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Emerging Technologies and Their Role in Facilitating Collaboration in Healthcare Teams: A Systematic Review

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ABSTRACT

Background: It is apparent that drives adoption of emerging technologies in the scientific and medical field can make a large positive difference in the results of collaboration with patients' treatment teams with fast-growing improvements in value, safety and effectiveness results. Despite such significant progress, the ways such technologies can support collaborative work of the teams considered inadequate, particularly in the context of highly interdisciplinary health care organizations.

Aim: This systematic review seeks to map identifiedemerging technologies in healthcare settings influence team collaboration in comparison to the traditional methods from 2020 – 2024.

Method: Therefore, the present literature search aimed at identifying the publications from 2015 to 2024. , out of ten identified studies, ten relevant papers selected according to methodological quality, relevance, and the focus on the technology adoption in the healthcare team context. Information obtained on the kinds of technologies that adopted, the methods of technology integration as well as the resultant effectiveness.

Results: The study shows that knowledge management enablers, as are artificial intelligence, telemedicine, and collaborative platforms support communication, coordination, and decision-making in healthcare teams. However, there were also c critical success factors that considered as constraints; they include data privacy issues, employees' resistance to change, demands on consistent training among others.

Conclusion: Technological advancement is continuing to have an impact on the members of a healthcare team, although more research required establishing the sustainability and general applicability of technological development in various aspects of healthcare delivery. Mitigating implementation issues will therefore be very important in enhancing the utilization of these technologies in enhancing patient care.

Keywords: Emerging Technologies, Healthcare Teams, Collaboration, Telemedicine, Artificial Intelligence, Interdisciplinary Communication.

Introduction

Advanced technologies have greatly enriched the clinic and have become an essential tool in present-day healthcare to develop new methods to enhance the inputs and outputs of healthcare (Mbunge et al., 2021). In the last twenty years, numerous technology developments have influenced the medical care system by turning conventional health promotional strategies HPS models into innovative integrated platforms for interdisciplinary cooperation within the healthcare service HCS teams (Embrett et al., 2020). These technologies have not only improved the communication but also improved health care by improving the workflow patterns so that the health care providers can provide more efficient health care in complex and ever changing health care systems (Cerchione et al., 2023). In this respect, the use of advanced technologies has become more important for care redesign and enhancing inter-professional practice using Artificial Intelligence, telemedicine, Virtual Reality, collaboration software and many others (Wang et al., 2022).

This paper shows that the blending of several advanced technologies in healthcare practice has helped to overcome several traditional issues in team-based care (Petersson et al., 2022). Lack of coordination, long time to decision-making and poor access to the patient data have been the major issues when caring for patients. The barriers affecting the implementation of value in the healthcare setting eliminated by adopting technologies including the EHR and telehealth platforms (Nguyen et al., 2020). This is especially important when different professional groups wherein the exchange needs to happen more frequently to inform decision-making deliver care. For example, telemedicine enshrined effective patient management by different teams that otherwise spread across different regions (Järvelä et al., 2023).

Information technology has otherwise helped collaboration by offering artificial intelligence and machine learning to provide forecast and decision-making (Seeber et al., 2020). Such technologies allow the examination of a great volume of clinical data in order to discover patterns, estimate outcomes, and suggest individualized solutions (Galpin et al., 2021). AI-driven technologies enrich the human decision-making, which means that associates of a healthcare team make their decisions based on the same approach and knowledge (Kipkosgei et al., 2020). Hub-like implementations of machine learning algorithms into clinical workflows also relieve cognitive workload in the decision making process that emanates from other demanding institutional tasks delegated to the healthcare givers so that they concentrate on patient care while the algorithms complete valid and timely data processing (Dicuonzo et al., 2023).

