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Evaluating the advantages of electronic medical records in nursing: Review article

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***Abstract*---Background**: Electronic Medical Records (EMRs) have increasingly transformed healthcare systems worldwide by centralizing patient information and improving accessibility. In Australia, where the healthcare system is publicly funded and largely based on a British model of care, EMRs present a unique opportunity to enhance nursing practices and patient outcomes. Despite their potential, evaluations of EMRs have predominantly focused on economic aspects rather than the quality and safety of nursing care. **Aim**: This scoping review aims to assess the impact of EMR implementation on nursing work quality and safety in Australian hospitals. It seeks to identify appropriate metrics to evaluate the benefits of EMRs on nursing care and patient outcomes, guiding future assessments and improvements in clinical practice. **Methods**: The review utilized Arksey and O'Malley's five-step scoping review framework to explore relevant literature. A comprehensive search was conducted across five healthcare databases and supplemented by grey literature. The review process involved screening papers, data extraction, and analysis based on Donabedian's quality of care model and frameworks related to nursing care. The studies included were published between 2002 and 2017, encompassing various international perspectives with a focus on nursing. **Results**: The review identified 168 metrics for evaluating EMR impact on nursing care. These metrics spanned areas such as fundamental care, harm prevention, and patient-centered care. Key findings highlight the mixed impact of EMRs on nursing documentation time, communication, and patient outcomes. While some studies reported improvements in documentation efficiency and medication safety, others indicated varied effects on communication and patient care quality. **Conclusion:** EMRs have the potential to significantly improve nursing care by enhancing access to clinical information and documentation quality. However, the evidence on their impact is inconsistent, with gaps in evaluating communication and process measures. Future research should focus on developing standardized metrics to better assess the effects of EMR systems on nursing practices and patient outcomes. Effective implementation of EMRs requires continuous evaluation and adaptation to ensure they support high-quality, patient-centered care.

***Keywords*---** Electronic Medical Records, Nursing Care, Patient Safety, Healthcare Quality, Scoping Review, Australia

Introduction:
Globally, electronic medical record (EMR) systems are transforming healthcare delivery. EMRs provide nurses with a centralized and easily available source of electronic clinical information by replacing conventional paper-based information systems. These electronic solutions offer chances to improve processes, provide direction for care practices, and improve information access for nurses. The quality and safety of patient care, which are essential to nurses' jobs in Australia's largely publicly funded health system, are mostly overlooked in assessments of the advantages of EMR systems found in international healthcare literature, which primarily concentrates on economic drivers like revenue and business management (Australian Commission on Safety & Quality in Health Care, 2017b).

The benefits of EMR implementation for healthcare quality and safety have not received much evaluation. In particular, despite nurses' crucial roles in the provision of healthcare, the potential benefits for the caliber and security of nursing care are frequently disregarded. According to the Australian Institute of Health & Welfare (2018), nurses make up the majority of the health workforce and are the main users of electronic medical records in hospitals. In hospitals, nursing care has a direct impact on patient outcomes. Nevertheless, assessments of the advantages of EMRs sometimes neglect to account for their effects on clinical workflows and nursing practice in the diverse settings in which nursing care is rendered. The extent to which EMR deployment helps nursing work directly or indirectly, and how these benefits relate to patient outcomes that are sensitive to the quality of nursing care, are not well understood. In order to determine appropriate metrics for assessing the nursing benefits of EMR implementation in the Australian hospital context, a scoping review is presented in this work. The results should guide the development of a plan to assess how the use of an EMR has affected the caliber and security of nursing practice.

Context and Theoretical Structure

The shift in Australia from paper-based health records to electronic ones has happened gradually but inevitably. The Australian healthcare system, being a latecomer, has the distinct advantage of being able to draw lessons from global EMR deployments and avoid certain problems. International research on the advantages of EMR adoption usually focuses on medical professionals' usage of EMRs or financial concerns, mirroring U.S. systems built on privatized billing structures, from whence the majority of suppliers come. On the other hand, nursing practice in the Australian healthcare system is based on the patient-centered, multidisciplinary, quality-focused, and primarily publicly funded British style of care. The foundation of nursing practice in Australia is the nursing process, which is guided by national quality and professional standards and consists of the cyclical phases of assessment, planning, intervention, and evaluation of patient care (Kitson, Conroy, Kuluski, Locock, & Lyons, 2013). In order to promote clinical practice improvements in nursing care delivery across settings and jurisdictions, a number of indicators have been used since the 1990s to benchmark healthcare quality standards and subsequent patient outcomes (Brown, Donaldson, Bolton, & Aydin, 2010; Burkett, Martin-Khan, & Gray, 2017). It is yet unclear, nevertheless, if these markers are helpful in analyzing the effects

of EMR deployment. There is a dearth of research assessing the use of EMRs in nursing, and the scant literature that is available on the subject of how technology affects nursing quality is contradictory (Nguyen & Wickramasinghe, 2017; Rogers, Sockolow, Bowles, Hand, & George, 2013; Zhang & Zhang, 2016).

