Revolutionizing Health Care : Upfront Challenges in Implementation of Distributed Healthcare Management Systems

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Abstract

This study employs a systematic literature review (SLR) to investigate the initial obstacles encountered when implementing distributed healthcare management systems as means to transform healthcare delivery. This article delves into healthcare IT adoption challenges through a multi-faceted lens, evaluating key studies that explore organizational, technological, regulatory, stakeholder, financial, governance, and cultural considerations. We examine leadership pushback, incompatibility, compliance, and cultural adaptation. Longitudinal studies and practical frameworks are proposed for future research; however, the authors acknowledge the technical limitations of the present literature and study selection biases. By addressing these issues, stakeholders may increase healthcare delivery system adoption and technology integration.

Keywords: Distributed healthcare management systems, challenges, systematic literature review

Introduction

The adoption of distributed healthcare management systems changed healthcare services. According to healthcare experts [1-2], these systems are decentralized platforms that employ digital technology to handle patient information, organize appointments, offer telemedicine, and remotely monitor patients. Distributed systems that prioritize efficiency, accessibility, and interoperability differ greatly from centralized solutions. Distributed healthcare management systems have huge promise and are crucial. This research posits that the implementation of these technologies has the potential to Enhance patient outcomes, Reduce healthcare costs and Increase efficiency within healthcare organizations.

Distributed systems that facilitate information exchange and collaboration among healthcare providers, patients, and other stakeholders can afford timely diagnosis, personalized treatment regimens, and continuity of care across settings (Akindote et al., 2023).

However, these unprecedented benefits have drawbacks. Recent evidence shows that distributed healthcare management systems face regulatory, organizational, and technological obstacles (Kelly, Campbell, Gong, & Scuffham, 2020). According to a research survey, 75% of healthcare executives cited interoperability as a major challenge in integrating disparate systems, and 68% cited cybersecurity as a major concern in protecting sensitive patient data (Zhang & Saltman, 2021). This study centers on identifying the initial hurdles associated with implementing remote healthcare management systems. The research aims to solve problems for stakeholders, lawmakers, and practitioners as they can learn how to overcome these complex difficulties and adopt and scale these systems. Thus, this paper conducts a systematic literature review (SLR) to analyze existing research on the challenges of implementing distributed healthcare management systems and to draw key insights and suggest solutions. Following are some key objectives of the research.

Evaluate the Impact of Distributed Healthcare Systems: Assess how distributed healthcare management systems affect patient outcomes, healthcare costs, and operational efficiency.

Identify Key Implementation Challenges: Investigate the regulatory, organizational, and technological barriers in implementing distributed healthcare management systems, focusing on issues like interoperability and cybersecurity.

Examine Stakeholder Perspectives: Understand the concerns and priorities of healthcare providers, policymakers, and practitioners regarding the adoption and scaling of distributed healthcare systems.

Conduct a Systematic Literature Review (SLR): Analyze existing research to summarize the main findings on challenges and potential solutions for distributed healthcare system implementation.

Develop Recommendations for Adoption: Propose actionable insights and solutions for overcoming the challenges of distributed healthcare systems, facilitating smoother integration and scalability across healthcare settings.

Literature Review

The purpose of this section is to summarize all important ideas related to the chosen research topic that other researchers have studied.

Evolution of Healthcare Management Systems

Technology innovation, changing healthcare needs, and new healthcare delivery paradigms have driven the expansion of healthcare management systems, transforming modern healthcare. Through their meticulous documentation of this expedition, the authors shed light on the key milestones in the development of these systems. Healthcare management systems emerged in the early 1960s when computers were first used in healthcare (Sikdar & Guha, 2020).