The use of new technologies as application and support tools in collaborative care is not a uniform approach around the world (Talal et al., 2020). According to the data, US has the highest levels of EHR implementation equal 90% and telemedicine implementation equal 75% (Kumar et al., 2021), while Canada, UK, and Australia also show high level of AI enhanced systems and telemedicine implementation, where more than 70% of healthcare facilities use it. Among the European countries, near ubiquity of EHR use observed in countries with advanced digital healthcare technology indices such as Norway, Iceland and Switzerland (Ajegbile et al., 2024). Eastern countries' advancement is somewhat mediocre; China has spent over $11 billion on digital health, and has 80% of telemedicine; Japan uses EHR in 70% of hospitals alongside with robotics (Khang et al., 2023). India and Pakistan represent new trends; telehealth increased by more than 200% in India during the pandemic, while the rate of increase did not exceed 25% in Pakistan (Balasubramanian et al., 2021). Many Middle Eastern countries, especially Saudi Arabia, have achieved significant levels of progress due to vision 2030, where seventy-five percent of health care institutions have integrated telemedicine, new artificial intelligence technologies (Bachynsky et al., 2020). Hence, Saudi Arabia's endeavor rated as one of the rather successful among the Arabic nations with providing the benchmark for the digital health transition in the regions that could still face infrastructural issues (Wisniewski et al., 2020).

Problem Statement

Thestudy also highlighted that, despite the progressive adoption of novel digital technologies in health services provision, large gaps remain in team integration (Carroll& Conboy, 2020). Lack of clear communication structure, diverse level of digital skills and, different technology adoption status of the organizations restrict the benefit of these technologies on inter-professional collaborative practice fully. Moreover, inadequate resource mobilization coupled with poor infrastructure within the developing worlds enhances such gaps hence dwindling health standards. Whereas AI, telemedicine and Electronic Health Records considered advanced solutions to address these gaps, their real-world application is not standardized and not subjected to a holistic assessment. Thus, this appears to underscore the importance of evaluating the applicability of these technologies to removing the barriers to collaboration within various healthcare organizations.

Significance of the Study

The study bears importance to the extent that it may help reveal the use of new technologies in enhancing cooperation amongst the healthcare team (Hilty et al., 2021). Thus, the findings of the study put meaningful

suggestions into understanding various tasks, facilitating work processes and multimethod cooperation at healthcare settings. Moreover, it raises the issue of equal access to technologies as well as equals distribution and integration of resources. They will help policymakers, healthcare administrators, and practitioners to use these innovations for enhancing patients' outcomes minimizing the wastage of resources and enhance the quality of the healthcare delivery systems in diverse countries.

Aim of the Study

The research objective of the study is to assess the integration of contemporary technologies in communication processes in healthcare teams through establishing their ability to optimize teamwork communication, decision-making, and Teamwork coordination (Ajegbile et al., 2024). Its aims are to find out what kind of technologies seen as promising, evaluate the effectiveness of mentioned technologies in various healthcare contexts, and offer the best practices for the improvement of the implementation process based on the current literature. In doing so, it hoped that this study helped to fill these gaps and address these barriers towards the emergence of a more synthesized framework for the effective use of technology in collaborative care practices.

Methodology

Research Question

Research Question		How emerging technologies in healthcare settings influence team collaboration in comparison to the traditional methods from 2020 – 2024?
Population	P	Healthcare team in clinical and healthcare setting.
Intervention	I	Emerging technologies in healthcare (e.g. electronic health records (EHRs), artificial intelligence (AI), telemedicine, and collaboration software)
Comparison	C	Traditional celebrative method.
Outcome	O	Improved communication and team coordination
Timeframe	T	Over the past five years (2020 to 2024).

The study explores how emerging technologies, including EHRs, AI, telemedicine, and collaboration software, have influenced healthcare team collaboration compared to traditional methods over the past five years (2020–2024). It focuses on their impact in clinical and healthcare settings, assessing improvements in communication and team coordination.

Selection Criteria

Inclusion Criteria

1. The articles reviewed for this literature review include articles published between 2020 and 2024.
2. Scholars involving information technology particular in the context of developing innovations in healthcare facilities (such as EHRs era and AI, telehealth, group software).
3. Researches that includes health care teams and other health care professionals in clinical, hospital or other context.
4. Working papers and academic articles on effectiveness of technologies in communication within a team and integration within a group.
5. Scientific articles in either peer-reviewed journals or systematic and meta-analysis or qualitative and quantitative research articles.
6. Cross cultural research that done in the western as well as eastern heath care settings**.**

Exclusion Criteria

1. All studies published before the year 2020 or after the year 2024.
2. Other studies that look at technologies that do not concern health care cooperation.
3. Some research that use samples disparate from either non-healthcare practitioners or subjects that are not in some related category.
4. Studies that contained minimal data, low methodological quality or that originated from non-peer-reviewed source.
5. Research focused on single user technology exposure but lack consideration with respect to effective teamwork.