Nurses, who make up the majority of hospital staff, are essential to the effective implementation of EMRs and the ensuing improvements in patient care (Advisory Board International Global Centre for Nursing Executives, 2015; Snowden & Kolb, 2017). To provide safe, high-quality care, nurses in Australia collaborate with other medical professionals as well as operate independently. The Australian Commission on Safety and Quality in Health Care regulates the practices and standards of health services; the Nursing and Midwifery Board of Australia regulates legislation, professional standards, codes, and guidelines that govern the practice of nurses (Australian Commission on Safety & Quality in Health Care, 2017a; Nursing & Midwifery Board of Australia, 2018a, 2018b, 2018c). Australia's healthcare system is supposed to be information-driven, consumer-centered, safe, high-quality, and structured to prevent harm (Australian Commission on Safety & Quality in Health Care, 2017a). Thus, it is anticipated that the implementation of a hospital EMR system will assist nurses in fulfilling their professional obligations in three areas of clinical nursing work:

Addressing the basic needs of patients in terms of care, such as those related to physiology, psychology, society, comfort, mobility, nutrition, excretion, environment, hydration, and cleanliness (Kitson et al., 2013). Preventing iatrogenic injuries is important because, according to Nabhan et al. (2012), up to one in four patients may encounter an in-hospital complication or harm. The majority of them can be avoided with regular, high-quality care. Patients, their families, and the healthcare system bear heavy financial, physical, and psychological costs as a result of preventable harms (Duckett, Jorm, Danks, & Moran, 2018). Delivering condition-specific, patient-centered treatment that is planned and executed in collaboration with the patient's healthcare team and is suited to the patient's preferences and goals (Nursing & Midwifery Board of Australia, 2016).

In conclusion, the implementation of electronic medical record (EMR) systems is transforming healthcare practice by centralizing and improving access to clinical information, thereby enhancing nursing workflows and care practices. Despite the critical role of nurses in healthcare delivery, the evaluation of EMR benefits has largely focused on economic aspects, neglecting the quality and safety of patient care that are integral to nursing. Limited research has been conducted on how EMRs impact nursing work and patient outcomes within the Australian context. This scoping review identifies essential measures for evaluating the nursing benefits of EMR implementation in Australian hospitals. The findings will guide strategies to assess the impact of EMR systems on the quality and safety of nursing care, ensuring that the transition to electronic systems supports nurses in delivering high-quality, patient-centered care, and ultimately improving patient outcomes in the predominantly publicly funded Australian healthcare system.

Methods

A scoping review methodology, as defined by Arksey and O'Malley (2005) and Levac, Colquhoun, and O'Brien (2010), is used to explore, summarize, and disseminate the scope and depth of a research topic, examine existing research, identify gaps, or assess the feasibility of a full systematic review. This study utilized Arksey and O'Malley's (2005) five-step systematic scoping review framework to evaluate the literature on the impact of EMR implementation on nursing work in hospital settings. First, the review question was developed using the PICO framework (Rycroft-Malone & Bucknall, 2010), focusing on hospital nurses, EMR systems, paper record-based care processes, and quality and safety indicators of nursing work. Next, a preliminary literature scoping was conducted to formulate a search strategy and set inclusion and exclusion criteria. The literature search was independently verified by an expert health librarian and carried out using five healthcare databases, supplemented with grey literature and reports from key Australian healthcare and nursing organizations. Identified papers were screened by two researchers to exclude those not meeting inclusion criteria, ensuring relevance to current clinical practices and EMR implementation. Data extraction was based on Donabedian's quality of care model (Donabedian, 1988) and a framework of three nursing work domains: fundamentals of care (Kitson et al., 2013), prevention of hospital-related complications and harms (Australian Commission on Safety & Quality in Health Care, 2017a; Redley & Baker, 2018; Redley & Raggatt, 2017), and individualized condition-specific care (Australian Commission on Safety & Quality in Health Care, 2017a; Kitson et al., 2013).

