E-ISSN: 3116-5974 P-ISSN: 3116-5966
DOI: https://doi.org/10.66206/eduheart.ijnhha.144

Evaluating the Implementation of Electronic Medical Record (EMR) and Its Perceived Outcomes among Hospital Staff in a Tertiary Hospital in Bataan

Melvin Joseph M. Vinzon[1], **Mary Ann E. Lopez**[2]
https://orcid.org//0009-0001-9094-2899[1], https://orcid.org//0000-0001-7566-5152[2]
Saint Bernadette of Lourdes College[1,2]
mjvinzon@slbc.edu.ph[1] malopez@sblc.edu.ph[2]

ABSTRACT

This study evaluated the implementation of the Electronic Medical Record (EMR) system and its perceived outcomes among hospital staff in a tertiary hospital in Bataan. Specifically, it determined the level of EMR implementation in terms of system availability and usability, staff training and technical support, and data security and administrative support, as well as its relationship with documentation efficiency and accuracy, workflow and time management, and user satisfaction. Anchored on the Technology Acceptance Model (TAM), the study employed a quantitative descriptive-correlational research design. A total of 340 hospital personnel who actively used the EMR system were selected through purposive sampling. Data were collected using a researcher-made, validated questionnaire and analyzed using frequency and percentage, weighted mean, and Pearson Product-Moment Correlation Coefficient. Findings revealed that respondents strongly agreed that the EMR system was effectively implemented across all implementation dimensions and positively influenced documentation efficiency, workflow management, and user satisfaction. Statistical analysis further revealed a very strong positive and significant relationship between EMR implementation and perceived outcomes ($r = 0.842$, $p < .001$), indicating that improved EMR implementation is associated with more favorable staff perceptions and work outcomes. The study was limited to self-reported responses from EMR users in one tertiary government hospital, which may limit the generalizability of the findings. The findings highlight the importance of continuous training, technical support, administrative commitment, and data security in maximizing EMR effectiveness. They also provide valuable insights for hospital administrators, healthcare professionals, policymakers, and future researchers to improve digital health implementation and healthcare service delivery.

Keywords: - *Electronic Medical Record (EMR), healthcare informatics, documentation efficiency, workflow management, user satisfaction*

INTRODUCTION

Electronic Medical Records (EMRs) have transformed healthcare by improving documentation, patient safety, and communication among healthcare professionals. In the Philippines, The Department of Health promotes digital health systems through the National eHealth Strategy and Philippine Health Information Exchange. Despite increasing adoption, hospitals continue to experience challenges involving: (1) system usability, (2) staff training, (3) technical support, (4) data security and (5) administrative support. Limited studies have examined how EMR implementation affects healthcare workers in tertiary hospitals in Bataan.

Statement of the Problem

This study aims to determine the relationship between the Implementation of Electronic Medical Record (EMR) and the perceived outcomes among hospital staff in Bataan General Hospital and Medical Center.

1. What is the demographic profile of the respondents in terms of:
   1.1 Age
   1.2 Sex
   1.3 Profession
   1.4 Years of Service
2. What is the level of EMR implementation in terms of:
   2.1 System availability and usability
   2.2 Staff training and technical support
   2.3 Data security and administrative support
3. What is the level of EMR perceived outcomes in terms of:
   3.1 Documentation efficiency and accuracy
   3.2 Workflow and time management
   3.3 User satisfaction and overall effectiveness
4. Is there a significant relationship between the implementation of EMR and the perceived outcomes among hospital staff?
5. What programs can be proposed to improve EMR implementation in Bataan General Hospital and Medical Center?

Scope and Delimitations

This study evaluated the implementation of the Electronic Medical Record (EMR) system and its perceived outcomes among 340 hospital personnel at Bataan General Hospital and Medical Center (BGHMC). It examined system availability and usability, staff training and technical support, data security and administrative support, documentation efficiency, workflow management, and user satisfaction. The study excluded patients, non-EMR users, technical and financial aspects of the EMR system, and patient health outcomes; therefore, the findings are limited to the selected respondents and may not be generalized to other healthcare institutions.