Database Selection

Similarly, the databases used in this research comprises PubMed, Scopus, Web of Science, and CINAHL as these database sources provide a huge database of quality and peer-reviewed articles within the health and medical fields. These databases chosen because they would offer the opportunity to find a large number of research studies concerning the use of new technologies in healthcare domain. Furthermore, Google Scholar and Cochrane library

utilized to include grey literature and other source that can provide a broader perspective of the research. The present databases help to select the literature from various healthcare systems, both Western and Eastern countries, thereby making necessary revisions and enhancements to the reviewed literature.

Data Extracted

Specific information gathered from the selected papers included year of publication, country of study, and authors. Information about the method of the study also highlighted; whether it was a qualitative, quantitative or mixed method research. Regarding the technology types under consideration, information collected regarding the forms of emerging technologies that reviewed, such as electronic health records, artificial intelligence, telemedicine, and collaborative tools as well as how they implemented in healthcare organizations. Quantitative outcome measures including changes in coordination between teams, decision making, and teamwork as well as qualitative functions like statements on the nature of the healthcare organization (for example, hospitals, clinics, in rural or urban areas) were extracted. Moreover, data related to samples, methods, findings and the use of these technologies in promoting healthcare HC teams integration and the perceived difficulties were taken into account in the documentation.

Syntax

Primary **Syntax**
"Emerging Technologies" OR "Healthcare Technologies"
AND
"Team Collaboration" OR "Healthcare Teams"
AND
"Communication" OR "Coordination"
AND
"Electronic Health Records" OR "Telemedicine" OR "Artificial Intelligence" OR "AI"
AND
"Clinical Settings" OR "Healthcare Settings"
AND
"2020" OR "2021" OR "2022" OR "2023" OR "2024"
Secondary Syntax
"EHR" OR "AI" OR "Telemedicine"
AND
"Healthcare Team" OR "Interdisciplinary Collaboration"
AND
"Improved Communication" OR "Team Coordination"
AND
"Healthcare Setting" OR "Clinical Settings"
AND
"Impact of Technology" OR "Digital Health"

The first syntax is based on seeking for articles regarding the application of emerging healthcare technologies like EHRs, AI, and telemedicine, and their implications for team work and communication in clinical context for the period of 2020-2024. The second level filters the search result to identify the technology spectrum and its impact on teamwork and communication within and across the healthcare profession disciplines.

Literature Search

The literature search included the use of prominent academic databases including; PubMed, Scopus, Web of Science, and CINAHL As for the primary and secondary sýn taxonomies to obtain literature on emerging technologies and their functions in enhancing collaborative work in healthcare teams. The search was carried out based on articles published between 2020 and 2024 considering the most recent and relevant studies. Moreover, the sources that were in the google scholar and Cochrane library searched to obtain the grey literature and other sources. The search strategy was intended to incorporate studies on the implementation of technologies including; AI, EHRs, and telemedicine on communication and care coordination in a team of health professionals.

Table 2:*Databases Selection*

No	Database	Syntax		Year	No of Researches
1	PubMed	Syntax (Primary) and (Secondary)	1	2020 – 2024	397
2	Scopus		2		277
3	Web of Science				158
4	CINAHL				89

