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READINESS FOR CHANGE AS A POTENTIAL MEDIATOR BETWEEN DIGITAL COMPETENCY, MANAGEMENT SUPPORT, AND ELECTRONIC NURSING DOCUMENTATION OUTCOMES: A SYSTEMATIC REVIEW

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ABSTRACT
Electronic nursing documentation depends on nurses' digital competency and management support, yet the mechanism linking these factors to documentation outcomes remains unclear. To synthesize evidence on whether readiness for change may connect digital competency and management support with electronic nursing documentation outcomes. Following PRISMA 2020, PubMed, Springer Nature Link, and ScienceDirect were searched for studies published between 2021 and 2026. Search terms included nurses, electronic health records, electronic medical records, electronic nursing records, adoption, acceptance, readiness, resistance, digital health competence, satisfaction, and continuance intention. Of the 424 records retrieved, 24 duplicates were removed, 400 records were screened, and 92 full-text reports were assessed for eligibility. Ultimately, 10 studies met the inclusion criteria and were included in the final synthesis. Methodological quality was appraised using Joanna Briggs Institute (JBI) checklists, and risk of bias was assessed using ROBINS-I. Ten studies involving more than 4,000 participants across seven countries showed that management support, digital competency, and nurses' attitudes were associated with electronic documentation acceptance and continued use. Readiness and adaptation often lagged behind formal adoption. No study formally tested mediation, and most had moderate to serious risk of bias. Readiness for change is a plausible mediator that warrants longitudinal testing.

Keywords: digital competency; electronic health records; electronic nursing documentation; management support; readiness for change

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INTRODUCTION

Digital transformation has become a strategic priority for health systems worldwide. The World Health Organization's global strategy on digital health positions electronic health records (EHRs) as core infrastructure for safe, coordinated, and person-centered care World Health Organization (2021). As the largest professional group in hospitals and the most frequent users of clinical documentation systems, nurses largely determine whether these systems deliver their intended benefits. Well-functioning EHRs can improve the legibility and completeness of documentation, support medication safety, and enable continuity of care across shifts and disciplines (Dubale et al., 2023; Maawati et al., 2025). The anticipated gains, however, are not realized automatically. Evidence from the past five years shows that EHR implementation frequently increases documentation burden, fragments nursing workflow, and contributes to fatigue and burnout (Gesner et al., 2022; Moy et al., 2021). Emergency nurses may spend more of their shift on EHR tasks than on direct care (Bakhoum et al., 2021), and poor usability has been linked to burnout, intention to leave, and higher surgical mortality (Kutney-Lee et al., 2021; Melnick et al., 2021).

Two antecedents are repeatedly linked to successful electronic documentation. The first is digital competency: nurses' knowledge, skills, attitudes, and confidence in using digital health systems (Jarva et al., 2022; Longhini et al., 2022). The second is management support: leadership

commitment, training, technical assistance, and resources provided by the organization (Winata & Hariyati, 2021; Farajalla, 2026) . However, competence and support do not translate into better documentation automatically. Change-management theory proposes that their effects pass through readiness for change, that is, the extent to which individuals believe a change is needed, feel able to carry it out, and are committed to it. Low readiness appears as resistance, a recurrent barrier in nursing driven by fear that technology will disrupt familiar work patterns (Cheraghi et al., 2023) . Readiness for change may therefore act as the mechanism through which digital competency and management support shape electronic nursing documentation outcomes.

Earlier reviews focused on health professionals in general or on single constructs such as digital competence or job satisfaction (Longhini et al., 2022; Setyowati et al., 2022) . None, to our knowledge, has examined readiness for change as a linking mechanism between competency, management support, and documentation outcomes, and few have appraised risk of bias with structured tools. This gap is relevant for countries such as Indonesia, where hospitals are rapidly transitioning to electronic medical records and nurse satisfaction with electronic documentation remains moderate (Arruum et al., 2024; Winata & Hariyati, 2021). Therefore, this systematic review aimed to synthesize evidence published between 2021 and 2026 on the relationships among digital competency, management support, readiness for change, and electronic nursing documentation outcomes, and to examine whether the evidence supports readiness for change as a potential mediator.

