, settings, instruments, determinants, and statistical methods, an overall meta-analysis was not considered appropriate.

2.4 Methodological Considerations

The evidence base was dominated by cross-sectional research. Consequently, associations were interpreted as relationships rather than causal effects. Studies varied in sampling methods, satisfaction measurement, control of confounding, and analytical sophistication. The review therefore emphasized consistency across settings and methodological plausibility rather than treating all statistically significant findings as equivalent.

3. Results

3.1 Characteristics of the Included Studies

The final primary evidence set comprised 45 empirical studies published between 2021 and 2025. The studies represented a wide range of healthcare environments, including primary healthcare, inpatient and outpatient hospital services, emergency departments, nursing care, pharmacy services, maternity and antenatal care, psychiatric and mental-health services, physiotherapy, chronic-disease management, referral systems, neonatal intensive care, and telemedicine. The evidence was geographically diverse, although some countries, particularly Ethiopia, were represented more frequently than others. Additional studies were conducted in Saudi Arabia, China, Malaysia, Albania, Nepal, South Africa, Germany, Spain, Vietnam, Cameroon, Jordan, Australia, Italy, and other settings. Cross-sectional observational designs predominated, although qualitative, mixed-methods, standardized-patient, and large survey

approaches were also represented. Satisfaction measurement was heterogeneous. Instruments included PSQ-18, PSQ-III, SERVQUAL-based measures, nursing-care satisfaction scales, pharmacy-specific questionnaires, national healthcare surveys, and locally developed tools. This methodological diversity limited direct comparison of effect estimates and supported narrative synthesis.

3.2 Communication, Empathy, Trust, and Patient-Centered Care

Communication and patient-centered interaction emerged repeatedly as important dimensions of satisfaction. Patients' evaluations were influenced by whether providers explained information clearly, demonstrated respect, listened to concerns, allowed questions, and created relationships characterized by trust and responsiveness. Ai et al. (2022) identified links among trust, healthcare-service environment, and satisfaction in general-practice clinics. Alodhialah et al. (2024) similarly demonstrated that communication and service characteristics were associated with satisfaction and loyalty. Alhasan et al. (2025) examined satisfaction among patients with chronic illnesses and identified interpersonal aspects of care as relevant. Adams et al. (2025) provided complementary qualitative evidence by identifying caring human relationships as a major driver of patient experience. Referral settings reinforced the importance of communication and coordination. Guddu and Demissie (2022) found that satisfaction with referral services was associated with communication and organizational factors between healthcare providers and facilities. Overall, the evidence indicates that interpersonal quality is an integral component of healthcare delivery rather than a peripheral element of patient satisfaction.

3.3 Service and Clinical-Process Quality

Service and clinical-process quality represented one of the most recurrent modifiable determinant areas. Patients appeared to evaluate whether healthcare systems functioned reliably and whether clinical processes, nursing services,

pharmacy services, and related components met their needs. Kalaja and Krasniqi (2022) found that SERVQUAL dimensions were associated with satisfaction in Albanian public hospitals. Liu et al. (2024) examined inpatient satisfaction and identified nursing care and clinical processes as important determinants. Al-Hammouri et al. (2024), Alharbi et al. (2023), and Bogale et al. (2023) similarly examined satisfaction with nursing care and identified relationships involving both service quality and patient characteristics.

Pharmacy-related studies consistently indicated that medication availability and service organization matter to patients. Kebede et al. (2021), Molla et al. (2022), Habte et al. (2023), and Hasen and Negeso (2021) identified factors involving medication availability, pharmaceutical care, waiting conditions, service organization, or associated patient characteristics. Gao et al. (2022) additionally showed that provider-related and consultation-process characteristics influenced satisfaction in rural primary healthcare. Taken together, these findings indicate that patients evaluate both the relational and practical performance of healthcare services. Satisfaction therefore cannot be reduced to interpersonal courtesy alone.