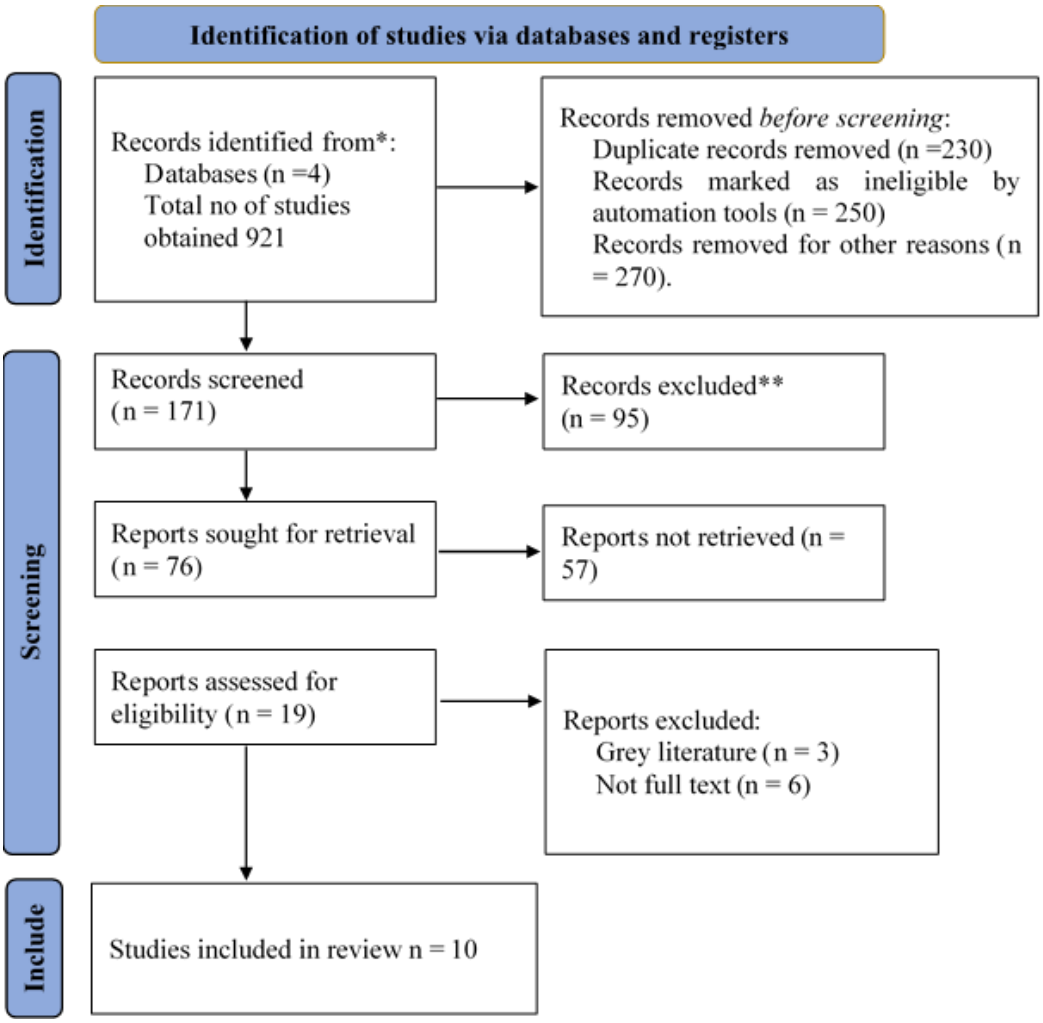
Table 2 shows the identified databases for the literature search and the applied search syntax with the amount of studies found in each database for the years 2020-2024. The largest number of articles identified in PubMed (397), while Scopus and Web of Science contained 277 and 158, respectively, and CINAHL listed 89 articles.

Selection of Studies

Review aimed to synthesize the current literature about the use of emerging technologies to support collaboration in healthcare teams, the included studies chosen according to previously stated inclusion criteria, including publication between 2020 and 2024. The article focused on peer-reviewed researches only, which conducted with healthcare teams in clinical or healthcare environment and concerned technologies such as EHRs, AI, telemedicine and collaboration software. Included papers also assessed according to methodological quality and their focus on communication and coordination. Any research that failed to meet these criteria or that reported insufficient data on the effects of new technologies on collaborative working in HC teams removed from the analysis.

Figure 1 PRISMA Flowchart

PRISMA flow chart indicates the number of articles searched and screened alongside the actual number of studies that were eligible to review. It also shows why some posts excluded at each stage: irrelevant topics, duplicates, and studies with insufficient data. The total of identified by authors studies included in the systematic review is stated here, following the PRISMA flowchart for systematic reviews.



This systematic review study selection demonstrated in detail in the PRISMA 2020 flow diagram and it identified 921 records from four databases. Another 270 records also taken out of the analysis for other reasons once 170 records that essentially were duplicates of the records removed in a previous step because they identified 230 times and 250 records automatically flagged as ineligible also taken out. Screening was done on the 171 records

which were remaining against them 95 records were rejected. In all, 76 documents requested and 57 not retrieved. Full texts of 19 reports screened for eligibility and nine of them screened out on grounds such as grey literature (3) and incomplete full text (6). Finally, the review consisted of 10 studies.