A research vividly describe how electronic medical records (EMRs) were created in this landmark research (Melton, McDonald, Tang, & Hripcsak, 2021) . These early systems were primitive, but they were far better than paper records and established the

groundwork for healthcare data digitization. Motivated by the limitations of centralized healthcare systems, a new research initiative explores alternative data architectures. These architectures aim to offer greater adaptability in response to the evolving demands of healthcare delivery (Mason, Narcum, & Mason, 2020). The analysis shows that distributed architectures' decentralized data storage and processing are growing. Distributed systems' scalability, adaptability, and resilience let healthcare companies adapt to changing patient care scenarios.

Healthcare management systems have been substantially impacted by major technological advances. Another research examines how relational databases, PCs, and the internet have revolutionized healthcare IT (Turkmen & Can, 2023). Personal computers made computational power more accessible, and relational databases standardized patient data storage and retrieval, allowing healthcare practitioners to integrate technology into their daily routines (Turkmen & Can, 2023). Scholars also study how new technologies are driving the next healthcare management system revolution (Haleem, Javaid, Singh, & Suman, 2022). Graphical abstract of which is shown in Figure 1.

The study reveals cloud computing's transformative potential. This concept offers on-demand data storage, computing power, and IT services. Cloud-based solutions have enabled healthcare businesses to employ distributed designs despite scalability and cost issues. Interoperability protocols HL7 and FHIR are also vital for data integration and exchange across healthcare systems. It is found that healthcare interoperability improves provider communication, data transmission, and health outcomes (Haleem, Javaid, Singh, & Suman, 2022).
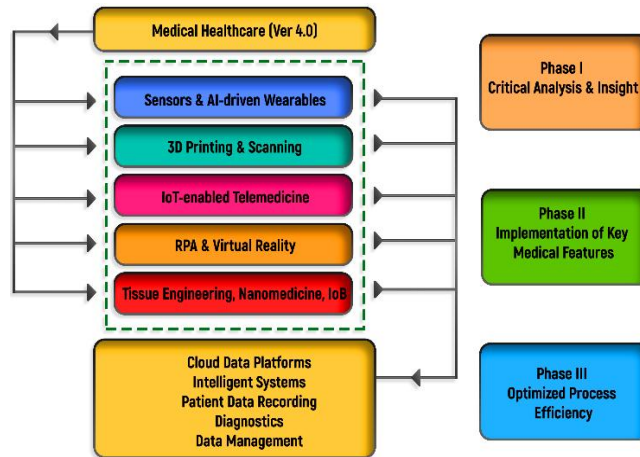
Figure 1: Graphical Abstract

Distributed Healthcare Management Systems

Researcher has contributed useful perspectives on distributed healthcare management system design, implementation, and impact (Judson et al., 2020). After studying scattered healthcare management systems, author examines how decentralized designs have overcome centralized system flaws (Judson et al., 2020). The author concludes with the fact that decentralized systems like patient portals, EHRs, and HIEs promote healthcare communication and collaboration.

Another research found that distributed healthcare management systems benefit patients and organizations (Soman, Ranjan, & Srivastava, 2020). These systems' decentralized data storage and processing improve clinical decision-making, care coordination, and patient record access. According to the author's results, distributed healthcare IT ecosystems decrease data loss and system downtime as compared to centralized ones.

One research pioneering study challenges the positive narrative of decentralized healthcare management systems by examining their potential drawbacks (Amiri et al., 2023). The SLR

study notes that dispersed systems in healthcare are challenging to develop and ensure interoperability. The author's research emphasizes the need for robust governance, defined procedures, and seamless integration to eliminate healthcare data fragmentation.