3.4 Waiting Time, Accessibility, and Continuity

Waiting time and accessibility were important across multiple healthcare contexts. Access-related factors included time before consultation, consultation duration, geographical distance, transportation, parking, referral coordination, continuity, and general ease of navigating services. Alburmawi et al. (2024) reported relationships between satisfaction and transportation and parking characteristics in primary care. Md Nor et al. (2024) identified factors associated with satisfaction in a high-volume government primary-care clinic, while Mosleh et al. (2025) specifically examined satisfaction with emergency-department waiting time. Takele et al. (2021) likewise evaluated determinants of emergency-care satisfaction, and Kassaw et al. (2022) examined waiting- and

service-related characteristics in psychiatric outpatient care.

Continuity and coordination also influenced satisfaction in longitudinal and referral contexts. Guadie et al. (2022) found factors associated with physiotherapy satisfaction, while Guddu and Demissie (2022) demonstrated the relevance of referral coordination. These findings suggest that accessibility should be conceptualized as timely, coordinated, and navigable care rather than simply physical proximity to a healthcare facility.

3.5 Financial Access, Insurance, and Affordability

Financial factors were associated with satisfaction in several studies. Insurance, medication costs, healthcare charges, and other affordability-related characteristics may influence the overall evaluation of care, particularly in systems where financial exposure differs substantially among patients. Shure et al. (2023) compared insured and uninsured patients and identified factors associated with satisfaction in an Ethiopian hospital. Cynthia et al. (2025) similarly examined insured and uninsured patients in Cameroon. Habte et al. (2023) identified medication cost and pharmacy-service factors as relevant to satisfaction, while Hailie et al. (2021) examined satisfaction among participants in a community-based health-insurance scheme. These studies indicate that financial experience constitutes a meaningful component of patient satisfaction. However, because healthcare financing systems differ considerably, financial determinants should be interpreted within local institutional and policy contexts.

3.6 Organizational, Environmental, Facility, and Workforce Factors

Organizational and environmental characteristics were repeatedly associated with satisfaction. Relevant factors included cleanliness, privacy, staffing, workflow, facility characteristics, waiting areas, service availability, equipment, and coordination. Aga et al. (2021) identified privacy and inpatient service characteristics as relevant to satisfaction. In maternity care, Alemu et al. (2024) and Ezo et al. (2024) demonstrated associations

involving privacy and delivery-service conditions. Alibrandi et al. (2023) examined factors related to hospital care, including environmental and organizational characteristics, while Tessema et al. (2024) investigated total quality management, service quality, trust, and satisfaction.

Tollera et al. (2025) further demonstrated the relevance of organizational and facility-level determinants in public primary healthcare. These findings support the conclusion that satisfaction reflects the organizational systems through which healthcare is delivered, not merely the behavior of individual clinicians.

3.7 Demographic, Clinical, and Psychosocial Characteristics

Patient characteristics were frequently associated with satisfaction but demonstrated substantial heterogeneity. Age, sex, education, residence, income, occupation, health status, previous healthcare experience, diagnosis, and other clinical or social variables were examined across studies. Albaqami and Alshagrawi (2025) evaluated sociodemographic factors associated with satisfaction in Saudi primary care, while Alharbi et al. (2023) examined characteristics associated with nursing-care satisfaction. Belachew et al. (2024) investigated maternal characteristics associated with antenatal-care satisfaction, and Kagura et al. (2023) examined satisfaction among chronic-disease patients in South African primary care. Alemu et al. (2025) identified clinical and contextual factors associated with mental-health service satisfaction. The inconsistent direction of these relationships indicates that demographic and clinical characteristics should not be regarded as universal determinants. Instead, they may influence expectations, access, health literacy, disease burden, or previous experiences and therefore operate as contextual modifiers.

