Review of Contemporary Philosophy ISSN: 1841-5261, e-ISSN: 2471-089X

Vol 22 (1), 2023 pp. 32 - 42 SULTY OF EUROPEAN A RESERVED TO SERVED TO SERV

Factors Affecting Healthcare Provider's Acceptance of Electronic Health Records: A Review

¹HassnaHussen Fahad Alalwi, ²MarwaHossen Fahad Alalwi, ³Yusra Abdullah F Alalawi, ⁴Sahar Ahmed Mustafa, ⁵Khadijah Ahmed Khardali, ⁶KholoodAbdalduamAlmatrafi, ⁷AbeerAwwadhAwadhAlmutairi, ⁸Yahyakh atimYayaAlzahrani, ⁹Amani AbdulmajeedQashgari, ¹⁰Maha GhazZaherAlmajnooni, ¹¹Hananabdurabohalzahrani, ¹²Waleed Hassan Sahli, ¹³Dawlat Ibrahim Hantool, ¹⁴HasanMousaAlzahrani, ¹⁵Ayman Hussain Alzahrani,

¹Nursing technician, AlawsCenter

²Sterilization Specialist, Airport Health DefenseCenter

 3 Head of Occupational Health Department at Medinah Cluster, Occupational Medicine

⁴Public Health Senior Specialist, Preventive Medicine Administration/Occupational Health Department

⁵Health Administration Senior Specialist, Excellence and Quality Excutive Administration, Risk and Patient Saftey Department

⁶Specialist-Nursing, Preventive Medicine Administration / Health Education Department

⁷Specialist-Nursing, King Salman Bin Abdulaziz Medical City

⁸Health Administration and Hospitals, King Abdulaziz Hospital in Jeddah

⁹Dental Assistant, East Jeddah Hospital

¹⁰Nursing Technician, Ibn Sina Hospital

¹¹Radiology, Ibn Sina Hospital

¹²Pharmacy Technician, King Abdulaziz Hospital in Jeddah

¹³Pharmacy Technician, King Abdulaziz Hospital in Jeddah

¹⁴Pharmacy Technician, King Abdulaziz Hospital in Jeddah

¹⁵Pharmacy Technician, King Abdulaziz Hospital in Jeddah

Abstract

Electronic Health Records (EHRs) are central to modern healthcare systems, enhancing the efficiency and quality of patient care. They enable healthcare professionals to access comprehensive patient histories, medications, allergies, test results, and other essential data at the point of care, thereby improving clinical decision-making. The acceptance of EHRs among healthcare providers is influenced by a variety of factors. This review synthesizes findings from the literature, highlighting the complexity of EHR adoption in healthcare settings. The findings showed that the acceptance of EHRs among healthcare providers is influenced by a complex interplay of factors, including perceived usefulness, usability, organizational culture, training, regulatory pressures, financial considerations, interoperability, peer influence, and patient expectations. Understanding these interrelated factors is essential for healthcare organizations aiming to implement EHR systems successfully. To enhance healthcare providers' acceptance of Electronic Health Records (EHRs), organizations should focus on comprehensive training

tailored to varying computer literacy levels and foster a supportive culture that encourages innovation. Leadership support is crucial, as is involving users in the EHR implementation process. Addressing perceived barriers related to data security and workload is essential, along with promoting peer support networks and offering incentives for effective EHR use. Emphasizing the benefits of EHRs for patient care and maintaining clear communication throughout the implementation process will further facilitate acceptance and engagement among healthcare providers.

Keywords: Healthcare Provider, Electronic Health Record, Healthcare, Factors, Acceptance

Received 15 May 2023 **Revised** 05 July 2023. **Accepted** 18 August 2023

Introduction

The evolution of Electronic Health Records (EHRs) represents one of the most significant advancements in healthcare technology over the past few decades. EHRs have transformed the way patient information is collected, stored, and shared, enhancing the efficiency and quality of care (Caicedo et al., 2024). This journey from paper-based records to sophisticated digital systems reflects technological, regulatory, and cultural shifts within the healthcare landscape (Yousef et al., 2021).

The history of EHRs can be traced back to the 1960s when early attempts were made to digitize patient records (Morton, 2008). However, it was not until the late 20th century that significant advancements in technology and a growing emphasis on health information management led to widespread interest in EHR systems. The U.S. government played a pivotal role in promoting EHR adoption through initiatives such as the Health Information Technology for Economic and Clinical Health (HITECH) Act of 2009, which provided financial incentives for healthcare providers to adopt meaningful use of EHRs (Kim et al., 2015). Despite these efforts, the transition has been met with resistance from some healthcare providers, raising questions about the factors that impact their acceptance of EHR systems.