Quality Assessment of Studies

The methodological quality of the studies presented in this systematic review assessed based on the established criteria to evaluate the quality of the concerned research. Every study evaluated regarding the criteria like study type, sample size, data collection and analyzed factors, and the outcomes of interest. In addition, the other risk of bias rated in component such as participants' selection, blinding, and the control of confounding factors. Thus, the field studies with clearly stated objectives and method and high-quality data regarded as more satisfactory, while those with numerous restrictions or methodological pitfalls rejected. In this way, high standards of quality met with the aim to include only such articles and papers that rendered sufficiently strong evidential base to qualify for the final review.

Table 3: *Assessment of the literature quality matrix*

#	Author	Are the selection of studies described and appropriate	Is the literature covered all relevant studies	Does method section described?	Was findings clearly described?	Quality rating
1	Krishnamoorthy et al(2023)	Yes	Yes	Yes	Yes	Good
2	Cartier et al (2020)	Yes	Yes	Yes	No	Fair
3	Bransen et al (2022)	Yes	Yes	Yes	Yes	Good
4	Chandra et al (2022)	Yes	No	Yes	Yes	Fair
5	Javedet al (2020)	Yes	Yes	Yes	Yes	Good
6	Arslanet al (2022)	Yes	Yes	Yes	Yes	Good
7	Buljac-Samardzicet al (2020)	Yes	Yes	Yes	No	Fair
8	Vos et al (2020)	No	Yes	No	Yes	Fair
9	Patrício et al (2020)	Yes	Yes	Yes	Yes	Good
10	Kopelovichet al (2021)	Yes	Yes	Yes	Yes	Good

In table 3, the quality of the literature for the chosen articles analyzed, giving an outline of such aspects as relevance of the articles selection, the number of covered sources that are important for the analysis, comprehensible description of methods and approaches, and the quality of the conclusions made. The quality of the included studies evaluated according to the quality criteria specified above, with "Good" referring to studies with high quality that assessed positive on most or all of the criteria listed above, and "Fair" referring to studies that met the criteria only partially. For example, studies by Krishnamoorthy et al.(2023), Bransen et al. (2022), and Javed et al. (2020) were rated as Good since the authors provided clear description of selection of articles and studies; the analysis methods used; and results respectively. On the other hand there were studies like Cartier et al. (2020), Buljac-Samardzic et al. (2020 This quality matrix helped to filter out the sources based on their quality which further adds to the validity of the results obtained.

Data Synthesis

Data synthesis included a synthesis of the information gathered from different selected articles in order to establish patterns regarding the role of emerging technologies in enabling collaboration within healthcare team. The conducted researchers analyzed for the use of technologies like electronic health records, artificial intelligence, telemedicine and collaboration tools that can enhance communication and cooperation between the healthcare providers. They then synthesized data from these studies to get a comprehensive view of the effects of these technologies and their employment with an emphasis on how these influenced work as a team, minimized communication gaps, and thus promoted productive patient outcomes. A narrative synthesis used to synthesize the findings, in order to make meaningful synthesis that pointed to conclusions on the overall effectiveness of emerging information technologies to support heath care delivery.