3.8 Digital and Technology-Related Determinants

Digital healthcare introduced additional determinants that are not fully represented by conventional satisfaction frameworks. Technical reliability, privacy, convenience, provider digital

competence, internet quality, and patients' attitudes toward technology may all influence digital healthcare experiences. Orrange et al. (2021) examined satisfaction and trust in telemedicine during the COVID-19 pandemic and identified relationships involving technical and visit-related characteristics. Neumann et al. (2025) examined determinants of telemental-health satisfaction and similarly demonstrated the relevance of patient and technology-related factors. Secondary evidence further indicates considerable heterogeneity in the measurement of telemedicine satisfaction, with many studies relying on nonstandardized instruments (Chagas et al., 2024; Du & Gu, 2024). The digital evidence base remains smaller than the evidence concerning traditional healthcare services, but its importance is likely to increase as telemedicine and hybrid service models expand.

4. Discussion

The findings of this review support a multilevel interpretation of patient satisfaction. Satisfaction is associated with provider behavior, clinical processes, service organization, accessibility, financial arrangements, patient characteristics, and technology. Importantly, the most practically useful evidence concerns determinants that healthcare organizations can modify, including communication, service quality, waiting, continuity, privacy, staffing, workflow, medicine availability, infrastructure, and financial barriers. Communication and patient-centered interaction appear to be central because they affect how patients understand clinical information and interpret the respect, responsiveness, and trustworthiness of healthcare professionals. The evidence from Ai et al. (2022), Alodhialah et al. (2024), Alhasan et al. (2025), and Adams et al. (2025) demonstrates that interpersonal aspects of care are relevant across different healthcare settings and methodological approaches.

Service and clinical-process quality also emerged consistently. Patients appear to judge whether healthcare services perform their essential functions effectively, including nursing care, consultation quality, medication availability, and service responsiveness. This is broadly consistent

with the meta-analytic evidence reported by Olesen and Bathula (2022), which linked healthcare service quality with patient satisfaction and loyalty-related outcomes. Waiting and accessibility constitute another important set of determinants. The evidence suggests that waiting is not only a measure of time but also a visible indicator of organizational responsiveness. Transport, parking, referral processes, continuity, and navigation additionally affect the effort required to obtain care. Consequently, healthcare organizations should avoid treating waiting time as an isolated target and instead improve the entire patient journey.

Financial determinants also merit attention. Insurance coverage, medication cost, and service charges can influence satisfaction, but their importance varies according to healthcare financing arrangements. For this reason, financial accessibility should be considered a contextual but potentially modifiable dimension of healthcare experience. Organizational and environmental conditions appear particularly important because they shape the context in which clinical interactions occur. Privacy, cleanliness, staffing, workflow, equipment, and service availability may influence satisfaction independently of provider communication. Improving patient satisfaction therefore requires organizational change as well as interpersonal interventions.

In contrast, demographic and clinical characteristics demonstrated greater inconsistency. Variables such as age, sex, education, residence, and diagnosis may be associated with satisfaction in some settings but not others. These variables may influence expectations, health literacy, access barriers, or healthcare needs rather than directly determining satisfaction. Healthcare organizations should therefore use demographic information to identify potentially underserved groups and tailor services rather than treating demographic characteristics themselves as intervention targets. Digital healthcare represents an emerging area. Telemedicine may improve convenience and access but introduces concerns related to privacy,

usability, technical reliability, and provider digital competence. The methodological heterogeneity identified by Chagas et al. (2024) and Du and Gu (2024) suggests a need for more standardized measurement as digital healthcare continues to expand.

5. Strengths and Limitations

A major strength of this review is its focus on recent empirical evidence across a wide range of healthcare settings. The inclusion of primary care, hospitals, nursing, pharmacy, mental health, maternity, emergency care, physiotherapy, referral services, neonatal care, and telemedicine provides a broad view of patient-satisfaction determinants.

Another strength is the distinction between modifiable healthcare-system determinants and contextual patient characteristics. This distinction improves the practical relevance of the review because it directs attention toward factors that healthcare organizations can influence through quality-improvement interventions. The review also retains contextual systematic reviews and meta-analyses separately from the primary evidence base, avoiding double counting while allowing comparison with broader literature (Akthar et al., 2023; Chagas et al., 2024; Du & Gu, 2024; Ferreira et al., 2023; Olesen & Bathula, 2022).