Another study delves into the potential vulnerabilities introduced by fragmented healthcare data management systems. This investigation likely explores how the dispersed nature of patient information across various systems can increase the risk of data breaches, unauthorized access, and potential privacy violations (Newaz, Sikder, Rahman, & Uluagac, 2021). Figure 2 shows survey results. Distributed systems are more resistant to node or region-specific attacks but also raise data breaches and other security risks. The author believes robust security, encryption, and access limits are needed to secure private patient data in decentralized healthcare systems.
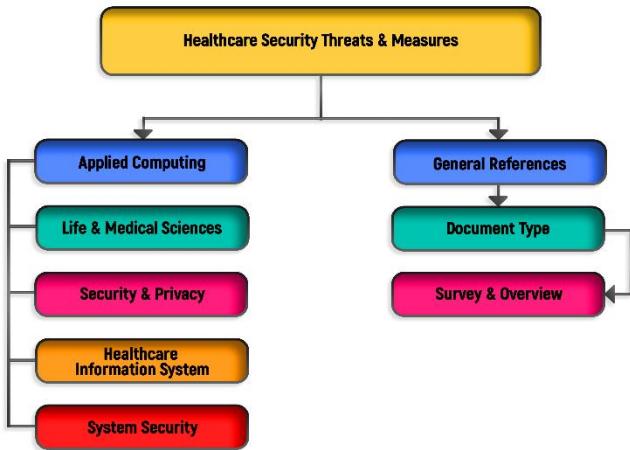

Figure 2: A Survey on Security and Privacy Issues in Modern Healthcare Systems.

A seminal study explores the impact of the Department of Homeland Security's (DHS) policies on healthcare delivery

efficiency and patient outcomes (Ramadan et al., 2023). The author analyses real-world data and case studies to demonstrate that distributed systems may improve healthcare by better-coordinating treatment, reducing medical errors, and enhancing patient pleasure. The author uses medication adherence, patient wait times, and readmission rates to demonstrate the benefits of dispersed healthcare management systems.

Conversely, research suggests that fragmented healthcare management systems may offer potential cost savings, efficiency gains, and even revenue generation opportunities for healthcare organizations (Ramadan et al., 2023). The author compares costs and benefits and calculates ROI to illustrate how scattered healthcare management systems improve clinical outcomes and financial sustainability.

Another study investigates the interoperability challenges within disparate healthcare management systems. (Villarreal et al., 2023). The paper examines data exchange difficulties and solutions among systems, healthcare providers, and outside stakeholders. By extensively studying integration protocols, data formats, and interoperability standards, the study aims to identify and solve information-sharing barriers. The author studies interoperable interfaces and standard communication protocols.

An additional investigation explores the potential of fragmented healthcare management systems to facilitate patient engagement in their treatment decisions (Okolo et al., 2024). The study examines the aesthetics and functionality of patient-facing interfaces like PHRs and mobile health applications in distributed systems. Author discusses how patients may now communicate

with their doctors in real-time, see their medical information, and track their progress (Okolo et al., 2024).

Through an evaluation of patient satisfaction, health literacy, and self-management behaviors, this study aims to elucidate the impact of distributed healthcare systems on patient agency, health outcomes, and the provider-patient relationship. Participatory approaches and user-centered design principles are used in the research to enhance distributed healthcare management system user experiences and patient-centered care (Okolo et al., 2024).

Technological Foundations of Distributed Healthcare Management Systems

Research examines the technological foundations of distributed healthcare information management systems to examine the technologies driving healthcare IT innovation (Birje & Hanji, 2020). Due to their revolutionary influence on healthcare data storage, processing, usage, data analytics, blockchain, the IoT, and cloud computing are at the center of the discourse. Cloud computing is vital for decentralized healthcare management systems. Cloud-based solutions can help healthcare businesses manage their IT infrastructure more efficiently (Birje & Hanji, 2020). These systems leverage scalable, on-demand computing and storage. Numerous healthcare systems have been discussed by various researchers, including EHRs and HIEs are going to the cloud to simplify patient data transmission across scattered locations (Pai, Ganiga, Pai, & Sinha, 2021) (Mamuye et al., 2022). As cloud-hosted privacy, data security, and regulatory compliance concerns persist, effective security standards and data governance systems are needed.