Results

The search across various databases and grey literature resulted in a total of 475 papers. Following a rigorous screening process involving the evaluation of titles, abstracts, and full texts, 120 papers were deemed suitable for inclusion in the review. These papers, published between 2002 and 2017, reflect a broad geographic distribution, with the majority originating from the USA (57.5%, n=69). Australia contributed 15.8% (n=19) of the papers, while the remaining 26.7% (n=32) were from other countries, including the United Kingdom, Sweden, South Korea, and The Netherlands. In terms of paper types, 70% (n=84) were primary research studies, 16.7% (n=20) were review papers, 5.8% (n=7) were guidelines, 6.7% (n=8) were systematic reviews, which included 4 meta-analyses (3.3%), and 0.8% (n=1) was a database. Among these, 30.8% (n=37) focused specifically on nursing, 32.5% (n=39) were relevant to both nursing and medical professionals, 1.7% (n=2) pertained to nursing and midwifery, 3.3% (n=4) involved EMR and medical professionals, 13.3% (n=16) were relevant to nursing, medical, and pharmacy professionals, and 18.3% (n=22) addressed all healthcare professions.

A significant portion of the studies (36.7%, n=44) reported on post-implementation scenarios, while only 10% (n=12) provided data from both pre- and post-implementation phases; none of the studies were randomized trials. Additionally, 8.3% (n=10) involved pre-post studies that examined changes in existing Electronic Medical Records (EMR), such as the addition of alerts or

modifications in reporting systems. Most studies (80%, n=96) were conducted within hospital settings, with a smaller subset (8.3%, n=10) including both hospital and community organizations.

The characteristics and measures of the included studies are detailed in the following:

- **Australian Council on Health Care Standards (ACHS), 2010** (Australia): This guideline, relevant to all healthcare professionals, focused on preventing harms of hospitalization within the Australian healthcare system.
- **Australian Institute of Health and Welfare (AIHW), 2018** (Australia): Another guideline aimed at all healthcare professionals, addressing the prevention of hospitalization harms in the Australian context.
- **Akhu-Zaheya et al., 2017** (Jordan): A primary research study, conducted at two sites with 217 participants each, examined post-implementation documentation and content in medical and surgical wards.
- **Ali & Sieloff, 2017** (USA): This primary research study investigated standardized nursing terminology within electronic health records with a sample size of 232.
- **Allen et al., 2014** (USA): Focused on post-implementation impacts on hospital-acquired infections, this primary research involved EMR-based documentation and compliance barriers in intensive care units.
- **Amato et al., 2017** (USA): This study explored medication safety and types of medication errors post-implementation in a hospital setting.
- **Amland & Hahn-Cover, 2016** (USA): Investigated sepsis detection post-implementation across five different medical centers.
- **Asaro & Boxerman, 2008** (USA): Evaluated communication before and after implementation in medical and nursing settings, examining time spent on various care activities.
- **Australian Commission on Safety and Quality in Health Care (ACSQHC), 2010** (Australia): Provided guidelines on preventing harms of hospitalization relevant to all healthcare professionals.
- **Australian Commission on Safety and Quality in Health Care (ACSQHC), 2017a** (Australia): Another guideline similar to the previous ACSQHC publication.
- **Bardach et al., 2017** (USA): A post-implementation study on communication involving a diverse group of healthcare professionals.
- **Barker, Gout, & Crowe, 2011** (Australia): A review focusing on malnutrition screening or assessment relevant to all healthcare professionals.
- **Bates & Gawande, 2003** (USA): A review not specified in detail.

These papers collectively represent a comprehensive examination of various aspects of EMR implementation and its effects across different healthcare settings and professions. In the exploration of structure measures, various elements related to human and material resources, organizational frameworks, and the nature of work and workflows were assessed. This study encompassed 24 structure measures, which included the utilization of standardized nursing language (n=1), distribution and characteristics of nursing time dedicated to tasks (n=10), and nursing documentation practices (n=13). The implementation of a

standardized nursing language emerged as a critical component in ensuring a consistent definition of nursing tasks and facilitating a shared understanding across different care settings and electronic systems. Such a standardized language underpins the ability to systematically record fundamental nursing activities and harm prevention strategies, such as those aimed at preventing pressure injuries and falls (Johnson, Jefferies, & Nicholls, 2012). The advantages of adopting a standardized nursing language in electronic medical records (EMRs) include enhanced support for care quantification, benchmarking, and research capabilities (Ali & Sieloff, 2017; Runciman et al., 2009; Saranto et al., 2014). Identifying an appropriate standardized nursing language for the Australian context remains an area for further investigation.