Several limitations should be acknowledged. First, most of the primary evidence is cross-sectional, limiting causal inference. Even statistically adjusted associations cannot establish that a determinant caused a change in satisfaction. Second, satisfaction instruments varied considerably, reducing comparability across studies. Third, sampling and analytical quality differed among studies, and some findings may be affected by selection bias or residual confounding. Fourth, several countries and healthcare systems were more heavily represented than others, which may limit global generalizability. Finally, complete historical database-identification, duplicate-removal, and screening records were unavailable for full PRISMA reconstruction. Accordingly, upstream

PRISMA counts were not retrospectively estimated. The defensible evidence denominator for the present synthesis is the 45 reconciled primary empirical studies contained in the final evidence ledger.

6. Implications for Practice

The findings suggest that healthcare organizations should prioritize modifiable determinants when developing patient-experience strategies. Communication interventions should promote understandable information, respectful interaction, active listening, empathy, and opportunities for patients to participate in decisions. Service redesign should address waiting, continuity, medication and diagnostic availability, referral coordination, staffing, privacy, infrastructure, and workflow. Financial barriers also warrant attention. Transparent charges, appropriate insurance arrangements, and strategies to improve medication affordability may contribute to more positive healthcare experiences in systems where out-of-pocket burden is substantial. Patient-satisfaction measurement should therefore be used as a quality-improvement tool rather than simply as a performance score. Satisfaction surveys are most useful when they identify specific components of the healthcare pathway that can be improved and subsequently reassessed.

7. Implications for Future Research

Future research should move beyond the dominance of single-center cross-sectional studies. Longitudinal and prospective designs are needed to clarify temporal relationships between healthcare-service characteristics and satisfaction. Multicenter and multinational studies would also improve generalizability and allow stronger evaluation of healthcare-system context. Researchers should use validated satisfaction instruments wherever possible and report psychometric properties clearly. Greater consistency in reporting adjusted effect estimates,

confidence intervals, and non-significant findings would strengthen future systematic synthesis.

Digital healthcare requires particular attention. Future studies should distinguish satisfaction with clinical care from satisfaction with the technology used to deliver that care and should separately evaluate usability, technical reliability, privacy, digital literacy, provider competence, and accessibility.

8. Conclusion

Patient satisfaction is a multidimensional healthcare outcome associated with interpersonal, clinical, accessibility, financial, organizational, patient-level, and technological characteristics. Across the 45 primary empirical studies included in this review, the most actionable evidence concerned service and clinical-process quality, organizational and environmental conditions, timely and accessible care, and communication and patient-centered interaction. Financial accessibility and insurance also influenced satisfaction in several healthcare settings. Demographic, clinical, and psychosocial characteristics were frequently associated with satisfaction but varied considerably across populations and should therefore be interpreted primarily as contextual modifiers. Improving patient satisfaction is unlikely to result from a single intervention. Healthcare organizations should adopt a multilevel approach that combines effective communication, reliable service delivery, timely access, continuity, supportive organizational environments, and attention to financial barriers. Because the evidence remains predominantly observational and cross-sectional, the findings should be interpreted as associations rather than definitive causal relationships.