METHOD

Literature Review Design

This study was a systematic literature review reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 statement (Page et al., 2021)

PICO

The review question was formulated with the PICO framework: among hospital nurses using electronic documentation systems (P), are digital competency and management support (I), compared with lower levels of these factors or the pre-implementation period (C), associated with electronic nursing documentation outcomes, and is this association explained by readiness for change (O)? The framework is summarized in table 1.

Table 1.
PICO Framework of the Review Question

Component	Description
Population (P)	Registered nurses and nurse leaders in hospitals using EHR, EMR, or electronic nursing record systems; mixed samples were eligible when nurses were the dominant group
Intervention/exposure (I)	Digital competency (knowledge, skills, attitudes, digital health literacy, self-efficacy) and management support (organizational support, training, technical support, facilitating conditions)
Comparison (C)	Lower levels or absence of the exposure, comparison across nurse subgroups, or pre-implementation observation
Outcome (O)	Electronic nursing documentation outcomes (acceptance, adoption, continued use, satisfaction, documentation practice, and workflow), with readiness for change or resistance to change examined as the potential mediating pathway

Note. EHR = electronic health record; EMR = electronic medical record.

Search Strategy

A systematic search was conducted in PubMed, Springer Nature Link, and ScienceDirect for articles published from January 2021 to 2026. Search strings combined controlled vocabulary and free-text terms with Boolean operators, and filters for year, English language, and article type were applied where available. Table 2 presents the strings and records retrieved.

Table 2.
Search Strategy and Records Retrieved per Database

Database	Search string	Records
PubMed	("Nurses"[MeSH] OR nurse*) AND ("Electronic Health Records"[MeSH] OR "electronic health record*" OR "electronic medical record*" OR "electronic nursing record*") AND (adoption OR acceptance OR readiness OR resistance OR satisfaction OR "digital health competence" OR "continuance intention"); filters: 2021–2026, English	155
Springer Nature Link	nurse* AND ("electronic health record*" OR "electronic medical record*") AND (adoption OR acceptance OR readiness OR satisfaction OR competence); content type: article; 2021–2026	167
ScienceDirect	(nurse OR nurses) AND ("electronic health record" OR "electronic medical record") AND (adoption OR acceptance OR readiness OR "digital health"); research articles; 2021–2026	102
Total		424

Inclusion and Exclusion Criteria

Studies were included if they (a) involved nurses working in hospitals, or mixed samples in which nurses formed the majority; (b) examined EHR, EMR, or electronic nursing record systems; (c) reported primary quantitative, qualitative, or observational data on acceptance, readiness, use, satisfaction, competence, or workflow; (d) were published in English between 2021 and 2026; and (e) were available in full text. Studies were excluded if they were reviews, editorials, conference abstracts, or protocols; focused solely on physicians, students, or patients; evaluated telehealth or mobile applications unrelated to clinical records; or did not report nursing-relevant outcomes.

Study Selection: PRISMA 2020 Flow Diagram

After removal of duplicates, titles and abstracts and then full texts were screened against the eligibility criteria. Of 424 records, 24 duplicates were removed and 400 were screened; 201 were excluded on the basis of title and abstract. Of the 199 reports sought for retrieval, 107 could not be accessed in full text. Ninety-two reports were assessed for eligibility, 82 were excluded, and 10 studies were included in the final synthesis (Figure 1).

Quality Assessment (JBI)

Methodological quality was appraised with the Joanna Briggs Institute (JBI) critical appraisal checklists appropriate to each design: the analytical cross-sectional checklist (8 items), the qualitative research checklist (10 items), and the quasi-experimental checklist (9 items; applied to the pre–post observational study) (Aromataris et al., 2024). Studies scoring at least 70% were classified as high quality, 50%–69% as moderate, and below 50% as low. No study was excluded on the basis of quality.