The Internet of Things (IoT) has changed healthcare with remote patient administration, tailored treatment, and real-time monitoring. Another research examines how medical implants, wearable sensors, and other IoT devices provide real-time data collection and analysis for healthcare practitioners (Azodo, Williams, Sheikh, & Cresswell, 2020). Blockchain technology can store financial and medical records immutably, transparently, and securely.

Researcher explores blockchain-based medical supply chain management and EMR technologies to enhance healthcare data integrity, audibility, and traceability (Vishwakarma, Dangayach, Meena, Gupta, & Luthra, 2022). Data analytics is being used in healthcare to enhance patient outcomes, drive clinical decision-making, and get insights from enormous data sets.

Past research also discusses how healthcare businesses may use machine learning, predictive modelling, and natural language processing to get insights from structured and unstructured data (Williams & Petrovich, 2023). The author uses clinical decision support systems and population health management platform case studies to show how data analytics helps physicians identify trends, predict risks, and personalize treatment regimens.

Upfront Challenges In Implementation

Research shows that remote healthcare management systems face major organizational challenges (Paul, Maglaras, Ferrag, & Almomani, 2023). One of the key concerns discusses healthcare companies' resistance to adapt. People's intolerance to change, skepticism about new technology's utility, and worries about disturbing habits contribute to this resistance. Cultures hinder collaboration and technical project alignment via

hierarchical structures, communication impediments, and professional rivalries (Paul, Maglaras, Ferrag, & Almomani, 2023).

Another research reveals that organizational dynamics affect implementation (Bentley et al., 2023). Author uses real-world examples and statistics to demonstrate how cultural barriers and unwillingness to change might hinder remote healthcare management system implementation. Healthcare personnel may reject new technology due to concerns about higher effort, autonomy loss, or adaption to foreign systems. If professional hierarchies and cultural norms hinder collaboration and group buy-in, implementation may be more difficult (Bentley et al., 2023). Understanding the reasons for cultural resistance and change is essential to overcome them. Research emphasizes proactive change management practices that pivot stakeholder participation, communication, and education (Adekugbe & Ibeh, 2024). By including important stakeholders early in implementation, healthcare institutions may encourage change and eliminate opposition. By creating a common vision and ownership, personnel may better align their personal and professional goals with the distributed healthcare management systems (Adekugbe & Ibeh, 2024).

Table 1 outlines some additional Challenges discussed in Implementation of Distributed Healthcare Management Systems.

Table 1: Critical Analysis

Year & Citation	Paper Title	Challenges Discussed	Limitations
2024 (Babawarun, Okolo, Arowoogun, Adeniyi, & Chidi, 2024)	"Healthcare managerial challenges in rural and underserved areas: A Review"	Stakeholder engagement, governance issues	Lack of detailed technological solutions; mainly addresses administrative challenges.
2023 (An, Rahman, Zhou, & Kang, 2023)	"A Comprehensive Review on Machine Learning in Healthcare Industry: Classification, Restrictions, Opportunities and Challenges"	Resistance to change, organizational culture barriers	Limited focus on specific healthcare applications, with broad generalizations across domains.
2021 (Yaqoob, Salah, Jayaraman, & Al-Hammadi, 2021)	"Blockchain for Healthcare Data management: Opportunities, challenges & Future Recommendations"	Resistance to change, organizational hierarchy	Limited exploration of real-world implementation, with few case studies or empirical data.
2021 (Ghazal et al., 2021)	"IoT for Smart Cities: Machine Learning	Interoperability, data security concerns	Primarily focuses on urban settings, with

	Approaches in Smart Healthcare— A Review"		limited applicability to rural or underserved areas.
2021 (Wu, Tang, Kuo, Yip, & Chau, 2024)	"Healthcare 5.0: A secure and distributed network for system informatics in medical surgery"	Interoperability, scalability	Focused on surgical applications, which may limit broader applicability in healthcare.