References

- Adams, C., Walpola, R., Iqbal, M. P., Schembri, A., & Harrison, R. (2025). The three pillars of patient experience: Identifying key drivers of patient experience to improve quality in healthcare. *Journal of Public Health*, 33(10), 2105–2113. <https://doi.org/10.1007/s10389-023-02158-y>
- Aga, T. B., Ferede, Y. M., & Mekonen, E. G. (2021). Satisfaction and associated factors towards inpatient health care services among adult patients at Pawie General Hospital, West Ethiopia. *PLOS ONE*, 16(4), e0249168. <https://doi.org/10.1371/journal.pone.0249168>
- Ai, Y., Rahman, M. K., Newaz, M. S., Gazi, M. A. I., Rahaman, M. A., Mamun, A. A., & Chen, X. (2022). Determinants of patients' satisfaction and trust toward healthcare service environment in general practice clinics. *Frontiers in Psychology*, 13, 856750. <https://doi.org/10.3389/fpsyg.2022.856750>
- Akthar, N., Nayak, S., & Pai P, Y. (2023). Determinants of patient satisfaction in Asia: Evidence from systematic review of literature. *Clinical Epidemiology and Global Health*, 23, 101393. <https://doi.org/10.1016/j.cegh.2023.101393>
- Albaqami, N. M., & Alshagrawi, S. (2025). Patient satisfaction with primary health care services in Riyadh, Saudi Arabia. *International Journal of General Medicine*, 18, 835–845. <https://doi.org/10.2147/IJGM.S506595>
- Alburmawi, R. A., Shaheen, A., Hamdan, K., & Albqoor, M. A. (2024). Patient satisfaction with primary health care services and primary health care providers. *Public Health Nursing*, 41(3), 466–475. <https://doi.org/10.1111/phn.13296>
- Al-Hammouri, F., Hamdan, K. M., Haymour, A. M., Ibrahim, M. O., Malkawi, A., Al-Hiary, S. S., Albqoor, M. A., & Shaheen, A. M. (2024). Quality of nursing care: Predictors of patient satisfaction in a national sample. *Nursing Open*, 11(8), e2252. <https://doi.org/10.1002/nop2.2252>
- Alharbi, H. F., Alzahrani, N. S., Almarwani, A. M., Asiri, S. A., & Alhowaymel, F. M. (2023). Patients' satisfaction with nursing care quality and associated factors: A cross-section study. *Nursing Open*, 10(5), 3253–3262. <https://doi.org/10.1002/nop2.1577>
- Alhasan, M. S., Alahmadi, I. M., Alhilali, H. F., Alyoubi, N. M., Alkhoriji, N. A., Aljazairi, A. M., Othman, B. M., Alshehri, A. M., Alhejaili, M. O., Alhejaili, B., Alanazi, O. I., Azzam, A. Y., & Alhasan, A. S. (2025). Determinants of patient satisfaction among outpatients with chronic illnesses in the region of Medina, Saudi Arabia: A cross-sectional study. *BMC Health Services Research*, 25, 953. <https://doi.org/10.1186/s12913-025-13116-7>
- Alibrandi, A., Gitto, L., Limosani, M., & Mustica, P. F. (2023). Patient satisfaction and quality of hospital care. *Evaluation and Program Planning*, 97, 102251. <https://doi.org/10.1016/j.evalprogplan.2023.102251>
- Alodhialah, A. M., Almutairi, A. A., & Almutairi, M. (2024). Key predictors of patient satisfaction and loyalty in Saudi healthcare facilities: A cross-sectional analysis. *Healthcare*, 12(20), 2050. <https://doi.org/10.3390/healthcare12202050>
- Alemu, E. M., Kaso, A. W., Obsie, G. W., Fessaha, H. Z., & Agero, G. (2024). Maternal satisfaction with delivery service and associated factors among women who gave birth at public hospitals in Guji Zone, Southern Ethiopia. *BMC Women's Health*, 24, 227. <https://doi.org/10.1186/s12905-024-03069-0>
- Alemu, W. G., Mwanri, L., Due, C., Azale, T., & Ziersch, A. (2025). Mental health service satisfaction among adults with mental illness attending a psychiatric outpatient clinic: A cross-sectional study. *Frontiers in Public Health*, 13, 1471297. <https://doi.org/10.3389/fpubh.2025.1471297>
- Animut, Y. (2022). Satisfaction toward quality of care and associated factors among patients admitted to Gambella General Hospital, Gambella Region, Southwest Ethiopia. *Advances in Public Health*, 2022, 8038488. <https://doi.org/10.1155/2022/8038488>
- Babore, G. O., Ashine, T. M., Heliso, A. Z., & Habebo, T. T. (2023). Client satisfaction and associated factors towards the health service provided to members of a community-based health insurance scheme in Southern Ethiopia. *Frontiers in Health Services*, 3, 1237895. <https://doi.org/10.3389/frhs.2023.1237895>
- Belachew, A. K., Debie, A., Geberu, D. M., Dagnew, A., Bitew, G., Dejene, T. M., & Walle, A. D. (2024). Antenatal care service satisfaction and associated factors among pregnant women at public health facilities of Wogera district, Northwest Ethiopia: A cross-sectional study. *Frontiers in Global Women's Health*, 5, 1422047. <https://doi.org/10.3389/fgwh.2024.1422047>