Study Selection Process Following PRISMA 2020

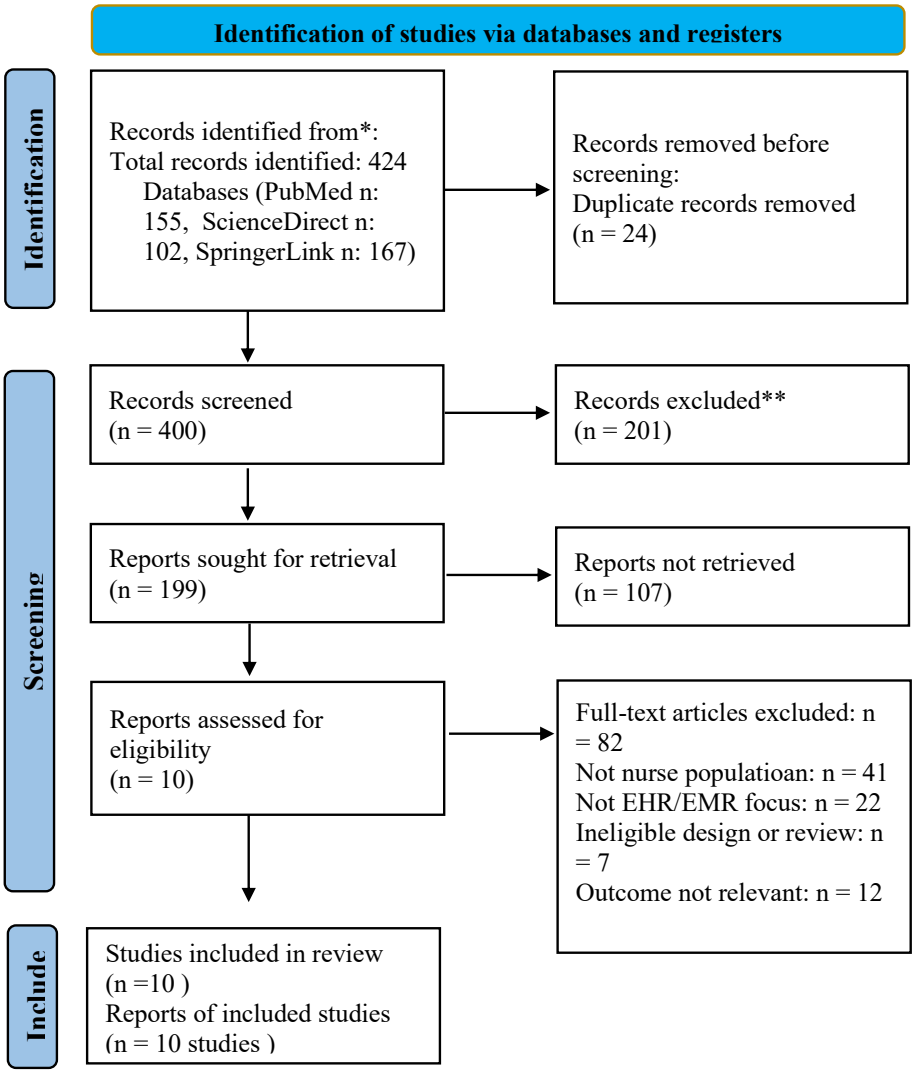

Figure 1. PRISMA Flow Diagram of Study Selection Process

Table 3
JBI Critical Appraisal of the Included Studies

Study	JBI checklist	Score	%	Quality
Cho et al. (2021)	Analytical cross-sectional	7/8	87.5	High
Alsadi et al. (2022)	Analytical cross-sectional	6/8	75.0	High
Jedwab et al. (2022)	Qualitative research	8/10	80.0	High
Bingham et al. (2021)	Quasi-experimental	6/9	66.7	Moderate
Alsyouf et al. (2024)	Analytical cross-sectional	7/8	87.5	High
Comparcini et al. (2025)	Analytical cross-sectional	7/8	87.5	High
Lee and Lee (2021)	Analytical cross-sectional	5/8	62.5	Moderate
Ramoo et al. (2022)	Analytical cross-sectional	6/8	75.0	High
Hendy et al. (2025)	Analytical cross-sectional	7/8	87.5	High
Jarva et al. (2024)	Analytical cross-sectional	7/8	87.5	High