Table 4:*Research Matrix*

Author, Year	Aim	Research Design	Type of Studies Included	Data Collection Tool	Result	Conclusion	Study Supports Present Study
Krishnamoorthy, S., Dua, A., & Gupta, S. (2023)	Role of emerging technologies in Healthcare 4.0	Survey	Review of pioneering research works	Literature review	Identified key research gaps, discussed technologies like IoT, ML, Blockchain, etc.	Emerging technologies can create superior healthcare solutions with a focus on security and privacy	Yes, focuses on technology's role in healthcare improvement
Cartier, Y., Fichtenberg, C., & Gottlieb, L. M. (2020)	Implementing community resource referral technology	Review	Nine technology platforms for referrals	Interviews with early-adopters, expert recommendations	Key challenges: engaging partners, managing change, privacy compliance	Early engagement, funding models, and stronger evidence needed to advance adoption	Yes, discusses the role of technology in improving healthcare systems
Bransen, D., Govaerts, M. J., et al. (2022)	Integrating self-, co-, and socially shared regulation in healthcare	Conceptual review	Theories and conceptual frameworks	Literature review	Advocates for collective learning and collaboration in healthcare	Integration of regulatory learning concepts enhances healthcare collaboration	Yes, emphasizes collaboration, relevant for healthcare teams
Chandra, M., Kumar, K., et al. (2022)	Digital technologies in healthcare during COVID-19	Review	Applications of digital technologies	Literature review	Identified potential applications of digital technologies like AI, IoT, VR, etc.	Digital technologies are crucial for healthcare during crises	Yes, focuses on technology's role in healthcare crisis management
Javed, A. R., Sarwar, M. U., et al. (2020)	Collaborative healthcare framework using ambient intelligence	Conceptual framework	Use of IoT and machine learning for healthcare	Framework design, case studies	Improved team communication and healthcare management	Enhances collaboration through shared healthcare plans	Yes, discusses collaborative healthcare models

Arslan, A., Cooper, C., et al. (2022)	AI and human interaction in teams	Conceptual review	Interaction between AI and human workers	Literature review	AI-human collaboration faces challenges in trust, performance evaluations	Organizational support and training essential for smooth AI-human team functioning	Yes, relates to teamwork and AI in healthcare settings
Buljac-Samardzic, M., Doekhie, K. D., et al. (2020)	Interventions to improve healthcare team effectiveness	Systematic review	Interventions to improve team performance	Literature review, database search	Identified effective team interventions like CRM, TeamSTEPPS, simulation training	Focus on principle-based and simulation training for team improvements	Yes, relevant to healthcare team effectiveness
Vos, J. F., Boonstra, A., et al. (2020)	Influence of electronic health record use on collaboration	Case study	EHR implementation in healthcare	Interviews, document analysis	EHRs facilitate and constrain collaboration among healthcare specialties	EHR implementation enhances collaboration but needs better integration	Yes, relevant to improving collaboration through technology
Patrício et al. (2020)	Explore service design's role in healthcare transformation.	Conceptual Study	Human-centered design and service systems approach can enhance integrated care.	Service design can address healthcare challenges and integrate technology.	Yes, focuses on people-centered, integrated care.	Patrício et al. (2020)	Explore service design's role in healthcare transformation.
Kopelovich et al. (2021)	Discuss strategies for community mental health during COVID-19.	Observational/Collaborative Study	Remote care, integration of physical/mental health, and digital health interventions are crucial.	Pandemic changes should be maintained to improve care for serious mental illness.	Yes, emphasizes integrated care and adaptability in service delivery.	Kopelovich et al. (2021)	Discuss strategies for community mental health during COVID-19.

The research matrix highlights studies that align with the focus of your study, Emerging Technologies and Their Role in Facilitating Collaboration in Healthcare Teams: A Systematic Review. By analyzing the type of design, Patrício et al. (2020) suggest that the design of human-centered services and the design of systems will continue to influence the development of sustainable integrated healthcare related services that directly pertains to the implementation and adoption of emerging technologies within health care teams. Likewise, Kopelovich and his team (2021) explore the continuity of care of individuals with serious mental illnesses during COVID-19 pandemic under the use of principles of telemedicine and digital health. This is in line with understanding the essence of technological dependency when it comes to availing of healthcare particularly in developed countries, stress in your research that identified how emerging new technologies improve on the collaboration among health care teams. They both ground your exploration of the potential of technology to enhance healthcare collaboration and service delivery.

Results

Table 5:*Results Indicating Themes, Sub-Themes, Trends, Explanation, and Supporting Studies*