Today, EHRs are a cornerstone of modern healthcare delivery, with a majority of hospitals and practices utilizing some form of electronic record-keeping (Abd-Alrazaq et al., 2019). These systems have improved the efficiency of clinical workflows, reduced paperwork, and enhanced the ability to track patient outcomes over time. Additionally, EHRs facilitate better data collection for research and public health monitoring, supporting evidence-based practice and health policy development (Lakbala et al., 2014).

Looking ahead, the future of EHRs is poised for further evolution, driven by emerging technologies and changing healthcare needs (Alanazi et al., 2020). Innovations such as artificial intelligence (AI) and machine learning (ML) are beginning to be integrated into EHR systems, offering opportunities for predictive analytics and enhanced decision support. These technologies can help providers identify patient needs more effectively and personalize care plans (Rasmi et al., 20200.

Additionally, the push towards greater interoperability continues to gain momentum. Efforts such as the 21st Century Cures Act aim to promote the adoption of open APIs (Application Programming Interfaces) that allow different EHR systems to communicate more effectively. This shift is crucial for enabling a more connected healthcare ecosystem where patient data can flow seamlessly across providers and settings (Gagnon et al., 2016).

Patient engagement is also becoming a central focus in the evolution of EHRs. As patients take a more active role in their healthcare, EHR systems are being designed to enhance patient access to their health information and facilitate communication between patients and providers (Aldosari et al., 2018). Patient portals and mobile applications are increasingly being integrated into EHR systems, empowering patients to manage their health proactively (Alsahafi et al., 2022).

However, challenges persist. Many healthcare providers continue to face issues related to usability, with some EHR systems being described as cumbersome and difficult to navigate. Concerns regarding data privacy and security have also grown, particularly in light of increasing cyber threats (Walle et al., 2023). Furthermore, the ongoing struggle for interoperability remains a significant hurdle, as many EHRs still operate as isolated systems, limiting comprehensive patient care (Kruse et al., 2016).

The adoption of EHRs has been heralded as a transformative step in the healthcare sector, promising improvements in efficiency, accuracy, and patient care. However, the acceptance and implementation of EHR systems among healthcare providers vary significantly (Cucciniello et al., 2015; Shehu, 2016). The acceptance of EHRs among healthcare providers is influenced by a myriad of factors. Understanding these factors is crucial for healthcare organizations seeking to implement EHR systems successfully. By addressing the technical, cultural, and emotional dimensions of EHR adoption, organizations can create an environment conducive to successful integration, ultimately improving patient care and transforming the healthcare landscape for the better.

Objectives

This review seeks to explore and summarize the various factors that affect healthcare providers' acceptance of EHR systems. It also attempts to shed light on the benefits of EHRs in improving patient care, enhancing efficiency, and facilitating data sharing, while also examining the challenges associated with their implementation.

Methodology

This research uses the narrative review approach. Narrative review often organizes findings thematically rather than by study design or methodology. This thematic organization allows researchers to highlight key themes, trends, and insights across the literature, making connections between different studies and perspectives (Borella et al., 2016). In this narrative review on the acceptance of electronic health records, the themes include perceived usefulness, usability, organizational culture, and training. This structure helps in synthesizing complex information and presenting it in a coherent manner. A narrative review approach is particularly valuable in this research as the objective is to synthesize existing literature in a flexible and comprehensive manner. By utilizing this approach, the researchers provided a broad overview of a topic, integrating diverse studies and perspectives without the constraints of a systematic methodology.

Literature Review

The acceptance of EHRs among healthcare providers is influenced by a myriad of factors, each contributing to the complex landscape of health information technology adoption. A foundational concept in this discourse is the Technology Acceptance Model (TAM), introduced by Davis (1989), which posits that perceived usefulness and perceived ease of use are critical determinants of user acceptance (Morton, 2008). This model has been widely referenced in subsequent studies, emphasizing its relevance in understanding healthcare providers' attitudes toward EHRs (Agrawal, 2011).