Data Extraction and Synthesis

Data were extracted with a standardized form (author, year, country, design, sample, exposure, comparator, findings, and outcomes). Because designs and measures were heterogeneous, findings were integrated through narrative synthesis into individual, organizational, and workflow themes.

RESULT

Characteristics of the Included Studies

The 10 included studies were published between 2021 and 2025 and were conducted in South Korea, Jordan (two studies), Australia (two studies), Italy, Malaysia, Egypt, and Finland. Eight used cross-sectional survey designs, one used a qualitative descriptive design, and one used a longitudinal time-and-motion design with observation before and six months after EMR implementation. Samples ranged from 130 to 1,217 participants, totaling more than 4,000. The main characteristics and findings are summarized in table 4.

Table 4.
Journal Search Results: Characteristics and Main Findings of the Included Studies

Author (year), country	Design and sample	Exposure / focus (comparator)	Main findings and outcome
Cho et al. (2021)	Descriptive correlational; path analysis; 223 nurses, 4 university hospitals	Change-related self-efficacy, organizational support, perceived value (None; relationships between variables)	All seven factors tested were directly or indirectly related to user resistance; organizational support for change had an indirect effect of −0.05 on resistance
Alsadi et al. (2022)	Cross-sectional survey; 462 RNs, 9 public hospitals	EHR implementation readiness and adoption (None; descriptive)	Readiness was moderate, while benefit realization and adoption were reported at higher levels
Jedwab et al. (2022)	Qualitative descriptive; thematic analysis guided by a behavioral framework; 158 nurses	Experience after organization-wide EMR implementation (None)	Nurses were still adapting 18 months after go-live; environmental and resource barriers predominated, and motivation shaped system use
Bingham et al. (2021)	Longitudinal time-and-motion observation; hospital nurses	EMR for documentation, physiological observations, and medication management (Pre-implementation vs. 6 months post-implementation)	Quantified how the distribution of nursing activities and care delivery changed after digitalization
Alsyouf et al. (2024)	Cross-sectional; PLS-SEM; 472 nurses, 10 public hospitals	Organizational support, personality traits, performance expectancy, facilitating conditions (None; relationships between variables)	Organizational support, reinforced by performance expectancy and facilitating conditions, was positively associated with continuance intention
Comparcini et al. (2025a)	Cross-sectional; cluster analysis; 551 nurses	Digital health literacy (HLS19-DIGI), education, professional role, digital attitudes (Across clusters and roles)	Nurses with coordinator roles and postgraduate education used digital resources more often and had higher digital health literacy
Lee & Lee (2021a)	Exploratory descriptive; 118 nurses and 12 physicians	Structured vs. semi-structured electronic nursing records (Preferences by profession)	Semi-structured documentation was preferred for recording care and communication; use of records for communication was suboptimal
Ramoo et al. (2022)	Cross-sectional survey; hospital nurses	Perceived usefulness, ease of use, satisfaction with EMR (Subgroups of nurses)	Most nurses reported moderate satisfaction (about 70.9%) with the EMR system
Hendy et al. (2025)	Cross-sectional; 1,217 nurses, 33 public and private hospitals	Knowledge, attitudes, computer skills (Levels of knowledge and attitude)	Knowledge–attitude (r = .72), knowledge–acceptance (r = .67), and attitude–acceptance (r = .79) correlations were significant; computer skills and positive attitudes predicted acceptance
Jarva et al. (2024a)	Cross-sectional; 817 health professionals, 9 organizations	Digital health competence and associated factors (High, moderate, and low profiles)	Three profiles were identified: high (n = 336), moderate (n = 352), and low (n = 129) competence

Note. EMR = electronic medical record; PLS-SEM = partial least squares structural equation modeling; RN = registered nurse.

