
Usefulness of Electronic Medical Records Technology for Nurse Managers: A Literature Review

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ABSTRACT

Nurse managers play an important role in evaluating medical records through management activities, namely planning, organizing, actuating and controlling (POAC) that are carried out conventionally. Now medical records have evolved into integrative Electronic Medical Records (EMR). Nurse managers play an important role in evaluating medical records through management activities, namely planning, organizing, actuating and controlling (POAC) that are carried out conventionally. Now medical records have evolved into integrative Electronic Medical Records (EMR). This review aims to explore the usefulness of EMS technology for nurse managers. Literature searches use two database sources namely ProQuest and Google Scholar with boolean search "Electronic Medical Records for nurse manager" and filter articles published in the last 5 years (2017-2021). Identified 9 articles worthy of review. The total participants of the entire article were 1539 people consisting of doctors and nurses (implementers and managers). It found that EMR is very useful for nurse managers, can increase productivity, facilitate the documenting of nursing care and improve the quality of care through an integrated system.

Keywords: *Electronic Medical Records, Nurse Manager, POAC*

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BACKGROUND

Medical records are one of the important files in the hospital that contains the patient's chronological, disease history and all actions that have been done in the patient's treatment and treatment process (Depkes RI, 2008). Nurses play a dominant role in completing medical records because the process of documenting nursing ranging from assessment to evaluation is recorded and reported in medical records. During the assessment process to evaluation, nurse managers play an important role in evaluating the medical records of implementing nurses through management activities such as planning, organizing, actuating and controlling (POAC) in line with the principle of continuous service. From this is presented a good medical record so that it reflects quality health services and indirectly reflects the good performance of health workers, especially nurses.

Conventionally, POAC is carried out by nurse managers by evaluating medical records of the results of the assessment of the executing nurses in accordance with the plan of action, the implementation of nursing and the results of nursing care evaluation, the whole process is written specifically in the medical record. In addition, the medical record contains complete information about a person's history of disease, various medical actions that have been done against him, the results of clinical observations, treatment results, until the approval / rejection of an action until the summary of the return accompanied by the name and signature of the patient or health worker contained in the medical record. All of these things remain controlled and evaluated by the nurse manager, to the point of ensuring all nursing actions have been fully recorded.

Inability of conventional medical records in integrating data, cannot provide long-term databases and is not guaranteed data security (Nguyen et al., 2014; Saraswasta & Hariyati, 2018) It becomes a trigger for hospitals to use electronic medical records for the efficiency and effectiveness of health services. This is a challenge for nurse managers to switch from conventional medical records to electronic medical records due to language constraints. Vocabulary standards, inputting information, and knowledge of IT even most officers disagree that electronic medical records are user friendly (De Moor et al., 2015; Saraswasta & Hariyati, 2018; Gizela, 2021).

Based on this, the usefulness of electronic medical records for nurse managers is still questionable. This literature review aims to explore the usefulness of EMS technology for nurse managers in supporting management activities (planning, organizing, actuating and controlling).

METHODS

This study uses a review literature method with a narrative analysis approach in exploring the usefulness of Electronic Medical Records for nurse managers. *Preferred Reporting Items for Systematic Reviews and Meta-Analyses* (PRISMA) It is used to show flows at each stage of the review process by mapping the number of records identified, entered, and excluded as well as the reasons for exclusion.

Literature selection

Literature searches apply several inclusion criteria, including: (1) quantitative and qualitative research types and other research relevant to the purpose of study; (2) the target is the nurse manager; (3) published between 2017-2021; (4) articles using English; (5) articles in fulltext form.

Search Strategy

Search articles using databases derived from ProQuest and Google Scholar. Search keywords using boolean "Electronic Medical Records for nurse manager"