Building on the TAM framework, Caicedo et al. (2024) conducted a systematic review that identified perceived usefulness and ease of use as significant predictors of EHR acceptance among healthcare professionals. Their findings underscore the importance of these perceptions in driving positive attitudes toward new technologies. Similarly, Salleh et al (2021) highlighted common barriers to acceptance, such as data privacy concerns and the complexity of EHR systems. These barriers can create hesitance among providers, illustrating the need for healthcare organizations to address these issues proactively.

Computer literacy has emerged as another critical factor influencing EHR acceptance. AlJarullah et al. (2018) found that healthcare providers with higher levels of computer skills were significantly more likely to accept EHRs. This finding is supported by research conducted in Saudi Arabia, which indicated that healthcare professionals comfortable with technology reported better experiences with EHR systems. Thus, enhancing computer literacy through targeted training programs can facilitate smoother adoption processes.

The role of training and support in promoting EHR acceptance cannot be overstated. El-Yafouri et al (2022) highlighted that healthcare providers who received comprehensive training reported higher satisfaction and acceptance levels. This aligns with findings from Pavlovic et al (2021) which emphasized the importance of organizational culture in fostering an environment conducive to technology adoption.

Organizations that promote innovation and provide supportive training opportunities tend to experience higher acceptance rates among their staff.

Leadership support is another vital component in the acceptance of EHRs. Research conducted by Furusa & Coleman (2018) found that strong leadership commitment to EHR implementation significantly correlated with higher acceptance rates among healthcare providers. When leaders advocate for EHR adoption and actively involve staff in the transition process, they can cultivate a sense of ownership and empowerment among providers, enhancing their willingness to embrace the technology.

User involvement in the implementation process has also been shown to positively influence EHR acceptance. A study byMamra et al (2017) demonstrated that when healthcare providers are engaged in the decision-making and design phases, their satisfaction and acceptance levels increase. This participatory approach can mitigate resistance and foster a more positive attitude toward technology. Conversely, perceived barriers, such as concerns about data security and system reliability, can hinder acceptance. Research by Odom & Willeumier (2018) identified fears regarding patient confidentiality as major deterrents, emphasizing the need for transparent communication about data handling practices.

Healthcare providers often face significant workloads, which can impact their willingness to adopt new technologies. A study by Bhanushali et al (2024) found that concerns about the additional time required for data entry and documentation detracted from patient care, leading to resistance against EHR adoption. Addressing these concerns by streamlining EHR processes and minimizing disruptions to workflow is crucial for improving acceptance and satisfaction among providers.

Peer influence is another important factor affecting EHR acceptance. A study by Alhur (2024) found that positive experiences shared by colleagues significantly influenced individual acceptance levels. This highlights the importance of fostering a supportive community among healthcare providers during the transition to EHR systems. Moreover, demographic factors such as age and professional experience can also shape acceptance. Morton (2008) indicated that younger healthcare providers, who are generally more familiar with technology, tend to exhibit higher acceptance levels compared to their older counterparts.

The reliability of EHR systems plays a critical role in acceptance as well. Providers need to trust that the technology will function correctly and provide accurate information. A study by Yousef et al (2021) found that concerns about system downtime negatively impacted providers' willingness to adopt EHRs. Ensuring robust technical support and system reliability is essential for fostering trust and acceptance among users.

Incentives and rewards can also significantly influence EHR acceptance. Research has shown that healthcare providers are more likely to embrace EHRs if they perceive tangible benefits, such as financial incentives or improved job performance. A study by Kim et al (2015)highlighted those providers who received incentives for using EHR systems reported higher levels of acceptance. Therefore, implementing reward systems can motivate healthcare professionals to engage with new technologies effectively.

The impact of EHRs on patient care quality is a significant consideration for healthcare providers. Studies (e.g. Lakbala et al., 2014; Rasmi et al., 2020) have shown that providers are more likely to accept EHRs if they believe that the technology will enhance patient outcomes. Research by Gagnon et al (2016) found that healthcare professionals who viewed EHRs as tools for improving patient safety and care quality exhibited greater acceptance. Emphasizing the positive impact of EHRs on patient care can help mitigate resistance and foster acceptance.

Effective communication and feedback mechanisms are essential for promoting EHR acceptance as well. Research indicates that healthcare providers who receive regular updates and feedback about the EHR implementation process are more likely to feel involved and valued. A study by Walle et al (2023) found that transparent communication regarding the benefits and challenges of EHR adoption positively influenced providers' acceptance levels. Establishing open lines of communication can help address concerns and enhance overall acceptance.