Thematic Synthesis

Digital competency

Knowledge, attitudes, and digital capability were consistently associated with acceptance. Attitudes and computer skills predicted acceptance (Hendy et al., 2025), digital health literacy varied with education and role (Comparcini et al., 2025) , and roughly one in six professionals had low digital competence (Jarva et al., 2024) .

Management support

Organizational support was positively associated with continuance intention, but mainly in combination with performance expectancy and facilitating conditions (Alsyouf et al., 2024). Resource and environmental constraints dominated barriers after implementation (Jedwab et al., 2022) .

Readiness for change as a linking mechanism

Three findings point to readiness as an intermediate pathway. Change-related self-efficacy and organizational support were associated with user resistance, and the effect of organizational support on resistance was indirect (−0.05), operating through nurses' perceptions (Cho et al., 2021). Readiness was only moderate despite high adoption (Alsadi et al., 2022), and nurses were still adapting 18 months after go-live, with motivation shaping use (Jedwab et al., 2022). No study formally tested readiness as a mediator.

Electronic nursing documentation outcomes

EMR implementation reorganized nursing activities (Bingham et al., 2021), documentation format influenced communication (Lee & Lee, 2021), and satisfaction was predominantly moderate (Ramoo et al., 2022).

Risk of Bias (ROBINS-I)

Risk of bias in the nine non-randomized quantitative studies was assessed with the Risk Of Bias In Non-randomised Studies of Interventions (ROBINS-I) tool, with signaling questions adapted for observational exposure designs (Sterne et al., 2016). Seven domains were judged: confounding (D1), selection of participants (D2), classification of exposures (D3), deviations from intended exposures (D4), missing data (D5), measurement of outcomes (D6), and selection of the reported result (D7). The qualitative study by Jedwab et al. (2022) was not eligible for ROBINS-I and was appraised with the JBI qualitative checklist only. Five studies were judged at moderate overall risk and four at serious risk, mainly because of residual confounding and self-reported outcome measures (Table 5).

Table 5.
Risk of Bias Assessment Using ROBINS-I

Study	D1	D2	D3	D4	D5	D6	D7	Overall
Cho et al. (2021)	M	M	L	L	L	M	L	M
Alsadi et al. (2022)	S	M	M	L	L	M	M	S
Bingham et al. (2021)	S	M	L	M	L	L	M	S
Alsyouf et al. (2024)	M	M	L	L	L	M	L	M
Comparcini et al. (2025)	M	M	L	L	L	M	L	M
Lee and Lee (2021)	S	M	M	L	M	M	M	S
Ramoo et al. (2022)	S	M	L	L	L	M	M	S
Hendy et al. (2025)	M	M	L	L	L	M	L	M
Jarva et al. (2024)	M	L	L	L	M	M	L	M

Note. L = low; M = moderate; S = serious risk of bias. D1 = confounding; D2 = selection of participants; D3 = classification of exposures; D4 = deviations from intended exposures; D5 = missing data; D6 = measurement of outcomes; D7 = selection of the reported result. Jedwab et al. (2022) was not assessed (qualitative design).

DISCUSSION

This review examined readiness for change as a potential mediator between digital competency, management support, and electronic nursing documentation outcomes. Three principal findings emerged. First, management support was associated with documentation outcomes largely indirectly, through nurses' perceptions, readiness, and resistance. Second, digital competency was strongly associated with acceptance but was unevenly distributed across the nursing workforce. Third, readiness and adaptation lagged behind formal adoption, which suggests that readiness is a distinct stage between implementation and effective use. The evidence is thus consistent with a pathway in which competency and support build readiness, which in turn shapes documentation outcomes, although this has not been tested directly.