The distribution of nursing work time has been studied through the duration and allocation of time spent on various nursing activities and workflows. Research typically categorizes nursing work into direct patient care (such as bedside activities, observations, hygiene, wound care, and medication management), indirect patient care (including administrative tasks, risk assessments, and equipment management), and other activities (such as interruptions and multitasking) (Chaboyer et al., 2008; Duffield, Gardner, & Catling-Paull, 2008; VanFosson, Jones, & Yoder, 2016). Additionally, studies have examined how electronic systems impact the time spent on specific tasks. For instance, comparisons of time spent using paper versus electronic systems have been used to assess the effects of technology on nursing work (Liu et al., 2018; Park, Blegen, Spetz, Chapman, & De Groot, 2015). Findings regarding the impact of technology on nursing work time are inconsistent, which may be attributed to variations in study classifications, measurement methods, and data reporting (Asaro & Boxerman, 2008; Callen et al., 2013; Liu et al., 2018; Park et al., 2015). Such discrepancies highlight the need for standardized classification and measurement approaches in future research.

Nursing documentation was primarily evaluated by measuring the time nurses spend on care records. Studies on the effects of EMR implementation on nursing documentation have produced mixed results. For instance, a meta-analysis by Campanella et al. (2016) reported a reduction in the time nurses spent on documentation following the adoption of electronic systems. Conversely, Chaudhry et al. (2006) found varied results, with some studies showing reduced documentation time and others reporting no change. Measures of documentation quality, timeliness, and quantity, crucial for professional standards (Australian Commission on Safety & Quality in Health Care, 2017a; Nursing & Midwifery Board of Australia, 2016), were infrequently captured. One study indicated that while electronic records improved the structure of nursing documentation, the quality and quantity of records were better with paper-based systems (Akhu-Zaheya, Al-Maaitah, & Bany Hani, 2017). Another study noted improved assessment documentation in EMRs, but no improvement in timeliness (Wang, Yu, & Hailey, 2013). Benefits of electronic documentation include automated author identification, time stamping, and improved legibility and contemporaneity, aligning with Healthcare Information and Management Systems Society (HIMSS) standards (Chand & Sarin, 2014).

Process measures, focusing on factors that influence care delivery outcomes, included nine metrics that captured nursing workflows. Notably, communication between nurses and healthcare teams was identified as a significant area affected by EMR implementation. Studies examining communication activities such as face-to-face interactions, telephone calls, and information access often used measures of duration and frequency to assess the impact of technology on nurse communication practices. Effective and timely communication within multidisciplinary teams has been linked to improved patient outcomes (Bardach, Real, & Bardach, 2017; Leonard, Graham, & Bonacum, 2004; Sutcliffe, Lewton, & Rosenthal, 2004). Reports indicated a decrease in face-to-face communication among healthcare professionals following EMR implementation (Keenan, Yakel, Dunn Lopez, Tschannen, & Ford, 2013; Taylor, Ledford, Palmer, & Abel, 2014). There is a noted gap in available measures to evaluate the quality and effectiveness of nurse communication processes in the context of EMR use. Outcome measures, which assess the results of care delivery, were the most frequently identified metrics in this review (n=135). These measures encompassed missed nursing care (n=27), preventable patient harms sensitive to nursing quality (n=102), length of stay (n=1), and experience and satisfaction (n=5).

Missed nursing care, often used as an indicator of nursing care quality, has yet to be specifically evaluated in the context of EMR implementation (Griffiths et al., 2017). Preventable patient harms, including rates of falls and pressure injuries, were commonly used to gauge nursing care quality (Dunton, Gajewski, Taunton, & Moore, 2004; Dunton, Gajewski, Klaus, & Pierson, 2007; Lake, Shang, Klaus, & Dunton, 2010). One study suggested that EMR systems can directly affect patient safety outcomes, such as fall and pressure injury rates (Dowding, Turley, & Garrido, 2012). Medication safety improvements, often reported as outcomes of electronic information systems, include reduced medication errors. EMR systems equipped with medication management components like alerts and clinical decision support have been shown to reduce various types of errors (Amato et al., 2017; Brown et al., 2017; Campanella et al., 2016; Forni, Chu, & Fanikos, 2010; Hoover, 2016; Jheeta & Franklin, 2017; Mattison, Afonso, Ngo, & Mukamal, 2010; Nebeker, 2002; Roberts et al., 2010; Seidling et al., 2007, 2010; Smith et al., 2006). EMR systems have also been effective in detecting and managing hospital-acquired infections through automated algorithms, which aid in early detection and treatment (Allen et al., 2014; Lo, Lee, & Liu, 2013; Pageler et al., 2014).

