

## Developing Fire Risk Factors for Existing Small-Scale Hospitals

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**Abstract :** From the National Health Insurance (NHI) system was introduced in Taiwan in 2000, there have been some problems in transformed small-scale hospitals, such as mobility of patients, shortage of nursing staff, medical pipelines breaking fire compartments and insufficient fire protection systems. Due to shrinking of the funding scale and the aging society, fire safety in small-scale hospitals has recently given cause for concern. The aim of this study is to determine fire risk index for small-scale hospital through a systematic approach. The selection of fire safety mitigation methods can be regarded as a multi-attribute decision making process which must be guaranteed by expert groups. First of all, identify and select safety related factors and identify evaluation criteria through literature reviews and experts group. Secondly, application of the Fuzzy Analytic Hierarchy Process method is used to ascertain a weighted value which enables rating of the importance each of the selected factors. Overall, Sprinkler type and Compartmentation are the most crucial indices in mitigating fire, that is to say, structural approach play an important role to decrease losses in fire events.

**Keywords :** Fuzzy Delphi Method, fuzzy analytic hierarchy, process risk assessment, fire events

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