Review of Related Literature

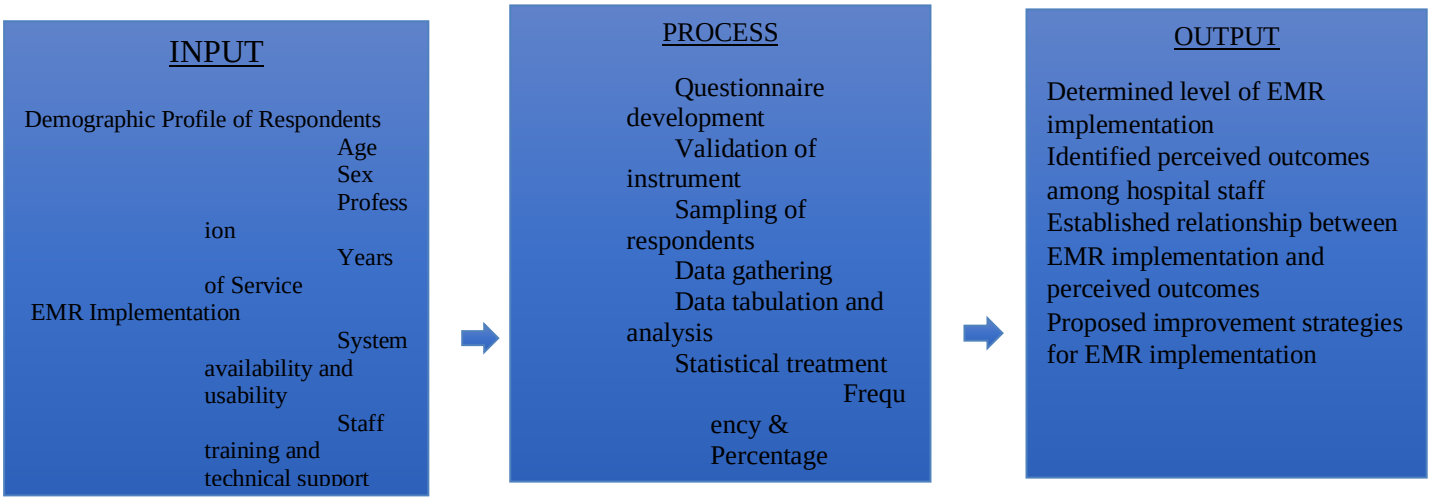
The implementation of Electronic Medical Records (EMR) has become a vital component of healthcare digitalization, improving the documentation, storage, retrieval, and sharing of patient information to enhance healthcare efficiency and quality. Successful EMR implementation depends on system usability, user training, technical support, administrative commitment, and data security. Studies have shown that user-friendly systems, continuous training, and strong organizational support improve technology acceptance, information accessibility, and overall healthcare delivery (Rahimi et al., 2022; Aung et al., 2023). Research indicates that EMR systems improve documentation accuracy, workflow efficiency, and user satisfaction by reducing errors, enhancing communication, and providing faster access to patient information. However, insufficient training and technical challenges may limit these

benefits (Kruse et al., 2022). Previous studies have found a significant positive relationship between effective EMR implementation and improved documentation, workflow, and user satisfaction. The Technology Acceptance Model (TAM) suggests that perceived usefulness and ease of use encourage EMR adoption and better work performance (Khairat et al., 2022). The literature consistently shows that system usability, staff training, technical support, administrative support, and data security are key factors in successful EMR implementation and positive organizational outcomes. However, limited studies have explored these relationships among hospital staff in tertiary government hospitals in Bataan, providing the basis for this study at Bataan General Hospital and Medical Center.

Theoretical Framework

Technology Acceptance Model (TAM) is a theoretical framework that may be used to analyze the implementation of Electronic Medical Records (EMR) and its perceived outcomes among hospital staff in a tertiary hospital in Bataan. The theory explains that healthcare professionals' acceptance and use of EMR systems are influenced by their perceptions of the system's usefulness and ease of use.

Conceptual Framework



METHODOLOGY

This quantitative descriptive-correlational research study examined the implementation of the Electronic Medical Record (EMR) system and its perceived outcomes among hospital staff at Bataan General Hospital and Medical Center in Bataan, Philippines.

Research Design

The purpose of this quantitative descriptive-correlational research was to evaluate the implementation of the Electronic Medical Record (EMR) system and its perceived outcomes among hospital staff at Bataan General Hospital and Medical Center.

Research Steps

study began with a review of related literature on Electronic Medical Record (EMR) implementation, focusing on system usability, staff training, technical support, data security, and their effects on documentation, workflow, and user satisfaction.