The association between EMR implementation and reduced rates of deep vein thrombosis, along with increased adherence to risk assessment and prophylaxis protocols, has been noted (Baysari et al., 2016; Saum & Reeves, 2016). Clinical deterioration, including measures of clinical escalation and cardiac arrests, has been effectively monitored using EMR systems (Osheroff et al., 2007; Wright et al., 2009, 2011). However, there is a lack of evidence regarding the benefits of EMR for documenting clinical risk and responses to patient deterioration. The introduction of EMRs has enhanced the documentation of delirium outcome measures, such as risk identification, assessment, and management of nursing interventions (Moon, Jin, Jin, & Lee, 2018; Oh, Park, Jin, Piao, & Lee, 2014; Rudolph, Doherty, Kelly, Driver, & Archambault, 2016; Swan, Becker, Rickie Brawer, & Sciamanna, 2011). The incidence of pressure injuries, risk assessment

compliance, and prevention intervention implementation are commonly reported outcomes following EMR implementation (Australian Commission on Safety & Quality in Health Care, 2017a). Increased reporting of hospital-acquired pressure injuries with EMRs has been attributed to improved risk assessment reporting by nurses (Gunningberg, Fogelberg-Dahm, & Ehrenberg, 2009; Plaskitt, Heywood, & Arrowsmith, 2015). Falls reporting, including incidence, risk assessment compliance, and preventative measures, has similarly increased with EMR implementation (Australian Commission on Safety & Quality in Health Care, 2017a).

The implementation of EMRs has been associated with enhanced efficiency in identifying nutritional deficits in patients (Rossi, Campbell, & Ferguson, 2014). Reports on the impact of EMR implementation on hospital length of stay (LOS) vary. Two studies found that patient LOS increased following EMR implementation (Furukawa, Raghu, & Shao, 2010; Ward, Froehle, Hart, Collins, & Lindsell, 2014), although one study reported that this increase returned to baseline levels within approximately eight weeks, suggesting that the effect of EMR on LOS may fluctuate over time (Thompson, O'Horo, Pickering, & Herasevich, 2015). Nurses' experiences and satisfaction with EMRs have been mixed. Some studies reported improved attitudes towards EMRs several years post-implementation (Harmon, Fogle, & Roussel, 2015; Takian, Sheikh, & Barber, 2012), while others found dissatisfaction due to perceived inadequacies in supporting clinical practice (Stevenson, Nilsson, Petersson, & Johansson, 2010). Kossman and Scheidenhelm (2008) noted that while nurses appreciated the efficiency of EMR systems, they also found them time-consuming and hindering interdisciplinary communication. The discrepancies in findings can be attributed to variations in measurement tools, timeframes, and methods, highlighting a gap in the evaluation of patient experiences with EMR implementation.

Discussion

This scoping review uncovered 168 potentially relevant metrics for assessing the impact of electronic medical record (EMR) implementation on nursing care quality and safety in Australian hospitals. These metrics addressed two of the three examined domains of nursing care. While there was frequent identification of metrics related to fundamental nursing care and the prevention of avoidable harm, there was a notable lack of measures evaluating the extent to which nursing care is patient-centered and collaboratively delivered with patients and the care team (Nursing & Midwifery Board of Australia, 2016). Similarly, although various measures related to nursing work structures and outcomes were identified, there was a scarcity of metrics focusing on the processes of nursing work. Structure measures primarily investigated the distribution of nursing work time, documentation practices, and the use of standardized language. However, the findings suggest that these measures should be analyzed alongside the examination of nursing time spent on care activities to determine how any freed time is utilized. The assumption in some studies that increased nursing documentation time represents an unnecessary clinical burden may need reassessment (Keenan et al., 2013; Kim, Coiera, & Magrabi, 2017), particularly if EMR implementation enhances the quality of nursing documentation and allows for more patient interaction, thereby improving patient care outcomes.