Research Gap

Even while the literature provides important insights into the challenges of deploying distributed healthcare management systems, there is no systematic study that synthesizes and recommends integrated solutions. Some studies have examined organizational, technological, and legal barriers, while others have focused on data security or change resistance. However, few studies take a broad perspective of these issues including technical ones and attempt to tackle them all at once.

This research fills that knowledge gap by methodically analyzing the literature and combining its results into a comprehensive framework. Combining concepts from organizational behavior, information technology, healthcare management and policy, this study seeks to understand dispersed healthcare management system implementation issues.

The research also provides evidence-based and best-practice remedies to the issues raised. It uses real-world case studies,

factual data, and expert viewpoints to advise healthcare organizations, policymakers, and technology vendors on distributed healthcare management system installation and adoption. The study combines academic approaches to bridge theory and practice. Its ultimate purpose is to help point out design challenges to approve remote healthcare management systems.

Methodology

This section presents an overview of the method employed.

Research Framework

This research implements a Systematic Literature Review (SLR) to discover, select, and assess relevant material on scattered healthcare management system implementation challenges. Systematic literature reviews (SLRs) provide transparency, reproducibility, and comprehensiveness by searching, filtering, extracting, and synthesizing pertinent material (García-Holgado, Marcos-Pablos, & García-Peñalvo, 2020). Figure 3 illustrates the rigorous search and selection process using a framework diagram. This framework lists SLR's key phases as data extraction, synthesis, database identification, search term application, search result filtering by inclusion and exclusion criteria, and more. The framework guides researchers through the review process, helping them remain on track and choose studies carefully.
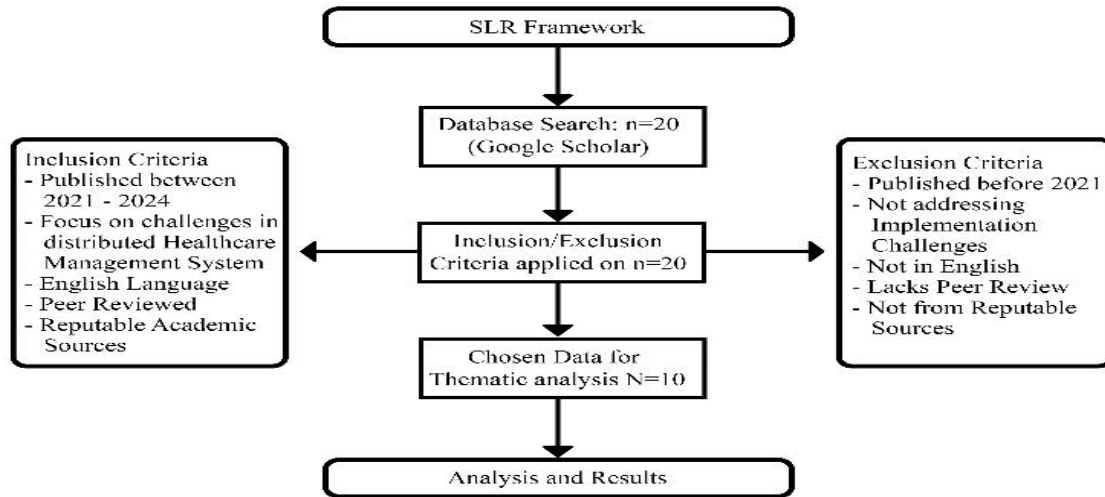
Inclusion and Exclusion Criteria

The inclusion criteria are;

- Studies published between 2021 and 2024.
- Studies focus on challenges related to the implementation of distributed healthcare management systems.
- Studies available in the English language.
- Studies published in peer-reviewed journals, conference proceedings, or reputable academic sources.

The exclusion criteria are;

- Studies published before 2021 or after 2024.
- Studies do not address the challenges of implementing distributed healthcare management systems.
- Studies not available in the English language.
- Studies lacking peer review or not published in reputable academic sources

Search Strategy

The table below shows extensive search strategy opted for relevant research. Google Scholar, ScienceDirect, IEEE Xplore, and PubMed will be searched. The searched terms included "distributed healthcare management systems," "implementation challenges," or

"healthcare IT," "health informatics," "organizational factors," "technological barriers," & and "regulatory challenges" to find. A comprehensive search and selection yield 20 studies. Ten will be removed since they do not meet the requirements, but ten more will be added to cover the literature.