- Bhatt, L. D., Ghimire, S., & Khanal, K. (2024). Patient satisfaction and their determinants in outpatient department of a tertiary public hospital in Nepal: A cross-sectional study. *Journal of Patient-Reported Outcomes*, 8, 26. <https://doi.org/10.1186/s41687-024-00696-x>
- Bogale, B. A., Ahmed, S. M., Gebrekidan, A. B., & Bogale, G. A. (2023). Adult patient satisfaction with nursing care services and associated factors among admitted patients at Saint Paul's Hospital Millennium Medical College, Addis Ababa, Ethiopia, 2022: A cross-sectional study. *Galen Medical Journal*, 12, e2906. <https://doi.org/10.31661/gmj.v12i.2906>
- Chagas, M. E. V., Jacovas, V. C., Moreira, T. C., Constant, H. M. R. M., Rohden, S. F., Alves, S. S., Santini, F., Dall'Agnol, S., Klever, E. K., Cabral, F. C., & Terres, M. S. (2024). Are we adequately measuring patient satisfaction with telemedicine? A systematic review with a meta-analysis. *Telemedicine and e-Health*, 30(6), 1522–1538. <https://doi.org/10.1089/tmj.2023.0530>
- Cynthia, A. N., Kiliç, B., Komuhangi, A., & Laure, N. N. J. (2025). Determinants of patient satisfaction with healthcare services among insured and uninsured patients at a public hospital in Cameroon: A comparative cross-sectional study using the modified PSQ-18 questionnaire. *Journal of Public Health Research*, 14(2), 22799036251345936. <https://doi.org/10.1177/22799036251345936>
- Du, Y., & Gu, Y. (2024). The development of evaluation scale of the patient satisfaction with telemedicine: A systematic review. *BMC Medical Informatics and Decision Making*, 24, 31. <https://doi.org/10.1186/s12911-024-02436-z>
- Ezo, E., Getachew, H., Degefu, S., & Ashager, K. (2024). Maternal satisfaction on delivery service and associated factors among mothers delivered at Arba Minch town governmental health facilities, South Ethiopia: A cross-sectional study. *SAGE Open Medicine*, 12, 20503121241247995. <https://doi.org/10.1177/20503121241247995>
- Ferreira, D. C., Vieira, I., Pedro, M. I., Caldas, P., & Varela, M. (2023). Patient satisfaction with healthcare services and the techniques used for its assessment: A systematic literature review and a bibliometric analysis. *Healthcare*, 11(5), 639. <https://doi.org/10.3390/healthcare11050639>
- Gao, Q., Liu, M., Peng, L., Zhang, Y., Shi, Y., Teuwen, D. E., & Yi, H. (2022). Patient satisfaction and its health provider-related determinants in primary health facilities in rural China. *BMC Health Services Research*, 22, 946. <https://doi.org/10.1186/s12913-022-08349-9>
- Guadie, Y. G., Kibret, A. K., Adem, K. S., & Yalew, E. S. (2022). Patient's satisfaction in physiotherapy outpatient departments of Amhara regional comprehensive specialized hospitals, Ethiopia. *BMC Health Services Research*, 22, 1011. <https://doi.org/10.1186/s12913-022-08338-y>
- Guddu, D. K., & Demissie, D. B. (2022). Patient satisfaction with referral service and associated factors among public hospitals in and around Addis Ababa, Central Ethiopia. *SAGE Open Medicine*, 10, 20503121221089443. <https://doi.org/10.1177/20503121221089443>
- Habte, F., Gedamu, M., & Kassaw, C. (2023). Patient satisfaction and associated factor at Red Cross pharmacies in Addis Ababa, Ethiopia. *BMC Health Services Research*, 23, 1181. <https://doi.org/10.1186/s12913-023-10042-4>
- Hailie, M. T., Hassen, S. L., & Temesgen, M. M. (2021). Client satisfaction on community based health insurance scheme and associated factors at Boru Meda Hospital, Northeast, Ethiopia: Institutional based cross-sectional study. *BMC Health Services Research*, 21, 1287. <https://doi.org/10.1186/s12913-021-07223-4>
- Hasen, G., & Negeso, B. (2021). Patients satisfaction with pharmaceutical care and associated factors in the Southwestern Ethiopia. *Patient Preference and Adherence*, 15, 2155–2163. <https://doi.org/10.2147/PPA.S332489>
- Kagura, J., Khamisa, N., Matsena Zingoni, Z., Dulaze, N., Awuku-Larbi, Y., & Tshuma, N. (2023). Patient satisfaction with chronic disease care and its associated factors in primary health care facilities in Johannesburg, South Africa. *Frontiers in Health Services*, 3, 967199. <https://doi.org/10.3389/frhs.2023.967199>
- Kalaja, R., & Krasniqi, M. (2022). Patient satisfaction with quality of care in public hospitals in Albania. *Frontiers in Public Health*, 10, 925681. <https://doi.org/10.3389/fpubh.2022.925681>