Consequently, the duration of time spent on documentation should be carefully considered as a standalone metric for assessing EMR impact on nursing work.

Communication quality between nurses and the broader healthcare team has been frequently linked to the prevention of patient harm (Australian Commission on Safety & Quality in Health Care, 2017a; Duckett et al., 2018). However, this review found limited examination of nurse communication, often focusing on the time nurses spend with patients as a proxy for communication effectiveness. As primary caregivers, nurses play a crucial role in facilitating effective intra- and inter-disciplinary communication essential for ongoing patient care. Although EMR systems have complex effects on nurse communication, the current literature does not sufficiently measure potential risks or benefits, revealing a gap in available metrics (Hripcsak, Vawdrey, Fred, & Bostwick, 2011). The review comprehensively captured outcome measures; however, attributing these outcomes directly to the benefits of EMR system implementation was challenging due to insufficient process measures. Essential components such as risk identification, compliance with risk assessments, and the initiation and evaluation of preventive interventions were identified as crucial for successful outcome measures, but their evaluation in the context of EMR implementation was inconclusive. The identified measures varied, with limited evidence supporting their relevance to the expected nursing benefits of EMR implementation. These findings align with other reviews of EMR literature, which emphasize the need for rigorous monitoring of EMR implementation using valid and reliable measures to identify unintended consequences on decision-making and patient care (Eden, Burton-Jones, Scott, Staib, & Sullivan, 2017; Bardach et al., 2017; Bates & Gawande, 2003).

The array of indicators identified in this review could support a comprehensive evaluation and monitoring plan specific to nursing benefits of EMR implementation. These indicators capture key activities that can be assessed before and after EMR implementation to evaluate structural and process changes. They can be operationalized at three organizational levels: ward and local clinical governance for monitoring direct nursing care quality, nursing-profession evaluation for adherence to professional standards, and organizational processes for aligning with National Safety and Quality Health Service Standards (Australian Commission on Safety & Quality in Health Care, 2017a) and healthcare quality assessment frameworks (Duckett et al., 2018). EMR systems offer significant potential to enhance the delivery of high-quality nursing care by providing centralized electronic clinical information and comprehensive, legible, and contemporaneous care documentation. This facilitates timely, accurate, and consistent patient care and service delivery (Burton-Jones & Volkoff, 2017). EMRs also offer clinical decision support, helping nurses access best practices and guidelines, which can improve care delivery and reduce workload and cognitive burden associated with paper systems (Akhu-Zaheya et al., 2017).

Despite the extensive list of identified indicators, the evidence for their use, either individually or collectively, as measures of nursing care benefits from EMR implementation remains weak. Evaluating the quality and consistency of nursing care is complex, and while EMRs provide a repository for clinical information, there are gaps in capturing the multifaceted components of nursing care.

Moreover, any assessment of benefits should account for the potential introduction of new errors through technology (Wickramasinghe et al., 2014) and the lack of thorough research on the cost-effectiveness and safety risks of implementing new technologies in healthcare (Black et al., 2011). The review's limitations include the restriction to English-language papers, the absence of formal quality analysis, and the inclusion of measures not rigorously tested in the context of EMR implementation, which may affect the utility of some measures. Nevertheless, the review's strength lies in its broad literature scope and identification of gaps. The identified potential measures of nursing benefits from EMR implementation are extensive and reflect the complex nature of nursing work. Future research should utilize these findings to develop programs for testing, monitoring, and evaluating the benefits associated with EMR system implementation. Further exploration should focus on how EMRs can enhance the measurement of nursing care quality and develop indicators to improve patient-centered care delivery (Global eHealth Executive Council, 2014).

