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Application deficiencies of proactive analysis method for health care risk management

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Abstract

Objectives: In recent years, hospitals have actively adopted proactive risk management methods such as failure mode and effects analysis (FMEA). The study explored the deficiencies arising from the applications of FMEA and health care FMEA (HFMEA).

Methods: By using the case study method, this study reviewed FMEA and HFMEA case reports provided by hospitals and then identified and compared various ambiguities. Finally, the deficiencies were summarized by reviewing the definition of FMEA terms and standard practices as well as through analysis of confusion.

Results: Nine hospitals provided the aforementioned case reports. The highest numbers of ambiguities were noted in the correctness of failure modes and causes, followed by that of severity, Risk Priority Number, hazard index, and finally, decision tree analysis and verification methods. The following five application deficiencies were noted, in order of high to low intensity: failure causes were not root causes, failure severity was inconsistently reported, failure modes were mixed with failure causes, decision tree analysis methods were unclear, and failure modes and effects were unclearly reported.

Conclusions: FMEA and HFMEA application is essential for enhancing a hospital's risk management. This study thus recommends FMEA and HFMEA application during training to enhance systems thinking and technical skills.

Keywords: failure mode and effects analysis (FMEA), health care FMEA, systems thinking, risk management