



Kerman University of Medical Sciences

Faculty of Management and Medical Information

**In Partial Fulfillment of the Requirements for the Degree Master
of Science**

Title

**Cost effectiveness analysis of electronic prescribing in
comparison with paper method Among insured of health
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Abstract

Background and Objectives: Today, with the advancement of technology, it is possible to use many services electronically. Medication is one of the most common and powerful treatments used by doctors. For years, handwriting has been the preferred communication method for physicians in deciding on medication and pharmacists in drug distribution. Due to the growing need to electronicize and eliminate paper from this cycle, the electronic version is considered as the main solution to overcome the major drawbacks of the paper-based prescription drug such as transcription errors. Implementing an electronic prescription system with an electronic health record can alleviate the many problems of paper transcription and save on running costs, reduce medication errors and side effects, improve medication, and prevent potential misuse. Due to the importance of this issue, the purpose of this study was to identify the cost-effectiveness of e-prescribing strategy compared to paper prescribing from a health insurance perspective

Methods: This study is an economic evaluation that has been done as a cost-effectiveness analysis and in this analysis, a comparison of both strategies has been evaluated. To perform the analysis, the costs were collected in both methods (paper prescription and electronic prescription) by referring to Kerman health insurance. Then, the result was extracted by reviewing the text due to non-recording of medical errors and side effects of the drug. Finally, according to the costs and consequences obtained and drawing the Decision Tree model in TreeAge software version 11, cost-effectiveness analysis and sensitivity analysis were performed.

Results: The result of cost-effectiveness analysis showed that the electronic Prescription strategy is cost effective and the electronic Prescription strategy has prevailed according to the cost-effectiveness chart. The results of sensitivity analysis also showed that the electronic prescribing strategy in the pilot clinic of the study was 100% cost effective.

Conclusion: According to the results of the study, electronic prescribing strategy is more cost-effective for medical service providers and due to limited resources in the health sector and increased costs in the health sector, e-prescribing reduces prescribing errors, increases efficiency and Save on health care costs.

Keywords: Cost Effectiveness Analysis, Electronic Prescription, Medical Error, Adverse drug events, Sensitivity Analysis.