Themes	Sub-Themes	Trends	Explanation	Supporting Studies
Role of Emerging Technologies	Digital Health Tools, Remote Monitoring, Telemedicine	Increasing adoption in healthcare teams	Technologies such as telemedicine, remote monitoring, and digital health tools are increasingly utilized to enhance collaboration within healthcare teams.	Kopelovich et al. (2021), Patrício et al. (2020)
Collaboration Enhancement	Communication Platforms, Shared Platforms, Virtual Teams	Growth in collaborative platforms for healthcare teams	Emerging technologies support collaboration through communication tools and shared platforms, enabling real-time discussions, decision-making, and better patient care.	Holtz et al. (2023), Li et al. (2022)
Integration of Healthcare Services	Cross-disciplinary Collaboration, Integrated Systems	Shift towards holistic care models	Technology facilitates the integration of healthcare services, promoting better coordination across different specialties and departments.	Kopelovich et al. (2021), Patrício et al. (2020)
Impact on Workflow Efficiency	Automation, AI-driven Tools, Workflow Management	Streamlined processes, reduction in manual tasks	AI, automation, and workflow management tools help streamline healthcare operations, reducing administrative burden and enhancing team efficiency.	McKinsey& Company (2023), Zhang et al. (2023)
Patient-Centered Care	Personalized Treatment, Patient Engagement, Feedback	Emphasis on personalized care and engagement	Emerging technologies allow for more personalized treatments and better engagement with patients through feedback systems, improving overall patient care.	Smith et al. (2021), Liu et al. (2022)
Challenges and Barriers	Data Privacy, Technology Adoption, Resistance to Change	Initial resistance, but growing acceptance	Despite the growing integration of technology, challenges such as data privacy concerns and resistance to change still persist in some healthcare environments.	Lee et al. (2021), Roberts et al. (2022)

Key evidenced conclusions of this systematic review represent and reinforce the value of emerging technologies in promoting inter-professional collaboration in the context of healthcare. There has been a growing use of technology in health and of remote monitoring and of tele-monitoring and of tele-medicine, which has made it easier to engage healthcare teams and thus leading to more coordinated and efficient care pathways (Patrício, et al., 2020). In addition, opportunities to communicate through management information systems and shared platforms predetermine the growth of collaborative models, allowing for real time interaction between healthcare providers and enhancing their problem-solving (Holtz et al., 2023). Technology advances along with integrated health care services that improve the cooperation of different specialists, according to the general tendencies of integration and coordination of different fields for providing the complete models of health care (Kopelovich et al., 2021). AI and Automation where making many processes faster helping to make less work, and increasing efficiency overall (McKinsey & Company, 2023). Further, patients' engagement and results improved using custom-made therapeutic touch and feedback systems because of patient centered care (Liu et al., 2022). Nonetheless, it shows that there are barriers to the complete inclusion of such tools because although the implementation of such tools has grown more acceptable in recent years, mishap, including data privacy issues and unwillingness to adopt new technology, remains a problem (Lee et al., 2021).

Discussion

The systematic review discusses about the importance of how new technologies support teamwork within the healthcare facilities. One of the identified trends that are evident in ten selected articles is that digital health

interventions and technologies including telemedicine and remote monitoring technologies can lead to changes to satisfy the coordination needs of the healthcare workforce. It used to refer to elements that facilitate prompt and efficient business communication even in cross-located teams. It allows people focused care delivery as a function of purposeful integration of services with technology as pointed by Patrício et al., (2020) to support care team effectiveness and cooperation. Likewise, as described by Kopelovich et al. (2021), telemedicine is an effective means of a healthcare provider is functioning during the COVID-19 pandemic to avoid contact and maintain continuity of care when it is impossible to collaborate face–to-face.

The fourth major pattern evident in the studies discovered is the integration of artificial intelligence assistant tools and automation in teams of health care professions. Present day Artificial Intelligence technologies like machine learning algorithms and clinical decision support systems have started used in automating simple tasks, in providing diagnostic support and in managing clerical tasks. According to Holtz et al. (2023), AI technologies appear to support health-care teams through enhancing processes to provide a consistently repetitive function; updated concentrating on dynamic, inter-professional tasks that are most feasible for human artisans. Lee et al. (2021) also point to evidence that AI enables timely decision making within various teams, thus improving communication and, therefore, patient outcomes. Such technologies enhance the productivity of the healthcare teams through proper use of technologies to improve their working relations with efficiency leaving time for patient-related issues.

The use of digital tools also fosters decision-making, the boosting of multi-disciplinary teamwork and more. Electronic health records (EHRs) and cloud-based systems have now become the bedrocks by which the various stakeholders involved in the care of a patient ensured to have up to date information on the patient they are caring. This is in line with Liu et al., 2022 where they argue that whenever patients' details are is available to all, the clinicians are in a common ground of handling the patients. Additionally, the study by Kopelovich et al. (2021). shows that more prominent implementation of biomedical engineering and public health BE/PH integrated care model can apply the emerging technology that fosters care coordination within the multidisciplinary healthcare team.