The literature highlights a wide array of factors influencing healthcare providers' acceptance of Electronic Health Records, including perceived usefulness, ease of use, computer literacy, training, organizational culture, leadership support, user involvement, perceived barriers, workload, peer influence, demographic factors, system reliability, incentives, the quality of patient care, and communication. Understanding these factors is crucial for healthcare organizations aiming to implement EHR systems successfully. By addressing the identified barriers and enhancing the facilitators of acceptance, organizations can improve adoption rates, ultimately leading to better patient care and operational efficiencies.

Results

The acceptance and implementation of EHR systems among healthcare providers have been met with varying degrees of enthusiasm and resistance. Understanding the factors that influence healthcare providers' acceptance of EHRs is crucial for fostering successful integration into clinical practice. The research findings explore several key factors, including perceived usefulness, usability, organizational culture, training and support, regulatory pressures, and financial considerations.

1- Perceived Usefulness

Perceived usefulness is a critical factor influencing healthcare providers' acceptance of Electronic Health Records (EHRs). According to the Technology Acceptance Model (TAM), perceived usefulness refers to the extent to which a user believes that using a particular system enhances their job performance (Morton, 2008). In the context of EHRs, healthcare providers are more likely to adopt these systems if they believe that EHRs will improve patient care, streamline workflows, and facilitate better communication among healthcare teams. Research indicates that when providers perceive EHRs as beneficial—such as reducing errors, improving access to patient information, and enhancing decision-making—the likelihood of acceptance increases significantly (Abd-Alrazaq et al., 2019). Conversely, if EHRs are viewed as cumbersome or ineffective, resistance is likely to grow.

2- Usability and User Experience

Usability is another crucial factor in determining healthcare providers' acceptance of EHR systems. EHRs that are intuitive, user-friendly, and designed with the end-user in mind are more likely to be adopted (Alanazi et al., 2020). Complicated systems that require excessive navigation or lack essential features can lead to frustration and reluctance to use the technology. User experience encompasses various aspects, including interface design, workflow integration, and ease of access to patient data. Systems that seamlessly fit into daily routines and do not disrupt established workflows are more likely to be accepted. Customizable features that allow providers to tailor the interface to their specific needs can significantly enhance usability. Involving healthcare providers in the design and testing phases of EHR development is essential to ensure that the final product meets their needs and preferences (Alsahafi et al., 2022).

3- Organizational Culture

The culture within healthcare organizations significantly impacts EHR acceptance. An organizational culture that promotes innovation, collaboration, and open communication is more conducive to the successful implementation of EHR systems (Walle et al., 2023). When leadership demonstrates a commitment to adopting EHRs and fosters an environment where staff feel supported during the transition, acceptance rates tend to be higher. Conversely, a culture resistant to change can hinder EHR adoption. If providers feel their opinions are not valued or that there is a lack of transparency regarding the implementation process, they may resist using the new system. Leadership plays a pivotal role in shaping organizational culture; thus, engaging providers in discussions about EHR implementation and addressing their concerns can foster a more positive attitude toward the change (Kruse et al., 2016).

4- Training and Support

Adequate training and ongoing support are crucial for enhancing healthcare providers' acceptance of EHRs. A common barrier to acceptance is the perception that training is insufficient or poorly executed (Cucciniello et al., 2015). Comprehensive training should address both the technical aspects of using EHRs

and how to integrate them into clinical workflows effectively. Training programs should be tailored to different user groups, recognizing that physicians, nurses, and administrative staff may have varying levels of familiarity with technology. Ongoing support, such as helpdesk services and refresher courses, can help providers navigate challenges as they arise. When healthcare providers feel confident and competent in using EHRs, their acceptance and satisfaction with the system are likely to improve (Shehu, 2016).

5- Regulatory Pressures and Incentives

Regulatory pressures and financial incentives significantly shape healthcare providers' attitudes toward EHR adoption (Agrawal, 2011). Governments and regulatory bodies have implemented various incentive programs to encourage the transition to EHRs, such as the U.S. Centers for Medicare & Medicaid Services (CMS) offering financial incentives through the Meaningful Use program. While these incentives can motivate adoption, the associated regulatory requirements can also create anxiety and resistance. Providers may feel overwhelmed by compliance complexities and potential penalties for non-compliance. Clear communication about regulatory requirements, along with support in navigating these challenges, is essential for fostering a positive attitude toward EHR adoption (Salleh et al., 2021).