The indirect role of management support is the strongest evidence for a mediating mechanism. In Korea, organizational support for change reduced user resistance only indirectly, through change-related self-efficacy and perceived value (Cho et al., 2021), and in Jordan its effect on continuance intention depended on whether nurses expected the system to improve performance (Alsyouf et al., 2024). Studies outside this review point in the same direction: ease of use, training, and technical support predicted nurses' satisfaction in Palestine and Ethiopia (Dubale et al., 2023; Farajalla, 2026).

The gap between moderate readiness and high adoption reported in Jordan (Alsadi et al., 2022) indicates that readiness and adoption are not the same construct. High adoption under mandatory implementation does not necessarily reflect genuine readiness, and nurses were still adapting 18 months after an organization-wide rollout, with barriers concentrated in the work environment rather than in individual unwillingness (Jedwab et al., 2022). Resistance to change should therefore be understood as low readiness arising from disruption rather than as individual reluctance (Cheraghi et al., 2023), and readiness should be assessed before, during, and after implementation.

Digital competency was the second major antecedent. The strong correlation between attitudes and acceptance among more than 1,200 Egyptian nurses (Hendy et al., 2025) and the identification of a low-competence group in Finland (Jarva et al., 2024) show that competency cannot be assumed. Digital health literacy was higher among nurses in coordinator roles and those with postgraduate education (Comparcini et al., 2025), so staff nurses in direct-care roles may be the least prepared. Because self-efficacy is a core component of readiness for change, competency may raise readiness by increasing nurses' confidence that they can manage the new system (Cho et al., 2021). Multi-method educational interventions appear most promising for building it (Kulju et al., 2024).

Documentation outcomes themselves were heterogeneous. EMR implementation reorganized nursing time (Bingham et al., 2021), record format affected communication (Lee & Lee, 2021), EHR interaction time is substantial (Pinevich et al., 2021), and documentation burden is linked to burnout (Gesner et al., 2022). Moderate satisfaction in Malaysia (Ramoo et al., 2022) and Indonesia (Aris Winata & Hariyati, 2021) shows that room for improvement remains.

For Indonesian hospitals transitioning to mandatory electronic medical records, implementation should combine readiness assessment, role-specific competency training, visible management support, on-site technical assistance, and monitoring of documentation time and usability after go-live. This review has several limitations. More than half of the reports sought for full-text review could not be accessed, raising the possibility of selection bias, and the search was limited to three databases and English-language publications. Most included studies were cross-sectional and self-reported, none tested mediation statistically, and heterogeneity precluded meta-analysis. Finally, ROBINS-I was developed for intervention studies, so its adaptation to exposure-based designs requires cautious interpretation.

CONCLUSION

The available evidence supports readiness for change as a plausible, but not yet confirmed, mediator between digital competency, management support, and electronic nursing documentation outcomes. Management support influenced resistance and continued use mainly indirectly, digital competency was strongly associated with acceptance, and readiness lagged behind formal adoption. Hospitals should therefore build digital competency and management support while deliberately assessing and strengthening nurses' readiness for change before, during, and after implementation.

REFERENCES

Alsadi, M., Saleh, A., Khalil, M., & Oweidat, I. (2022). Readiness-Based Implementation of Electronic Health Records: A Survey of Jordanian Nurses. Creative Nursing, 28(1), 42–47. https://doi.org/10.1891/CN-2021-0024

Alsyouf, A., Alsubahi, N., Alali, H., Lutfi, A., Al-Mugheed, K. A., Alrawad, M., Almaiah, M. A., Anshasi, R. J., Alhazmi, F. N., & Sawhney, D. (2024). Nurses' continuance intention to use electronic health record systems: The antecedent role of personality and organisation support. PLOS ONE, 19(10), e0300657. https://doi.org/10.1371/journal.pone.0300657