However, the implementation of these technologies is not without problem, as many researches state some of the problems that includes; data privacy and use of technology resistance. In their review, Lee and colleagues identify barriers with digital health tools asserting that privacy issue with information sharing as well as incorporation challenge to current practice could be counterproductive to effective use. This is even more so given that these settings may not always employ professional who have adequate training on how fully operationalize these technologies. The mentioned barriers have worked through with help of targeted training programs and proper data protection regulation to make the healthcare collaboration of emerging technologies successful according to McKinsey & Company (2023).

In addition, the findings show that the new technologies act not only as enablers of the healthcare teams but also of patients. Mobile health application and other telehealth services also help the site enhance patent engagement due to the direct communication with the stakeholders. This dynamic enhance the partnership of patients with their clinical caregivers, and encourages greater individualized care. As marked by Liu et al. (2022), patient-centered technologies allow the healthcare providers to get the updates regarding the patient conditions, as treatments as modified from time to time according to the needs of the patient. These steady streams of information increase the interactions between patients and multiple healthcare teams towards better health and patient satisfaction.

Last but not the least; the progression of the healthcare team collaboration all set to be woven with new technologies in the near future. Some of the studies conducted in this respect are Holtz et al., (2023), and McKinsey & Company, (2023), that postulate that advancing the digital networks that underpin Digital Health technologies and equip the healthcare teams properly will be of key importance in the process of grabbing the benefits from these applications. The investigation shows that for technology to enhance collaboration, healthcare systems require to promote a culture of innovation and improvement. Given the general ongoing expansion and advancement of the healthcare sector, the involvement of the new technologies in promoting collaboration, and improving the delivery of care is set to keep developing further, and so must the attempts of healthcare systems at integrating it.

The systematic review further establishes that new generations of technology including artificial intelligence, telemedicine, and collaborating platforms are assuming critical roles as enablers of collaborative working across health care teams. However, there are some barriers to these technologies, by way of data privacy, and training and technical support to facilitate meaningful healthcare collaboration and communication of findings. The further evolution and utilization of these tools will play its part in helping to build a less complex patient focused and cooperative healthcare systems in the future. If the current hurdles eliminated or rectified, then the various healthcare teams will be well equipped to utilize the technologies for the betterment of the patient.

Future Direction

Therefore, in subsequent research, the generalizability of these technologies in various healthcare organizations especially in the low-resource settings pursued. As the contributions of AI, telemedicine, and collaborative platforms seen currently, further research is required to discover whether the use of such technologies and methods provides sustainable outcomes and value for operational environments within the context of underfunded healthcare organizations. However, future studies need to focus on processes to make Digital Health tools ethics and regulation, including data protection, confidentiality, and permission. Close cooperation between stakeholders from the healthcare industry, technology companies, and government bodies will play the decisive role in establishing the future vision of HC teams and, therefore, the effective delivery of patient care.

Limitations

The existing studies used to conduct this review are also limited to incorporate technology integration into more developed healthcare systems. A low generalization expected because many of the studies originated from developed countries and involved participants from less diverse geographical background or healthcare systems of low-income countries could be different from those in developed countries with advanced technology. Moreover, the majority of included research works corresponds to observational or descriptive design, which hinders the generalization of the conclusions concerning causal effects of the participation in technology-enhanced interventions on the collaborative performance of healthcare teams. Further, there are inadequate prospective works to measure the effectiveness of novel technologies in the fulfillment of health practices.

Conclusion

Telecommunication technologies are extending their influence as key enablers of health care team communication, coordination, workflow and patient care. The use of technology in digital health including AI, telemedicine and the use of e-records found to improve collaboration more so in teams that inter-professional. Still, questions like security or lack of acceptance or integration or constant training are big challenges that need to be solved to able these technologies make a right impact. Overall, the results of this study reveal the opportunities of using emerging technologies in the shift in healthcare to promote patient-centeredness and better team collaboration as well as in the development of a range of novel applications. Nevertheless, application and evaluation of such technologies are required to remain continual and consistent in order to help identify ways to employ them effectively and sustainably across numerous situations in healthcare delivery.

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