6- Financial Considerations

The financial implications of adopting EHR systems are a significant factor influencing acceptance (AlJarullah et al., 2018). The initial costs associated with purchasing EHR software, hardware upgrades, and training can be substantial, particularly for smaller practices. Providers may also be concerned about the Return on Investment (ROI) from EHR systems, questioning whether the benefits of improved efficiency and patient care will outweigh the financial costs. Providing clear data on the long-term financial benefits of EHR adoption, including potential cost savings from reduced errors and improved billing processes, is essential. Financial support options, such as grants or low-interest loans, can help alleviate the burden of upfront costs (El-Yafouri et al., 2022).

7- Interoperability and Integration

Interoperability and integration capabilities of EHR systems are crucial for acceptance (Pavlovic et al., 2021). Interoperability refers to the ability of different EHR systems to communicate and share data seamlessly. Providers are more likely to accept EHRs if they can easily exchange information with other systems, such as laboratories and pharmacies. A lack of interoperability can lead to frustration and inefficiencies, hindering the perceived usefulness of EHRs. Therefore, EHR vendors must prioritize interoperability to enhance healthcare providers' willingness to adopt these systems (Furusa & Coleman, 2018).

8- Peer Influence and Social Norms

Peer influence and social norms significantly shape healthcare providers' acceptance of EHRs (Odom & Willeumier, 2018). Providers are often influenced by their colleagues' experiences and opinions regarding EHR adoption. Positive experiences shared by peers can create a sense of social validation that encourages acceptance, while negative feedback can lead to hesitation. Fostering an environment where providers can share their experiences with EHRs can help build a supportive community. Peer-led training sessions and testimonials can effectively promote acceptance and alleviate concerns (Bhanushali et al., 2024).

9- Patient Expectations

As patients increasingly become active participants in their healthcare, their expectations regarding technology use, including EHRs, can influence providers' acceptance (Bhanushali et al., 2024). Patients often expect their healthcare providers to have access to their comprehensive medical history, which can enhance care quality and outcomes. When providers recognize that patients value EHRs for their potential to improve communication and engagement, they may be more inclined to embrace the technology. Positive patient feedback regarding EHR use can reinforce providers' perceptions of their usefulness and contribute to overall acceptance (Alhur, 2024).

Discussion

The acceptance of EHRs among healthcare providers is a multifaceted issue influenced by several critical factors, each playing a significant role in determining the overall success of EHR implementation. Among these, perceived usefulness emerges as a foundational element. According to the Technology Acceptance Model (TAM), perceived usefulness is defined as the extent to which an individual believes that using a specific technology will enhance job performance (Caicedo et al., 2024). Numerous studies have demonstrated that when healthcare providers recognize the tangible benefits of EHRs—such as improved patient care, reduced errors, and enhanced decision-making—the likelihood of acceptance significantly increases (Gagnon et al., 2016). Conversely, if providers perceive EHRs as cumbersome or ineffective, they are likely to resist adoption. This dichotomy highlights the need for healthcare organizations to effectively communicate the benefits of EHRs and to present evidence from pilot programs or case studies that showcase successful implementations.

Usability and user experience are equally critical to EHR acceptance. Systems that are intuitive and user-friendly facilitate smoother transitions for healthcare providers, whereas complicated interfaces can lead to frustration and decreased productivity (Kim et al., 2015). Research has shown that EHRs designed with the end-user in mind—incorporating feedback from healthcare providers during the design phase—tend to be more successful (Lakbala et al., 2014). When EHRs seamlessly integrate into existing workflows without disrupting established practices, acceptance rates are likely to rise. Therefore, engaging healthcare providers in the design and testing processes is essential to ensure that systems meet their practical needs, ultimately fostering a positive user experience.

Organizational culture also plays a pivotal role in EHR acceptance. A culture that promotes innovation, open communication, and collaboration can significantly enhance the likelihood of successful EHR implementation (Rasmi et al., 2020). Leadership commitment to adopting EHRs and supporting staff during the transition is crucial; when providers feel supported, they are more likely to embrace the change. Conversely, a culture resistant to change can create barriers to acceptance. Studies indicate that healthcare providers are more likely to resist EHR implementation if they believe their opinions are disregarded or if there is a lack of transparency in the process (Alanazi et al., 2020). Thus, fostering an inclusive organizational culture that encourages provider engagement and dialogue is essential for overcoming resistance and promoting acceptance.