- Kassaw, C., Eskeziya, A., & Anbesaw, T. (2022). Magnitude of patient satisfaction and its associated factors at the outpatient psychiatry service of Dilla University Referral Hospital, Southern Ethiopia, Dilla, 2020. *PLOS ONE*, 17(8), e0272485. <https://doi.org/10.1371/journal.pone.0272485>
- Kebede, H., Tsehay, T., Necho, M., & Zenebe, Y. (2021). Patient satisfaction towards outpatient pharmacy services and associated factors at Dessie Town public hospitals, South Wollo, North-East Ethiopia. *Patient Preference and Adherence*, 15, 87–97. <https://doi.org/10.2147/PPA.S287948>
- Liang, H., Xue, Y., & Zhang, Z. (2021). Patient satisfaction in China: A national survey of inpatients and outpatients. *BMJ Open*, 11(9), e049570. <https://doi.org/10.1136/bmjopen-2021-049570>
- Liu, X., Lai, C., Ye, M., & Xie, J. (2024). Determinants of inpatient satisfaction and hospital recommendation: Experiences from a cross-sectional study of a tertiary general hospital in China. *BMJ Open*, 14(11), e086331. <https://doi.org/10.1136/bmjopen-2024-086331>
- Md Nor, M. Z., Said, A. H., Che Man, M., & Yusof, M. Z. (2024). Patient's satisfaction towards healthcare services and its associated factors at the highest patient loads government primary care clinic in Pahang. *Medical Journal of Malaysia*, 79(1), 34–41.
- Melesse, D., Tesfu, M., & Mantefard, B. (2022). Level of clients' satisfaction and associated factors with the service of out-patient department in Dilla University Referral Hospital, Southern Ethiopia, 2021. *Advances in Public Health*, 2022, 6451755. <https://doi.org/10.1155/2022/6451755>
- Molla, M., Sisay, W., Andargie, Y., Kefale, B., & Singh, P. (2022). Patients' satisfaction with outpatient pharmacy services and associated factors in Debre Tabor comprehensive specialized hospital, Northwest Ethiopia: A cross-sectional study. *PLOS ONE*, 17(1), e0262300. <https://doi.org/10.1371/journal.pone.0262300>
- Mosleh, S. M., Alsereidi, A. R., Aldhanhani, A. A., Alnaqbi, H. M., Alhouti, R. S., & Alshehhi, S. S. (2025). A descriptive study on patient satisfaction with waiting time in emergency departments: Insights from hospitals in the Northern Emirates. *International Emergency Nursing*, 78, 101564. <https://doi.org/10.1016/j.ienj.2024.101564>
- Neumann, A., König, H.-H., & Hajek, A. (2025). Determinants of patient satisfaction with telemental health services in Germany: Representative cross-sectional postpandemic survey study. *JMIR Mental Health*, 12, e65238. <https://doi.org/10.2196/65238>
- Olesen, K., & Bathula, H. (2022). A meta-analysis of the determinants of patient satisfaction and loyalty. *Health Marketing Quarterly*, 39(2), 191–210. <https://doi.org/10.1080/07359683.2022.2050000>