Table 2: Searched Keywords

Keyword(s)	Description
"Distributed healthcare management systems"	Focus on distributed healthcare management systems
"Implementation challenges"	Addressing challenges related to implementation
"Healthcare IT"	Pertaining to information technology in healthcare
"Health informatics"	Involving the use of informatics in healthcare
"Organizational factors"	Considering organizational aspects
"Technological barriers"	Focusing on technological challenges
"Regulatory challenges"	Addressing regulatory hurdles

Selected Studies

The table below shows selected studies criteria in detail.

Table 3: Selection Criteria

Year & Citation	Journal	Impact Factor	Scopus
2024 (Tariq, 2024)	Advances in Healthcare Information Systems and Administration	3.8	Yes
2024 (Ijiga et al., 2024)	International Journal of Biological and Pharmaceutical Sciences Archive	3.7	Yes
2024 (Daniel et al., 2024)	Frontiers in Psychiatry	3.1	Yes
2023 (Ezzati, Mosadeghrad, & Jaafaripooyan, 2023)	BMC Health Services Research	4.2	Yes
2023 (Rani, Chauhan, Kataria, & Khang, 2023)	Studies in Big Data	3.6	Yes
2023 (Wenhua et al., 2023)	Electronics	3.9	Yes
2023 (Petkovic et al., 2023)	Research Involvement and Engagement	3.4	Yes
2023 (Akbulut et al., 2023)	Sensors	3.5	Yes

2023 (Wasti et al., 2023)	Health Research Policy and Systems	3.3	Yes
2022 (Tegenborg, Fransson, & Martinsson, 2022)	Nursing Open	3.2	Yes
2020 (García-Holgado, Marcos-Pablos, & García-Peñalvo, 2020)	International Journal of Interactive Multimedia and Artificial Intelligence	2.5	Yes

Findings and Trends

After the methodology is employed, a thorough search found research articles on organizational resistance, technological challenges, regulatory hurdles, stakeholder engagement, financial constraints, governance issues, cultural adaptation, and technology integration from last five years (2021 to 2024). The following main themes emerged from the articles selected;

1. Organizational Resistance
2. Technological Challenges
3. Regulatory Challenges
4. Stakeholder Engagement Challenges
5. Financial Constraints
6. Governance Issues
7. Cultural Adaptation

Table 4 presents themes and subthemes corresponding to the studies included. Each theme captures a particular element of the difficulty in adopting scattered healthcare management

systems, while each subtheme details various issues within each theme. The table highlights key trends and patterns that emerged for the research. The included studies are cross-referenced to demonstrate their relevance to each main theme.

Table 4: Emerging Key Themes and Subthemes

Main Themes	Subthemes	Studies Selected
Organizational Resistance	Organizational culture barriers	2024 (Tariq, 2024)
	Lack of leadership support	2023 (Ezzati, Mosadeghrad, & Jaafaripooyan, 2023)
	Resistance to change	2023 (Ezzati, Mosadeghrad, & Jaafaripooyan, 2023)
Technological Challenges	Interoperability issues	2023 (Rani, Chauhan, Kataria, & Khang, 2023) (Wenhua et al., 2023)
	Data security concerns	2023 (Wenhua et al., 2023)
Regulatory Challenges	Compliance challenges	2024 (Ijiga et al., 2024)
	Legal and ethical considerations	2024 (Ijiga et al., 2024)