Training and ongoing support are vital components in enhancing healthcare providers' acceptance of EHRs. Insufficient training is a common barrier to successful implementation, as providers may feel unprepared to use the systems effectively (Aldosari et al., 2018). Comprehensive training programs that cater to the varying technological skill levels of different user groups—such as physicians, nurses, and administrative staff—are necessary for fostering confidence and competence in using EHRs (Gagnon et al., 2016). Moreover, ongoing support mechanisms, including helpdesk services and peer mentoring, can assist providers in navigating challenges as they arise, further increasing satisfaction with EHR systems.

Regulatory pressures and financial incentives significantly influence healthcare providers' attitudes toward EHR adoption. Government initiatives, such as the Meaningful Use program in the United States, have provided financial incentives for the adoption of EHR systems, aiming to improve overall healthcare quality (Walle, 2023). While these incentives can encourage adoption, the associated regulatory requirements may induce anxiety due to their complexity. Studies suggest that providers may feel overwhelmed by compliance demands, which can lead to resistance (Kruse et al., 2016). Therefore, clear communication about regulatory expectations, along with support in managing compliance, is crucial for fostering a positive attitude toward EHR adoption.

Financial considerations represent another significant barrier to EHR acceptance. The initial costs associated with EHR implementation—including software, hardware, and training—can be substantial, particularly for smaller healthcare practices. Research indicates that concerns regarding return on investment (ROI) are common among providers, who may question whether the long-term benefits of EHRs will outweigh the financial burdens (Gagnon et al., 2014). Interoperability and integration

capabilities of EHR systems are also crucial for enhancing acceptance. The ability of EHR systems to communicate seamlessly with other healthcare technologies influences providers' willingness to adopt them. Lack of interoperability can lead to inefficiencies and frustration, as providers may be forced to manually enter data or navigate multiple systems (Cucciniello et al., 2015). This can undermine the perceived usefulness of EHRs, making it essential for vendors to prioritize interoperability in their systems to facilitate smoother data exchange and integration with existing healthcare technologies.

Peer influence and social norms also significantly impact EHR acceptance. Research has shown that healthcare providers are often influenced by their colleagues' experiences and opinions regarding EHR adoption (Shehu, 2016). Positive feedback from peers can create a sense of social validation, encouraging acceptance, while negative experiences can foster resistance. Therefore, it is vital to create a supportive environment where providers can share their experiences and challenges related to EHR usage. Peer-led training sessions and testimonials can be effective strategies for promoting acceptance and alleviating concerns (Agrawal, 2011).

Finally, patient expectations increasingly shape healthcare providers' acceptance of EHRs. As patients become more engaged in their healthcare, they often expect providers to have access to comprehensive medical histories and utilize technology that enhances communication and engagement (Salleh et al., 2021). When providers recognize that patients value EHRs for their potential to improve care quality, they may be more inclined to adopt the technology. Positive feedback from patients regarding EHR usage can further reinforce providers' perceptions of their usefulness, contributing to overall acceptance (Pavlovic et al., 2021).

Conclusion and Recommendations

The acceptance of electronic health records among healthcare providers is influenced by a myriad of factors, including perceived usefulness, usability, organizational culture, training and support, regulatory pressures, financial considerations, interoperability, peer influence, and patient expectations. Understanding these factors is crucial for healthcare organizations seeking to implement EHR systems successfully.

Effective strategies to enhance acceptance should be multifaceted, addressing the technical, cultural, and emotional dimensions of EHR adoption. By emphasizing the benefits of EHRs, providing comprehensive training and support, fostering a positive organizational culture, and addressing financial and regulatory concerns, healthcare organizations can create an environment conducive to successful EHR implementation. Ultimately, the successful integration of EHRs has the potential to improve patient care, enhance operational efficiency, and transform the healthcare landscape for the better.

To improve the acceptance of EHRs among healthcare providers, several strategic recommendations can be implemented. First and foremost, healthcare organizations should enhance their training programs. Comprehensive training tailored to the varying levels of computer literacy among staff is essential. This training should not only focus on initial onboarding but also include ongoing support through hands-on experience, refresher courses, and easily accessible user assistance. By building confidence and competence in using EHR systems, organizations can significantly reduce resistance and promote a smoother transition.