Data Collection

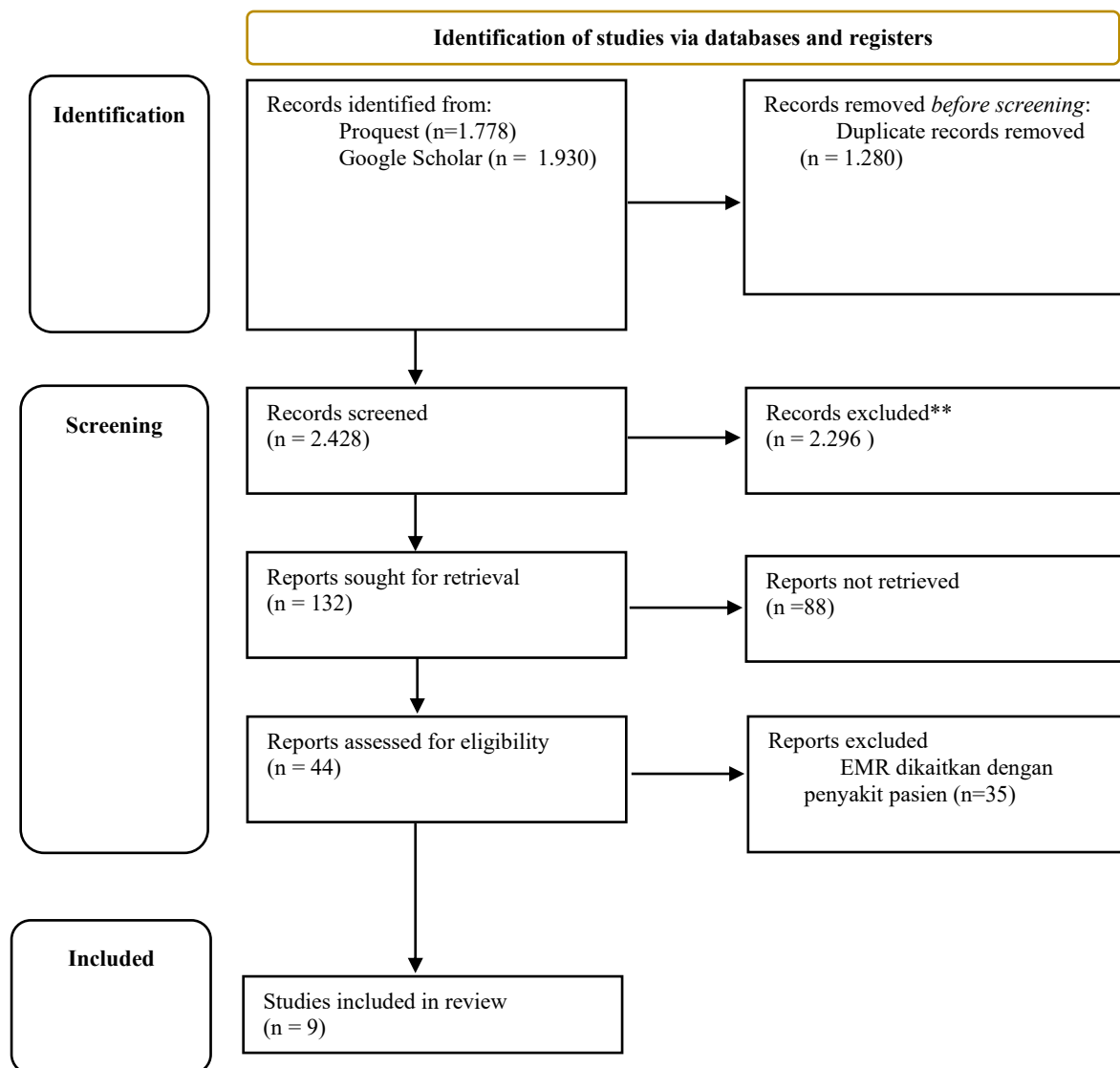
Articles that meet the criteria are extracted into synthesis tables containing the following elements: (1) research database sources; (2) The author; (3) the purpose of the research; (4) research methods; (5) the results of the study; (6) conclusions and (7) the interrelationship of articles with the topic of manuscripts.

RESULTS AND DISCUSSIONS

Found 9 articles that are worth synthesizing (table 1), the article filtering process refers to prisma flow diagram (2020) (Page et al., 2021) And identified 132 articles taken for further screening so that 44 articles were found to be considered worthy but we excluded articles linking EMR to patient disease (35 articles).

Characteristics of the study

This review includes 9 articles published from 2017-2021. The total participants of the entire article were synthesized as many as 1539 people and consisted of doctors, nurse managers. The total papers from the studies included were 56 papers and 118 internal RS data. Research types include literature, systematics, integrative review and meta-analysis. analysis (Brown et al., 2020; Hamade et al., 2019; Parthasarathy et al., 2018; Wisner et al., 2019; Yehualashet et al., 2021); observational analytics (Jahanbakhsh et al., 2017; Lambooi et al., 2017) and mixed-methods study (Jedwab et al., 2021; Vosseveld et al., 2019). All the studies were conducted in the hospital. The characteristics of the various studies included are presented in table 1.



