

Medication use process survey in Irish hospitals: implications for patient safety and continuity of care

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Objective:

To identify baseline data that describes medication use in secondary care in Ireland and the gaps in the process where patient safety can be enhanced.

Methods:

We conducted a prospective survey of the medication use process for consecutive general medical and surgical patients, across the entire inpatient episode from admission to discharge, at two acute hospitals. The process was analysed using a medication reconciliation approach. Two discharge prescribing processes were identified: handwritten (high transcription burden) and computer generated (low transcription burden).

Data were entered into SPSS® for support in analysis. Potential for harm and unplanned readmission consequent to non-reconciliation were assessed for a random selection of non-reconciled episodes using six independent assessors from medicine and pharmacy, in primary and secondary care. The drug classes most commonly associated with non-reconciliation were identified. Multiple linear regression and multivariate analysis of categorical data, using homogeneity analysis by means of alternating least squares (HOMALS) were used to identify factors associated with non-reconciliation of medication on discharge.

Results:

The process was surveyed for 1,245 inpatient episodes between January 2006 and May 2008. Non-reconciliation was identified in 50.1% of episodes, accounting for 16.3% of medication orders. The most common causes of non-reconciliation were omission of medication, lack of communication about intentional discontinuation of a medication and prescribing error. Potential for patient harm was judged to be severe in 2% of cases, moderate in 63% and minor in 35%, whilst 1% of non-reconciled episodes had a high potential to cause unplanned readmission within three months of discharge.

Drug classes (BNF classification) most frequently omitted on discharge included endocrine, central nervous system, nutrition & blood and "other" drugs ($\chi^2 = 80.7$; $df = 1$; $p < 0.001$). Lack of communication regarding intentional discontinuation of medication was identified most commonly for musculoskeletal system, obstetrics, gynaecology & urinary tract or cardiovascular drugs ($\chi^2 = 84.9$; $df = 1$; $p < 0.001$). Multiple linear regression identified increasing number of medications on admission ($\beta = 0.373$, $p < 0.001$) and the discharge prescribing process used (handwritten or computer) ($\beta = 0.144$, $p < 0.001$) as the regressors most significantly associated with non-reconciliation and this was supported by multivariate analysis of categorical data, using HOMALS.

Conclusions:

The baseline data describing medication use in secondary care in Ireland and the gaps in the process that have the potential to compromise patient safety were identified. Non-reconciliation of medication on discharge from acute hospital care was common and had the potential to cause harm or unplanned readmission.

Particular attention should be paid to patients on higher number of medications. Processes which decrease transcription burden on discharge should be used. The findings underpin the recommendation of the Report of the Commission on Patient Safety and Quality Assurance, Building a Culture of Patient Safety, which has been adopted as Irish government policy, to implement formal medication reconciliation procedures in Irish hospitals.