Additionally, fostering a supportive organizational culture is crucial for EHR acceptance. Healthcare organizations should cultivate an environment that values innovation and actively encourages technology adoption. By promoting open communication and collaboration among staff, organizations can help reduce apprehension and foster a shared vision for successful EHR implementation. This cultural shift can create an atmosphere where healthcare providers feel empowered to engage with new technologies.

Leadership support plays a vital role in facilitating EHR acceptance. Healthcare leaders must actively advocate for EHR adoption and involve healthcare providers in the decision-making process. When leaders demonstrate commitment and visibly support the transition to EHR systems, they can enhance

staff morale and encourage a collective willingness to embrace technological advancements. This leadership approach can also help address concerns and build trust among providers.

Engaging users in the implementation process is another effective strategy. By involving healthcare providers in the design and rollout of EHR systems, organizations can ensure that these technologies meet the specific needs of users and integrate seamlessly into existing workflows. Soliciting feedback from endusers not only enhances system usability but also fosters a sense of ownership, which is crucial for acceptance.

Addressing perceived barriers is equally important. Healthcare organizations must proactively tackle concerns related to data security, system reliability, and the potential for increased workload. Providing clear, transparent information about data handling practices, ensuring robust technical support, and streamlining EHR processes can alleviate fears and enhance trust in the system. By demonstrating a commitment to user security and operational efficiency, organizations can mitigate resistance to adoption.

Promoting peer support and mentorship can also facilitate acceptance. Establishing peer support networks within healthcare settings encourages knowledge sharing and provides encouragement among staff. Positive experiences shared by colleagues can significantly influence individual acceptance levels, creating a supportive community that fosters a positive attitude toward EHRs.

Moreover, implementing incentive programs can motivate healthcare providers to engage more actively with EHR systems. Organizations should consider offering financial incentives or recognition for staff who demonstrate effective use of EHRs. Such incentives not only reward engagement but also signal the organization's commitment to fostering a culture of technology adoption.

Focusing on the benefits of EHRs for patient care is another effective approach. By emphasizing how EHR systems can enhance the quality and safety of patient care, organizations can resonate with healthcare providers' core values. Communicating success stories and data that illustrate the positive impact of EHRs on patient outcomes can help shift perceptions and encourage acceptance.

Finally, maintaining effective communication throughout the EHR implementation process is essential. Establishing clear and ongoing channels of communication ensures that healthcare providers remain informed and engaged. Regular updates, feedback sessions, and open forums for discussion can facilitate a supportive environment for the transition, allowing providers to express concerns and share experiences.

References

- [1] Abd-Alrazaq, A. A., Bewick, B. M., Farragher, T., & Gardner, P. (2019). Factors that affect the use of electronic personal health records among patients: a systematic review. *International journal of medical informatics*, 126, 164-175.
- [2] Agrawal, E. (2011). Acceptance of use of personal health record: factors affecting physicians' perspective (Doctoral dissertation).
- [3] Alanazi, B., Butler-Henderson, K., & Alanazi, M. R. (2020). Factors influencing healthcare professionals' perception towards EHR/EMR systems in gulf cooperation council countries: A systematic review. *Oman medical journal*, *35*(6), e192.
- [4] Aldosari, B., Al-Mansour, S., Aldosari, H., & Alanazi, A. (2018). Assessment of factors influencing nurses acceptance of electronic medical record in a Saudi Arabia hospital. *Informatics in Medicine Unlocked*, 10, 82-88.
- [5] Alhur, A. (2024). Overcoming electronic medical records adoption challenges in Saudi Arabia. *Cureus*, 16(2).
- [6] AlJarullah, A., Crowder, R., Wald, M., & Wills, G. (2018). Factors affecting the adoption of EHRs by primary healthcare physicians in the kingdom of Saudi Arabia: an integrated theoretical framework. *International Journal of e-Healthcare Information Systems*, 5(1), 126-138.c
- [7] Alsahafi, Y. A., Gay, V., &Khwaji, A. A. (2022). Factors affecting the acceptance of integrated electronic personal health records in Saudi Arabia: The impact of e-health literacy. *Health Information Management Journal*, *51*(2), 98-109.

