

Prospective risk assessment and incident reporting for better pharmaceutical care at paediatric hospital discharge

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Purpose: Discharging patients from hospital is a complex multidisciplinary process that can lead to non-compliance and medication-related problems. To evaluate risks of discontinuity of pharmaceutical care at paediatric hospital discharge and assess potential improvement strategies, using two complementary methods: a prospective risk analysis and a spontaneous incident reporting system.

Methods: A multidisciplinary team analysed the paediatric medication discharge process applying the failure modes (FM), effects, and criticality analysis (FMECA), using ibuprofen, morphine, valganciclovir as model drugs.

Over 46 months, incidents with discharge prescriptions, reported by community pharmacists, were classified according to FMECA's FM.

Results: Twenty-four FM were identified. The highest criticality scores were given for prescribing the wrong dosage (mean criticality index (CI) = 205), early treatment discontinuation by the patient (CI = 195), and continuation of contraindicated treatment by the general practitioner (CI = 191). Implementation of 8 improvement strategies covering the 8 most critical FM led to a 64% reduction in criticality scores (CI 496 vs 1392). Improvement of the computerized-physician-order-entry system was the single most effective strategy (CI 843 vs 1392).

Only 52 incidents were spontaneously reported (17 for paediatric patients). Paediatric problems most frequently reported (lack of information, 35%; delay in drug supply, 18%) were consistent with the highest frequencies scored by FMECA.

Conclusions: Spontaneous incident reporting leads to high levels of under-reporting, but highlighted similar problems at paediatric hospital discharge to FMECA. Using FMECA allowed estimations of criticalities at each step and the potential impact of safety improvement strategies. Proactive and reactive methods proved complementary and would help to set up effective targeted improvement strategies to improve medication process at paediatric hospital discharge.