Aris Winata, I. M. N., & Hariyati, Rr. T. S. (2021). Nurse satisfaction level using electronic nursing documentation. Enfermería Clínica, 31, S109–S112. https://doi.org/10.1016/j.enfcli.2020.12.002

Aromataris, E., Lockwood, C., Porritt, K., Pilla, B., & Jordan, Z. (Eds.). (2024). JBI Manual for Evidence Synthesis. JBI. https://doi.org/10.46658/JBIMES-24-01

Arruum, D., Setyowati, Handiyani, H., & Artono Koestoer, R. (2024). Nurses' Job Satisfaction Regarding the Use of Health Technology: A Survey Study. Jurnal Keperawatan Indonesia, 27(1), 47–58. https://doi.org/10.7454/jki.v27i1.1076

Bakhoum, N., Gerhart, C., Schremp, E., Jeffrey, A. D., Anders, S., France, D., & Ward, M. J. (2021). A Time and Motion Analysis of Nursing Workload and Electronic Health Record Use in the Emergency Department. Journal of Emergency Nursing, 47(5), 733–741. https://doi.org/10.1016/j.jen.2021.03.007

Bingham, G., Tong, E., Poole, S., Ross, P., & Dooley, M. (2021). A longitudinal time and motion study quantifying how implementation of an electronic medical record influences hospital nurses' care delivery. International Journal of Medical Informatics, 153, 104537. https://doi.org/10.1016/j.ijmedinf.2021.104537

Cheraghi, R., Ebrahimi, H., Kheibar, N., & Sahebihagh, M. H. (2023). Reasons for resistance to change in nursing: an integrative review. BMC Nursing, 22(1), 310. https://doi.org/10.1186/s12912-023-01460-0

Cho, Y., Kim, M., & Choi, M. (2021). Factors associated with nurses' user resistance to change of electronic health record systems. BMC Medical Informatics and Decision Making, 21(1), 218. https://doi.org/10.1186/s12911-021-01581-z

Comparcini, D., Simonetti, V., Tomietto, M., Pastore, F., Totaro, M., Ballerini, P., Trerotoli, P., Mikkonen, K., & Cicolini, G. (2025a). The Relationship Between Nurses' Digital Health Literacy and Their Educational Levels, Professional Roles, and Digital Attitudes: A Cluster Analysis Based on a Cross-Sectional Study. Journal of Clinical Nursing, 34(7), 2885–2897. https://doi.org/10.1111/jocn.17484

Comparcini, D., Simonetti, V., Tomietto, M., Pastore, F., Totaro, M., Ballerini, P., Trerotoli, P., Mikkonen, K., & Cicolini, G. (2025b). The Relationship Between Nurses' Digital Health Literacy and Their Educational Levels, Professional Roles, and Digital Attitudes: A Cluster Analysis Based on a Cross-Sectional Study. Journal of Clinical Nursing, 34(7), 2885–2897. https://doi.org/10.1111/jocn.17484

Dubale, A. T., Mengestie, N. D., Tilahun, B., & Walle, A. D. (2023). User Satisfaction of Using Electronic Medical Record System and Its Associated Factors among Healthcare Professionals in Ethiopia: A Cross-Sectional Study. BioMed Research International, 2023(1). https://doi.org/10.1155/2023/4148211

Farajalla, F. (2026). Nurses' Work Satisfaction With Electronic Medical Record Use and Associated Facilitators and Barriers in Palestine. Sage Open Nursing, 12. https://doi.org/10.1177/23779608261418586

Gesner, E., Dykes, P. C., Zhang, L., & Gazarian, P. (2022). Documentation Burden in Nursing and Its Role in Clinician Burnout Syndrome. Applied Clinical Informatics, 13(05), 983–990. https://doi.org/10.1055/s-0042-1757157

