

## Developing and integrated Clinical Risk Management Model

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**Abstract :** Introduction: Improving patient safety in health systems is one of the main priorities in healthcare systems, so clinical risk management in organizations has become increasingly significant. Although several tools have been developed for clinical risk management, each has its own limitations. Aims: This study aims to develop a comprehensive tool that can complete the limitations of each risk assessment and management tools with the advantage of other tools. Methods: Procedure was determined in two main stages included development of an initial model during meetings with the professors and literature review, then implementation and verification of final model. Subjects and Methods: This study is a quantitative – qualitative research. In terms of qualitative dimension, method of focus groups with inductive approach is used. To evaluate the results of the qualitative study, quantitative assessment of the two parts of the fourth phase and seven phases of the research was conducted. Purposive and stratification sampling of various responsible teams for the selected process was conducted in the operating room. Final model verified in eight phases through application of activity breakdown structure, failure mode and effects analysis (FMEA), healthcare risk priority number (RPN), root cause analysis (RCA), FT, and Eindhoven Classification model (ECM) tools. This model has been conducted typically on patients admitted in a day-clinic ward of a public hospital for surgery in October 2012 to June. Statistical Analysis Used: Qualitative data analysis was done through content analysis and quantitative analysis done through checklist and edited RPN tables. Results: After verification the final model in eight-step, patient's admission process for surgery was developed by focus discussion group (FDG) members in five main phases. Then with adopted methodology of FMEA, 85 failure modes along with its causes, effects, and preventive capabilities was set in the tables. Developed tables to calculate RPN index contain three criteria for severity, two criteria for probability, and two criteria for preventability. Tree failure modes were above determined significant risk limitation ( $RPN > 250$ ). After a 3-month period, patient's misidentification incidents were the most frequent reported events. Each RPN criterion of misidentification events compared and found that various RPN number for tree misidentification reported events could be determine against predicted score in previous phase. Identified root causes through fault tree categorized with ECM. Wrong side surgery event was selected by focus discussion group to purpose improvement action. The most important causes were lack of planning for number and priority of surgical procedures. After prioritization of the suggested interventions, computerized registration system in health information system (HIS) was adopted to prepare the action plan in the final phase. Conclusion: Complexity of health care industry requires risk managers to have a multifaceted vision. Therefore, applying only one of retrospective or prospective tools for risk management does not work and each organization must provide conditions for potential application of these methods in its organization. The results of this study showed that the integrated clinical risk management model can be used in hospitals as an efficient tool in order to improve clinical governance.

**Keywords :** failure modes and effective analysis, risk management, root cause analysis, model

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