Picture 1. Filtered articles from the database are outlined in prisma flow diagram (2020)

Table 1. Characteristics of the study

| Author | Type of studi | Participant/paper | Setting |
|-----------------------------|---------------------------------|--|--|
| Jedwab et al (2021) | Mixed method study | Survey of 540 nurses and interviews on 63 nurse managers | Teaching hospitals located in Victoria |
| Lambooij et al (2017) | Observasional analitik study | 402 doctors and 512 nurses | Dutch academic hospitals di Netherlands |
| Yehualashet et al (2021) | Systematic review | 9 papers | Hospitals in Ethiopia |
| Jahanbakhsh et al | Analitik study | 22 nurse managers | Isfana hospital in Austria |

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|----------------------------|-----------------------------------|--|---|
| (2017) | | | |
| Parthasarathy et al (2018) | Literatur review | - | EMR in USA |
| Brown et al (2020) | Integrative review | 17 papers | - |
| Wisner at al (2019) | Integrative review | 18 papers | United States, Scandinavia, Australia, Austria & Canada |
| Hamade et al (2019) | Systematic review & meta analysis | 12 papers | - |
| Vossebeld et al (2019) | Case study & mixed-method | 118 internal data & 23 nurses in interview | University Medical Center in The Netherlands |

Abbreviation: EMR (*Electronic Medical Records*); USA (*United State of America*)

Risk of bias

Included studies assess the risk of bias in several ways, namely data extraction. (Hamade et al., 2019; Wisner et al., 2019); ensuring the validity of the instrument (Jahanbakhsh et al., 2017; Vossebeld et al., 2019); set specific criteria (Lambooi et al., 2017); 4 Other studies do not explain how to minimize bias in their research.

The use of Electronic Medical Records technology for nurse managers, All the included studies outline EMR technology and its usefulness to nurses. Table 2 presents a summary of the results.

Table 2. Electronic Medical Records technology for nurse managers

| Authors | Electronic Medical Records technology and its usefulness for nurse managers |
|--|---|
| Jedwab, R. M., Hutchinson, A. M., Manias, E., Calvo, R. A., Dobroff, N., Glozier, N., & Redley, B. (2021). Nurse Motivation, Engagement and Well-Being before an Electronic Medical Record System Implementation: A Mixed Methods Study. | EMR usage technology, when viewed in terms of benefits, then EMR can increase high job satisfaction from nurse managers who will improve the quality of service and professionalism in health facilities. This will bring positive energy also for patients who are handled by nurses who are more professional and have high work motivation due to the digitization of the medical record system that was proclaimed. With EMR technology, it can reduce the burden of nurses who no longer need to use paper based medical records to report the current status of patients, so it will be easier. |
| Lambooi, M. S., Drewes, H. W., & Koster, F. (2017). Use of electronic medical records and quality of | Digitization of medical records when viewed from this study, it can be concluded that the use of technology has facilitated the work of health workers, especially nurse managers. Patient data is presented to be more qualified, and communication built and work culture becomes better for nurses. This will certainly increase job |

