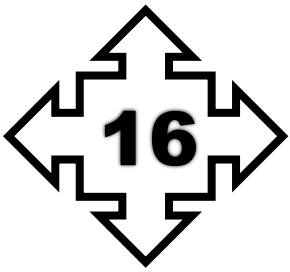

USABILITY EVALUATION OF COMPUTERIZED PROVIDER ORDER ENTRY (CPOE) IN HEALTHCARE DELIVERY SYSTEMS IN BENGALURU

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INTRODUCTION

A health system encompasses all entities, individuals, and activities with the primary objective of promoting, restoring, or maintaining health [1]. Healthcare organizations are comprised of diverse healthcare professionals forming interlinking care teams aiming to deliver safe and constant care. Effective coordination and communication among team members are essential for executing this sensitive work and achieving optimal patient care goals [2]. While healthcare delivery organizations must maintain stability through institutional protocols, they also need to continually assess performance, evaluate protocols, and incorporate new knowledge into their practices [3].

The healthcare landscape is constantly evolving with new technological advancements and expanding knowledge bases, catering to broader market coverage. The increasing demands of the population necessitate the adoption of Hospital Information Systems (HIS), which play a crucial role in supporting healthcare practitioners and hospital staff by providing timely and precise services. Customization of HIS according to the specific needs of each hospital is often required. HIS encompasses various applications designed to support and streamline the functioning of the hospital [4].

RESEARCH QUESTIONS

1. What was the current implementation status of Computerized Provider Order Entry (CPOE) in the healthcare delivery system in Bengaluru?
2. What was the level of usability and Knowledge, Attitude, and Practice (KAP) level of end users regarding the utilization of CPOE in the healthcare delivery system in Bengaluru?
3. What were the primary barriers and challenges faced by end users that impact the usability of CPOE?

RESEARCH OBJECTIVES

1. To evaluate the status of Computerized Provider Order Entry implementation in the healthcare delivery system.
2. To assess the usability of Computerized Provider Order Entry from the perspective of healthcare providers.
3. To identify and analyze issues and challenges associated with the use of Computerized Provider Order Entry.
4. To analyze the knowledge, attitude, and practice (KAP) of end users in relation to CPOE.

RESEARCH METHODOLOGY

The research employed a descriptive cross-sectional study design. Two tools were utilized for data collection: a close-ended checklist to evaluate the degree of Computerized Provider Order Entry adoption in healthcare delivery setups and a close-ended questionnaire to assess the usability, knowledge, attitude, and practice of CPOE end users. The checklist comprised four main parameters—extent of adoption, education and training, support and maintenance, and leadership within the organization—each with five sub-parameters. The extent of CPOE adoption was measured based on the analysis of these parameters. The end user questionnaire encompassed four main parameters—Usability, Knowledge, Attitude, and Practice each further divided into sub parameters. The questionnaire utilized a Likert scale for responses.

RESULTS & DISCUSSION

Hospital B demonstrated the highest degree of Computerized Provider Order Entry (CPOE) adoption, while Hospital E exhibited the lowest. Hospital B, a multi-specialty facility with a bed capacity ranging from 21 to 100 and two accreditations, contrasted with Hospital E, a daycare center with less than 20 beds and no accreditation. Further analysis using the Fisher Exact test revealed that users who processed over twenty orders via computers per day exhibited higher levels of Usability, Knowledge, Attitude, and Practice compared to those handling

fewer than twenty orders. The study also indicated that respondents in physician roles showed elevated levels of usability, knowledge, attitude, and practice compared to those in nursing staff and other allied health staff roles.

CONCLUSION

The extent of CPOE adoption differs depending on the specialty services provided by a healthcare facility. The qualifications and roles of individuals within the organization influence the usability, knowledge, attitude, and proficiency in practice of end users. CPOE serves as a powerful tool with the potential to improve patient care.

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