Using risk analysis to anticipate and mitigate failures during a hospital pharmacy relocation

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Abstract

Objectives: Documented experiences of relocating hospital pharmacies are rare, but adequate preparation is vital to ensuring smooth pharmacy operation and patient safety. In autumn 2019, the Pharmacy of Eastern Vaud Hospitals, composed of four units (Logistics, Manufacturing, Clinical Pharmacy and Nursing Home Supply), was relocated to a new hospital in just a few days. In this context, a Failure Modes, Effects and Criticality Analysis (FMECA) was carried out before the relocation in order to anticipate any failure modes likely to affect the pharmacy's missions or patient safety during the move.

Methods: The FMECA was performed by a multidisciplinary team (pharmacists and logisticians) which analysed the complete upcoming process of relocating the pharmacy and its implications. Criticality indices (CIs) were defined based on the matrix developed by Williams *et al*., which sets a maximum score of 810. Every potential failure mode identified was analysed, and mitigation measures were proposed for each one.

Results: The analysis identified 86 potential failures. The mean initial CI calculated for the entire pharmacy relocation was 177 (min 4–max 567), but this was estimated to be reduced to 39 (-78%) after mitigation measures were identified. Within the whole pharmacy, the failures with the highest CIs were identified in the Logistics unit. Among these, the time necessary to transfer the pharmacy's drugs from their traditional alphabetical storage location to their new location using robotic, chaotic storage principles was identified as the riskiest potential failure. Indeed, the rapid availability of emergency medicines would have to be guaranteed at all times.

Conclusions: The present study highlighted the relevance of using an FMECA-type evaluation to anticipate the impact of a hospital pharmacy relocation. This tool enabled pharmacy professionals to structure their potential relocation problems and reflect on mitigation measures in order to provide concerted, realistically applicable solutions before the move.

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