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| patient data: different reaction patterns of doctors and nurses to the hospital organization. | satisfaction for nurses which will ultimately increase the satisfaction of the services provided to patients. Patients will feel confident and satisfied from the nursing and medical services obtained, so it will improve the attitude of professionalism in work. Plus if EMR is easy to use and adjust to the routine of health workers during daily work. |
| Yehualashet, D. E., Seboka, B. T., Tesfa, G. A., Demeke, A. D., & Amede, E. S. (2021). Barriers to the Adoption of Electronic Medical Record System in Ethiopia: A Systematic Review. | Implementing EMR in healthcare facilities is a challenge for low-income and developing countries. This is because the emr adoption process requires cost and quality human resources, so that this program can be run. However, behind all that, that the digitization of medical records is considered very important in the future, because the times are advancing, it is necessary and inevitably the world of health will face these challenges and must be ready with increasingly technological and innovative. EMR requires readiness and careful consideration to use, despite the many benefits that can be taken from the use of this type of technology. |
| Jahanbakhsh, M., Karimi, S., Hassanzadeh, A., & Beigi, M. (2017). Hospital managers' attitude and commitment toward electronic medical records system in Isfahan hospitals 2014. | The emr implementation process requires the readiness of the hospital in general, moreover the manager also participates in the process. determination of EMR technology to be applied in healthcare, regardless of the ease and advantages of using EMR. This is due to the successful implementation of this digitization program, determined by those who want to use this technology or not and there is a commitment to use EMR continuously for the success and adjustment process to the times, and so as not to be left far behind countries that have utilized the use of EMR technology comprehensively. |
| Parthasarathy, R., Steinbach, T., Knight, J., & Knight, L. (2018). Framework to enhance nurses' use of EMR. | Nurses urgently need to understand the comprehensive use of EMR. The goal is that to make it easier for nurses to use EMR technology, nurses can improve the quality of care provided to patients. This has been supported by some research results in this article that state that the use of EMR can improve the quality of health services to be more professional and it is expected that nurses continue to improve the knowledge and quality of health services within the scope of emr use. |
| Brown, J., Pope, N., Bosco, A. M., Mason, J., & Morgan, A. (2020). Issues affecting nurses' capability to use digital technology at work: An integrative review | Emr systems are closely related to nurses in terms of their utilization, use, and development. This happens because nurses become one of the spearheads of EMR users in real time in the field. Nurses become users who will input patient data into EMR and nurses are also subjects who will monitor patient development as professional nursing service providers. Thus, nurse managers who are in charge of nurses who work in certain rooms in a hospital, must always pay attention to the level of proficiency of nurses in using EMR technology. Nurse managers who already use this technology, to always pay attention to the needs of patients holistically. Based on the results of previous research mentioned that the use of EMR can help improve nurse performance and job satisfaction for the nurse itself, Especially in terms of inputting medical records, so that the level of professionalism will increase. |

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| Wisner, K., Lyndon, A., & Chesla, C. A. (2019). The electronic health record's impact on nurses' cognitive work: An integrative review | EMR has advantages and disadvantages in its use. On the one hand, EMR can facilitate the work of nurses and other clinicians, but on the other hand, it can also cause interprofessional communication constraints in the process of conveying information, especially if there are disruptions in its use. EMR requires health workers who are good at using the technology and must be well-prepared when implemented in the health workforce. This is because the use of EMR involves cognitive work from the user. Nurse managers also in the setting of health facilities must have equipped nurses who work in the room with the ability and skills in using EMR, for success in the process of inputting data to medical records electronically. Nurses are also required to be technologically literate. |
| Hamade, N., Terry, A., & Malvankar-Mehta, M. (2019). Interventions to improve the use of EMRs in primary health care: a systematic review and meta-analysis. | The use of EMR also needs to be considered in primary health care systems for the realization of more professional information and data systems, It continues to grow rapidly in a better direction, and nurse managers as one of the human resources in it must remain focused on the comprehensive, integrative, and responsible utilization and use of EMR. Thus, there will be a professional health care system based on technology and digitalization of information that facilitates the provision of medical services and nursing services to patients as a whole. |
| Vossebeld, D. M., Puik, E. C. N., Jaspers, J. E. N., & Schuurmans, M. J. (2019). Development process of a mobile electronic medical record for nurses: a single case study. | Nurse managers have an important role in the process of implementing EMR technology. Note, that the nurse manager must certainly have knowledge about the usefulness of EMR and how to operate, as well as making other nurses able to understand the EMR system through various trainings that can make other nurses become proficient in using it. The goal is to increase the productivity of nurses in the room, facilitate nurses in the process of documenting professional nursing care and improving the quality of nursing services. |

LIMITATIONS OF STUDY

This study reviews previous research that was used as the basis in exploring the usefulness of EMS for nurse managers. The results provide valuable information to improve the performance of nurse managers. However, in the article reviewed there are 2 articles that do not include the setting of the research location and most articles do not mention the type of EMS used in the hospital.

CONCLUSION

Electronic Medical Records technology is very useful for nurse managers in increasing the productivity of nurses in the room, facilitate the process of documenting professional nursing care and facilitate the duty of nurse managers in integrating reports and evaluation of care. Nurses spearhead the implementation of EMR technology in hospitals, the nurse is required to improve their IT skills.

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CONFLICT OF INTEREST

There is no conflict of interest in the preparation and completion of manuscripts.

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