

# Implementation of an IT-guided checklist to improve the quality of medication history records at hospital admission

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## Abstract

**Background:** Medication discrepancies often occur at transition of care such as hospital admission and discharge. Obtaining a complete and accurate medication history on admission is essential as further treatment is based on it.

**Objective:** The goal of this study was to reduce the proportion of patients with at least one medication discrepancy in the medication history at admission by implementing an IT-guided checklist.

**Setting:** Surgery ward focused on vascular and visceral surgery at a Swiss Cantonal Hospital.

**Method:** The study was divided into two phases, before and after implementation of an IT-guided checklist. For both phases a pharmacist collected and compared the medication history (defined as gold standard) with that of the admitting physician. Medication discrepancies were subdivided in omissions and commissions, incorrect medications or dose changes, and incorrect dosage forms or strength.

**Main outcome measure:** The proportion of patients with at least one medication discrepancy in the medication history before and after intervention was assessed.

**Results:** Out of 415 admissions, 228 patients that met the inclusion criteria were enrolled in the study, 113 before and 115 patients after intervention. After intervention, medication discrepancies declined from 69.9 to 29.6% ( $p < 0.0001$ ) of patients, the mean medication discrepancy per patient was reduced from 2.3 to 0.6 ( $p < 0.0001$ ), and the most common error, omission of a regularly used medication, was reduced from 76.4 to 44.1% ( $p < 0.001$ ).

**Conclusion:** The implementation of the IT-guided checklist is associated with a significant reduction of medication discrepancies at admission and potentially improves the medication safety for the patient.

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