Hendy, A., Abdelaliem, S. M. F., Osman, Y. M., Al-Kurdi, Z., Zaher, A., Hendy, A., Almarwani, A. M., & Alkubati, S. A. (2025). Understanding Nurses' perspectives on electronic health records in Egypt: Insights from a cross-sectional study. Journal of Pediatric Nursing, 80, e255–e263. https://doi.org/10.1016/j.pedn.2025.01.002

Jarva, E., Oikarinen, A., Andersson, J., Pramila-Savukoski, S., Hammarén, M., & Mikkonen, K. (2024a). Healthcare professionals' digital health competence profiles and associated factors: A cross-sectional study. Journal of Advanced Nursing, 80(8), 3236–3252. https://doi.org/10.1111/jan.16096

Tuomikoski, A., Kääriäinen, M., Meriläinen, M., & Mikkonen, K. (2022). Healthcare professionals' perceptions of digital health competence: A qualitative descriptive study. Nursing Open, 9(2), 1379–1393. https://doi.org/10.1002/nop2.1184

Jedwab, R. M., Manias, E., Hutchinson, A. M., Dobroff, N., & Redley, B. (2022). Nurses' Experiences After Implementation of an Organization-Wide Electronic Medical Record: Qualitative Descriptive Study. JMIR Nursing, 5(1), e39596. https://doi.org/10.2196/39596

Kutney-Lee, A., Brooks Carthon, M., Sloane, D. M., Bowles, K. H., McHugh, M. D., & Aiken, L. H. (2021). Electronic Health Record Usability. Medical Care, 59(7), 625–631. https://doi.org/10.1097/MLR.0000000000001536

Lee, M.-S., & Lee, S. (2021a). Implementation of an Electronic Nursing Record for Nursing Documentation and Communication of Patient Care Information in a Tertiary Teaching Hospital. CIN: Computers, Informatics, Nursing, 39(3), 136–144. https://doi.org/10.1097/CIN.0000000000000642

Longhini, J., Rossettini, G., & Palese, A. (2022). Digital Health Competencies Among Health Care Professionals: Systematic Review. Journal of Medical Internet Research, 24(8), e36414. https://doi.org/10.2196/36414

Maawati, F., Iswanti, D. I., Saifudin, I. M. M. Y., & Dedi, B. (2025). Nurses' Perception towards Electronic Medical Records System: An Integrative Review of Barriers and Facilitators. Iranian Journal of Public Health. https://doi.org/10.18502/ijph.v54i1.17575

Melnick, E. R., West, C. P., Nath, B., Cipriano, P. F., Peterson, C., Satele, D. V, Shanafelt, T., & Dyrbye, L. N. (2021). The association between perceived electronic health record usability and professional burnout among US nurses. Journal of the American Medical Informatics Association, 28(8), 1632–1641. https://doi.org/10.1093/jamia/ocab059

Moy, A. J., Schwartz, J. M., Chen, R., Sadri, S., Lucas, E., Cato, K. D., & Rossetti, S. C. (2021). Measurement of clinical documentation burden among physicians and nurses using electronic health records: a scoping review. Journal of the American Medical Informatics Association, 28(5), 998–1008. https://doi.org/10.1093/jamia/ocaa325

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., … Moher, D. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ, n71. https://doi.org/10.1136/bmj.n71

Ramoo, V., Kamaruddin, A., Nawawi, W. N. F. W., Che, C. C., & Kavitha, R. (2022). Nurses' Perception and Satisfaction Toward Electronic Medical Record System. Florence Nightingale Journal of Nursing, 31(1), 2–10. https://doi.org/10.5152/FNJN.2022.22061

Setyowati, S., Arruum, D., Handiyani, H., & Koestoer, R. A. (2022). Digital Nursing Technology to Achieve Job Satisfaction: A Systematic Review. Open Access Macedonian Journal of Medical Sciences, 10(F), 104–112. https://doi.org/10.3889/oamjms.2022.8289

World Health Organization. (2021). Global strategy on digital health 2020–2025.