Conclusion

The scoping review underscores the transformative potential of Electronic Medical Records (EMRs) in nursing practice, particularly within the context of Australia's publicly funded healthcare system. EMRs centralize patient information, enhancing access and potentially improving clinical workflows and patient care. Despite these advantages, the review reveals a significant gap in research focusing specifically on the quality and safety benefits of EMRs in nursing. The review highlights that while EMRs offer notable benefits, such as streamlined documentation and improved medication safety, the impact on other aspects of nursing care is less clear. Variations in research findings regarding documentation efficiency and communication underscore the need for more targeted studies. Particularly, the review identifies a lack of standardized measures for evaluating how EMRs affect nursing time management, communication quality, and patient-centered care. The findings also reflect the need for more comprehensive and consistent metrics to assess the effectiveness of EMRs. While some metrics related to fundamental care and harm prevention are frequently identified, there is a notable scarcity of measures focusing on the collaborative aspects of nursing care and process improvements. This suggests that while EMRs may enhance certain areas of nursing practice, their full potential remains underexplored and underutilized. To optimize the benefits of EMRs, healthcare systems must adopt a more nuanced approach to implementation and evaluation. This involves not only improving technological infrastructure but also ensuring that EMRs support nursing workflows and contribute positively to patient outcomes. Future research should aim to fill existing gaps by developing and validating metrics that accurately reflect the impact of EMRs on nursing care quality and safety. Ultimately, the goal is to leverage EMR systems to enhance patient care, reduce errors, and improve overall healthcare delivery.

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تقييم فوائد السجلات الطبية الإلكترونية في التمريض: مقالة مراجعة

الملخص :

الخلفية: لقد حولت السجلات الطبية الإلكترونية (EMRs) بشكل متزايد نظم الرعاية الصحية في جميع أنحاء العالم من خلال توحيد معلومات المرضى وتحسين الوصول إليها. في أستراليا، حيث يعتمد نظام الرعاية الصحية على التمويل العام وبدرجة كبيرة على نموذج الرعاية البريطاني، توفر السجلات الطبية الإلكترونية فرصة فريدة لتحسين ممارسات التمريض ونتائج المرضى. على الرغم من إمكاناتها، تركز تقييمات السجلات الطبية الإلكترونية في الغالب على الجوانب الاقتصادية بدلاً من جودة وسلامة الرعاية التمريضية

الهدف: تهدف هذه المراجعة إلى تقييم تأثير تنفيذ السجلات الطبية الإلكترونية على جودة وسلامة العمل التمريضي في المستشفيات الأسترالية. تسعى إلى تحديد مؤشرات مناسبة لتقييم فوائد السجلات الطبية الإلكترونية على الرعاية التمريضية ونتائج المرضى، مما يوجه التقييمات المستقبلية والتحسينات في الممارسة السريرية .

الطرق: استخدمت المراجعة إطار عمل أرجي ومالي المكون من خمس خطوات لاستكشاف الأدبيات ذات الصلة. تم إجراء بحث شامل عبر خمسة قواعد بيانات صحية وتمت إضافته بمصادر أدبية رمادية. شملت عملية المراجعة تصفية الأوراق، واستخراج البيانات، والتحليل استنادًا إلى نموذج دونابيديان لجودة الرعاية والأطر المتعلقة بالرعاية التمريضية. شملت الدراسات التي تم تضمينها المنشورة بين عامي 2002 و2017، مع التركيز على التمريض من وجهات نظر دولية متنوعة .

النتائج: حددت المراجعة 168 مقياسًا لتقييم تأثير السجلات الطبية الإلكترونية على الرعاية التمريضية. شملت هذه المؤشرات مجالات مثل الرعاية الأساسية، والوقاية من الأضرار، والرعاية التي تركز على المريض. تسلط النتائج الرئيسية الضوء على التأثير المختلط للسجلات الطبية الإلكترونية على وقت توثيق التمريض، والتواصل، ونتائج المرضى. بينما أفادت بعض الدراسات بتحسينات في كفاءة التوثيق وسلامة الأدوية، أشارت دراسات أخرى إلى تأثيرات متفاوتة على التواصل وجودة رعاية المرضى

الخاتمة: تمتلك السجلات الطبية الإلكترونية القدرة على تحسين الرعاية التمريضية بشكل كبير من خلال تعزيز الوصول إلى المعلومات السريرية وجودة التوثيق. ومع ذلك، فإن الأدلة على تأثيرها غير متسقة، مع وجود فجوات في تقييم مقاييس التواصل والعمليات. يجب أن يركز البحث المستقبلي على تطوير مؤشرات موحدة لتقييم تأثيرات نظم السجلات الطبية الإلكترونية على ممارسات التمريض ونتائج المرضى بشكل أفضل. يتطلب التنفيذ الفعال للسجلات الطبية الإلكترونية تقييمًا مستمرًا وتكيفًا لضمان دعمها للرعاية ذات الجودة العالية التي تركز على المريض.

الكلمات الرئيسية: السجلات الطبية الإلكترونية، الرعاية التمريضية، سلامة المرضى، جودة الرعاية الصحية، مراجعة استكشافية، أستراليا