- [8] Bhanushali, M. M., Jape, S., &Sonkul, D. (2024). Exploring determinants affecting technology adoption of electronic medical records among health care professionals in mumbai. *Journal of Informatics Education and Research*, 4(2).
- [9] Borella, P., Bargellini, A., Marchegiano, P., Vecchi, E., & Marchesi, I. (2016). Narrative review. *Ann Ig*, *28*, 98-108.
- [10] Caicedo, N. M. A., Parry, E., Arslan, N., & Park, S. (2024). Integration of social determinants of health information within the primary care electronic health record: a systematic review of patient perspectives and experiences. *BJGP open*, 8(1).
- [11] Cucciniello, M., Lapsley, I., Nasi, G., & Pagliari, C. (2015). Understanding key factors affecting electronic medical record implementation: a sociotechnical approach. *BMC health services research*, *15*, 1-19.
- [12] El-Yafouri, R., Klieb, L., & Sabatier, V. (2022). Psychological, social and technical factors influencing electronic medical records systems adoption by United States physicians: a systematic model. *Health Research Policy and Systems*, 20(1), 48.
- [13] Furusa, S. S., & Coleman, A. (2018). Factors influencing e-health implementation by medical doctors in public hospitals in Zimbabwe. *South African Journal of Information Management*, *20*(1), 1-9.
- [14] Gagnon, M. P., Simonyan, D., Godin, G., Labrecque, M., Ouimet, M., & Rousseau, M. (2016). Factors influencing electronic health record adoption by physicians: A multilevel analysis. *International journal of information management*, *36*(3), 258-270.
- [15] Kim, S., Lee, K. H., Hwang, H., & Yoo, S. (2015). Analysis of the factors influencing healthcare professionals' adoption of mobile electronic medical record (EMR) using the unified theory of acceptance and use of technology (UTAUT) in a tertiary hospital. *BMC medical informatics and decision making*, 16(1), 1-12.
- [16] Kruse, C. S., Kothman, K., Anerobi, K., & Abanaka, L. (2016). Adoption factors of the electronic health record: a systematic review. *JMIR medical informatics*, 4(2), e5525.
- [17] Lakbala, P., Lakbala, M., &Inaloo, K. D. (2014). Factors affecting electronic medical record acceptance by specialist physicians. *Lecture Notes on Information Theory Vol*, 2(4).
- [18] Mamra, A., Sibghatullah, A. S., Ananta, G. P., Alazzam, M. B., Ahmed, Y. H., &Doheir, M. (2017). Theories and factors applied in investigating the user acceptance towards personal health records: review study. *International Journal of Healthcare Management*, 10(2), 89-96.
- [19] Morton, M. E. (2008). *Use and acceptance of an electronic health record: factors affecting physician attitudes.* Drexel University.
- [20] Odom, S., & Willeumier, K. (2018). Attitudes and Perceptions of behavioral health clinicians on electronic health record adoption: overcoming obstacles to improve acceptance and utilization. *Perspectives in Health Information Management*, 2018, 1-19.
- [21] Pavlovic, A., Rajovic, N., Pavlovic Stojanovic, J., Akinyombo, D., Ugljesic, M., Pavlica, M., & Milic, N. (2021). Electronic health record acceptance by physicians: a single hospital experience in daily practice. *BioMedInformatics*, 1(1), 6-17.
- [22] Rasmi, M., Alazzam, M. B., Alsmadi, M. K., Almarashdeh, I. A., Alkhasawneh, R. A., &Alsmadi, S. (2020). Healthcare professionals' acceptance Electronic Health Records system: Critical literature review (Jordan case study). *International Journal of Healthcare Management*.
- [23] Salleh, M. I. M., Abdullah, R., & Zakaria, N. (2021). Evaluating the effects of electronic health records system adoption on the performance of Malaysian health care providers. *BMC medical informatics and decision making*, *21*, 1-13.
- [24] Shehu, I. (2016). *Acceptance of Electronic Health Records for Improving Quality of Health Service Delivery: A Case Study of Aminu Kano Teaching Hospital Kano State, Nigeria* (Doctoral dissertation, School of Computing and Information Technology).
- [25] Walle, A. D., Ferede, T. A., Baykemagn, N. D., Shimie, A. W., Kebede, S. D., Tegegne, M. D. & Mengistie, M. B. (2023). Predicting healthcare professionals' acceptance towards electronic personal health record systems in a resource-limited setting: using modified technology acceptance model. BMJ Health & Care Informatics, 30(1).

[26] Yousef, C. C., Salgado, T. M., Farooq, A., Burnett, K., McClelland, L. E., Esba, L. C. A., & DeShazo, J. P. (2021). Health care providers' acceptance of a personal health record: cross-sectional study. *Journal of medical Internet research*, *23*(10), e31582.