Data Collection and Sample Selection

Data collection began after obtaining approval from the Ethical Review Board (ERB), the research adviser, and the administration of Bataan General Hospital and Medical Center. A validated researcher-made questionnaire was administered to 340 hospital personnel who met the inclusion criteria. After obtaining informed consent, respondents completed the questionnaire within 10–15 minutes, and the accomplished forms were retrieved, checked for completeness, and prepared for statistical analysis.

Data Analysis Methods

Data were analyzed using descriptive and inferential statistics. Frequency and percentage described the respondents' profile, weighted mean assessed EMR implementation and perceived outcomes, and Pearson Product-Moment Correlation (Pearson *r*) determined the relationship between EMR implementation and its perceived outcomes.

Research Hypotheses and Validation

This study evaluated the implementation of the Electronic Medical Record (EMR) system and its perceived outcomes among hospital staff at Bataan General Hospital and Medical Center. The findings showed that effective EMR implementation significantly improved documentation, workflow, and user satisfaction, with a very strong positive relationship between implementation and perceived outcomes.

Study Limitations and Ethical Considerations

The study complied with ethical standards by obtaining ERB approval, securing informed consent, and ensuring voluntary participation. Participants' confidentiality and anonymity were protected in accordance with the Data Privacy Act of 2012 (Republic Act No. 10173), and all data were used solely for academic purposes and reported in aggregate form.

RESULTS AND DISCUSSION

SOP 1. What is the demographic profile of the respondents in terms of age, sex, profession, and years of service?

The findings revealed that the respondents were predominantly female nurses aged 36–40 years with 1–5 years of service. This indicates that the study captured the perceptions of hospital personnel who are actively engaged in the daily use of the Electronic Medical Record (EMR) system.

SOP 2. What is the level of implementation of the Electronic Medical Record (EMR) system in terms of system availability and usability, staff training and technical support, and data security and administrative support?

The findings showed that respondents strongly agreed that the EMR system was effectively implemented across all dimensions. This suggests that the hospital provides a reliable, secure, and well-supported EMR system for its healthcare professionals.

SOP 3. What are the perceived outcomes of the Electronic Medical Record (EMR) system in terms of documentation efficiency and accuracy, workflow and time management, and user satisfaction and overall effectiveness?

The findings revealed that respondents strongly agreed that the EMR system positively influenced documentation efficiency, workflow management, and user satisfaction. This indicates that the system effectively supports healthcare professionals in delivering quality patient care.

SOP 4. Is there a significant relationship between the implementation of the Electronic Medical Record (EMR) system and its perceived outcomes among hospital staff?

The findings revealed a very strong positive and statistically significant relationship between EMR implementation and its perceived outcomes. This indicates that better implementation of the EMR system is associated with improved documentation, workflow efficiency, and user satisfaction among hospital staff.

SUMMARY

The descriptive-correlational study found that effective EMR implementation at Bataan General Hospital and Medical Center improved documentation, workflow, and user satisfaction. It also revealed a very strong and statistically significant positive relationship between EMR implementation and its perceived outcomes.

CONCLUSIONS

The findings conclude that the Electronic Medical Record (EMR) system is effectively implemented at Bataan General Hospital and Medical Center and is significantly associated with improved documentation, workflow, and user satisfaction, contributing to better healthcare service delivery.

RECOMMENDATIONS

Based on the findings, the following are recommended:

- Strengthen EMR implementation through regular system maintenance and adequate technological resources.
- Provide continuous staff training and responsive technical support.
- Regularly review and enhance data security measures and administrative policies.
- Encourage healthcare professionals to maximize EMR use for better documentation and workflow.
- Conduct similar studies in other healthcare institutions with larger and more diverse samples.

ACKNOWLEDGMENTS

The researchers sincerely thank their adviser, panel members, validators, the administration and hospital staff of Bataan General Hospital and Medical Center, colleagues, friends, and families for their guidance, support, and encouragement. Above all, they express their deepest gratitude to Almighty God for His wisdom, strength, and countless blessings throughout this study.

AI DECLARATION STATEMENT

AI-supported tools were used only for grammar, language refinement, and manuscript organization. All data collection, analysis, interpretation, findings, and conclusions were conducted and verified by the researchers.

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