Stakeholder Engagement challenges	Lack of user involvement	2023 (Petkovic et al., 2023)
	Communication breakdowns	2023 (Petkovic et al., 2023)
Financial Constraints	Budgetary limitations	2023 (Akbulut et al., 2023)
	Cost-benefit analysis challenges	2023 (Akbulut et al., 2023)
Governance Issues	Policy ambiguity	2023 (Wasti et al., 2023)
	Inadequate governance structures	2023 (Wasti et al., 2023)
	Regulatory fragmentation	2023 (Wasti et al., 2023)
	Cross-cultural communication	2024 (Daniel et al., 2024)
Cultural Adaptation	Resistance to new workflows	2022 (Tegenborg, Fransson, & Martinsson, 2022)
	Diversity sensitivity	2022 (Tegenborg, Fransson, & Martinsson, 2022)

Discussion

This section critically discusses each theme and pattern to understand challenges faced upfront in the implementation of a distributed health management system.

Organizational Resistance

Lack of leadership support, unwillingness to change, and deeply embedded organizational culture have been shown to hinder distributed healthcare management system adoption. It is noted that healthcare institutions need leadership to innovate. Insufficient high management support may destroy attempts to incorporate new technologies. Healthcare workers generally resist change due to fears about losing control, uncertainty, and professional autonomy (Tariq, 2024).

These researches show how companies' unwillingness to change might hinder their usage of distributed healthcare management systems, reducing their agility and responsiveness to new technology. Cultural norms, beliefs, and values influence innovation, transformation, and technological adoption (Ezzati, Mosadeghrad, & Jaafaripooyan, 2023). It is also discussing workplace culture barriers and the need for cultural transformation to encourage technology adoption (Tariq, 2024).

By critically examining these studies, one can discover how complicated organizational resistance is and what it entails for distributed healthcare management systems. Executive apathy hinders organizational efforts and makes individuals averse to change, making cultural and technical barriers harder to overcome. Healthcare businesses must prioritize leadership commitment, foster an innovation culture, and apply focused change management to adopt dispersed healthcare management systems.

Technological Challenges

Technology challenges like data security and interoperability make remote healthcare management solutions difficult to adopt. Research also focuses that healthcare data exchange methods are fragmented and unstandardized, which hinders interoperability (Rani, Chauhan, Kataria, & Khang, 2023). These issues hinder system integration, making patient data sharing and treatment coordination tougher. Stakeholders should prioritize HL7, FHIR, DICOM, integration frameworks, and data normalization to address interoperability issues.

Organizations considering remote healthcare management systems must address data security (Wenhua et al., 2023). A data breach or privacy issue threatens patient privacy, data integrity, and the organization's reputation. These findings emphasize the need for encryption, access limitations, and audit trails in securing sensitive health data. GDPR and HIPAA necessitate strong data protection rules, complicating security management.

Critical examination shows the considerable effects of these technical challenges on healthcare institutions, practitioners, and people. Interoperability issues prevent distributed healthcare management systems from improving patient outcomes and professional workflows.

Data security vulnerabilities pose existential threats to the organization's legitimacy and patients' trust; thus, they must be prevented to ensure regulatory compliance. Addressing these difficulties requires standardized solutions, best practices, and patient privacy and data security in a digitalized healthcare context. Regulatory organizations, healthcare providers, technology suppliers, and politicians must collaborate.

Regulatory Challenges

Compliance, legal, and ethical constraints hinder decentralized healthcare management system adoption. HIPAA and GDPR are part of the complex regulatory system that oversees healthcare data management (Ijiga et al., 2024). These studies show that legal compliance is challenging in data privacy and security, interoperability, and data sharing.

Healthcare companies face uncertainties, many laws, and shifting compliance requirements in the regulatory environment. Stakeholders need regulatory knowledge, robust compliance programs, blockchain, and encryption to ease compliance. The research of distributed healthcare management system deployment also addresses legal and ethical problems such patient rights, informed consent, and data ownership and responsibility (Ijiga et al., 2024).

