COST-EFFECTIVENESS ANALYSIS OF CPOE IN HOSPITAL SETTING: A SYSTEMATIC REVIEW

Dian Ekawati¹⁾, Ede Surya Darmawan²⁾

¹⁾Department of Hospital Administration, Faculty of Public Health, Universitas Indonesia

²⁾Department of Health Policy and Administration, Faculty of Public Health,
Universitas Indonesia

ABSTRACT

Background: Medication administration process is subject to error. In many cases it can lead to adverse drugs events (ADEs). An implication of ADEs is increased cost due to extended length of stay. Based on several studies, the use of computerized physicians order entry (CPOE) system can reduce the incident of ADEs in hospital which can indirectly reduce the ADEs related cost. A way to examine the efficiency of cost is to observe the number of cost incurred due to the effects of error that occur. This study aimed to systematically review articles related to the cost-effectiveness analysis of CPOE in hospital setting.

Subjects and Method: This was a systematic review study using online databases, such as PubMed, Embase, and other sources. The main theme of this study was costs related CPOE implementation. The inclusion criteria were studies cost savings from the effects of ADEs and cost effectiveness related to the use of a computerized system on the CPOE. The exclusion criteria were studies with descriptive analysis and studies without reporting on CPOE and cost effectiveness. This data were collected and analyzed with PRISMA flow diagram.

Results: A total of 11 studies met the inclusion criteria. Ten studies obtained cost efficiency due to the use of computerized system. The decrease in cost were incurred as a result of the decrease in the incidence of EDAs converted into annual cost. Comparison of cost reduction was done by comparing cost incurred when using a CPOE system with a paper-based system. However, there was a study conveyed ineffectiveness in small size hospital and located at rural area, because the cost was higher than the revenue obtained.

Conclusions: CPOE is proven to be cost-effective in lowering the hospital costs incurred owing to the ADEs.

Keywords: cost-effectiveness, cost analysis, CPOE, ADEs, medication administration process, hospital.

Correspondence:

Dian Ekawati. Department of Hospital Administration, Faculty of Public Health, Universitas Indonesia, Depok, West Java, Indonesia. Email: dianeka1981@gmail.com. Mobile: +628567650569.