- Orrange, S., Patel, A., Mack, W. J., & Cassetta, J. (2021). Patient satisfaction and trust in telemedicine during the COVID-19 pandemic: Retrospective observational study. *JMIR Human Factors*, 8(2), e28589. <https://doi.org/10.2196/28589>
- Prado-Galbarro, F.-J., Carmona-Rodríguez, M., del Pino-Sedeño, T., Martín-Saborido, C., & Sanchez-Piedra, C. (2025). Patient satisfaction in the Spanish National Health System: Temporal trends and associated factors from 2018 to 2023. *BMC Health Services Research*, 25, 1591. <https://doi.org/10.1186/s12913-025-13649-x>
- Shure, G., Gamachu, M., Mitiku, H., Deressa, A., Eyeberu, A., Mohammed, F., Zakaria, H. F., Ayana, G. M., Birhanu, A., Debella, A., & Mussa, I. (2023). Patient satisfaction and associated factors among insured and uninsured patients in Deder General Hospital, eastern Ethiopia: A facility-based comparative cross-sectional study. *Frontiers in Medicine*, 10, 1259840. <https://doi.org/10.3389/fmed.2023.1259840>
- Sileshi, E., Mohammed, B., Eshetu, D., Dure, A., Bante, A., Mersha, A., & Geltore, T. E. (2023). Parental satisfaction towards care given at neonatal intensive care unit and associated factors in comprehensive and referral hospitals of Southern Ethiopia. *Journal of Pregnancy*, 2023, 3338929. <https://doi.org/10.1155/2023/3338929>
- Takele, G. M., Weldesenbet, N. A., Girmay, N., Degefe, H., & Kinfe, R. (2021). Assessment patient satisfaction towards emergency medical care and its determinants at Ayder comprehensive specialized hospital, Mekelle, Northern Ethiopia. *PLOS ONE*, 16(1), e0243764. <https://doi.org/10.1371/journal.pone.0243764>
- Thanh, N. D., Anh, B. T. M., Xiem, C. H., Anh, P. Q., Tien, P. H., Thanh, N. T. P., Quang, C. H., Ha, V. T., & Hung, P. T. (2022). Patient satisfaction with healthcare service quality and its associated factors at one polyclinic

- in Hanoi, Vietnam. *International Journal of Public Health*, 67, 1605055. <https://doi.org/10.3389/ijph.2022.1605055>
- Tessema, D. H., Assefa, H. K., Nuhu, J. A., & Obeng, H. A. (2024). The relationship between total quality management, patient satisfaction, service quality, and trust in the healthcare sector: The case of Ethiopian public hospitals. *Uluslararası Anadolu Sosyal Bilimler Dergisi*, 8(1), 164–176. <https://doi.org/10.47525/ulasbid.1402805>
- Tollera, G., Retta, M. T., & Girmay, A. M. (2025). Patient satisfaction with healthcare services and associated factors at public health centers in Addis Ababa, Ethiopia. *Discover Social Science and Health*, 5, 38. <https://doi.org/10.1007/s44155-025-00185-6>
- Wang, H., Wang, H., Guan, S., & Li, J. (2025). Exploring patient satisfaction and determinants in VIP outpatient: A SERVQUAL-based latent class analysis. *Patient Preference and Adherence*, 19, 3819–3834. <https://doi.org/10.2147/PPA.S564293>