Technology-driven healthcare innovation raises ethical questions including patient autonomy, privacy, and fairness. Critically evaluating these legal obstacles indicates their considerable influence on decentralized healthcare management system implementation. Compliance difficulties increase regulations and hamper healthcare delivery innovation and interoperability.

Data stewardship, patient rights, and healthcare and technology providers' ethics are ethical and legal issues. Patients, healthcare providers, technology vendors, and regulatory agencies must collaborate to establish ethical and responsible healthcare technology use standards to address these issues.

Stakeholder and Financial Constraints

Financial restrictions and stakeholder engagement hamper scattered healthcare management system deployment. Lack of user interaction and communication may restrict these technologies' implementation (Petkovic et al., 2023). To guarantee that technology satisfies end-user demands and supports organizational objectives, users must engage.

Deployment without user engagement may lead to resistance, poor acceptance, and inefficient system utilization. Effective communication helps overcome obstacles, settle issues, and collaborate with stakeholders (Petkovic et al., 2023). Miscommunication may hinder implementation and make project goals harder to attain.

Budget and cost-benefit analysis concerns may limit rollout (Akbulut et al., 2023). Insufficient resources may restrict implementation scope, quality, and scalability. With limited resources and conflicting aims, businesses may struggle to support technological efforts. Cost-benefit analyses for dispersed healthcare management systems are problematic (Akbulut et al., 2023).

Intangible advantages, long-term effects, and implementation challenges make healthcare technology adoption ROI difficult to assess. These challenges greatly hinder decentralized healthcare management system deployment. Without stakeholders and users, organizations may face opposition, adoption obstacles, and poor results. Communication issues prevent collaboration, decision-making, and agreement.

Governance and Cultural Challenges

Governance and cultural adaptation are the biggest challenges to deploy scattered healthcare management systems. Policy uncertainty, inadequate governance frameworks, and regulatory fragmentation may hinder technology adoption and innovation (Wasti et al., 2023). Inconsistent legislation, compliance concerns, and implementation delays make distributed healthcare management systems less viable. Healthcare businesses require clear regulatory and governance frameworks to deploy new technology. Without good governance, businesses may struggle to meet legal and ethical standards and navigate complex regulatory environments.

Diversity sensitivity, cross-cultural communication issues, and process resistance can influence implementation (Tegenborg, Fransson, & Martinsson, 2022). Resistance to change may hinder the adoption of new processes, workflows, technologies, and organizational transformation. Language, communication style, and cultural norm differences might make it difficult for various healthcare workers to collaborate.

Developing and using technology without diversity may aggravate health disparities and injustices by failing to fulfil patient group needs (Daniel et al., 2024). These issues severely impact decentralized healthcare management system implementation. Policy ambiguity, poor governance, and regulatory fragmentation may produce inefficiency, confusion, and compliance issues. Cross-cultural communication, cultural sensitivity, and resistance to new approaches may impact user acceptance, engagement, and technological efficacy.

Conclusion and Future Work

Finally, this research examined the upfront challenges to deploy distributed healthcare management systems using a systematic literature review (SLR). This Research examines the challenges encountered by healthcare professionals, administrators, and other key stakeholders during the implementation of new technologies with the potential to significantly improve patient care. This study identified a multifaceted range of challenges associated with the implementation of disparate healthcare management systems. These challenges included cultural resistance, interoperability limitations, regulatory hurdles, and difficulties with organizational change management. The findings underscore the complexity inherent in such endeavors and the critical need for holistic solutions.

However, the study's limitations must be acknowledged. Technical constraints include missing new issues or trends by relying on prior studies. Study selection criteria and the synthesis process may add bias, compromising scientific rigor and impartiality. To deepen and broaden this field, future studies should concentrate on many key topics. Dispersed healthcare management systems need longitudinal research to assess their long-term impact. Creating frameworks, standards, and best practices tailored to the issues found may also aid adoption. By studying machine learning and artificial intelligence, healthcare administration may solve long-standing issues and innovate.

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