



Original Research

Custom and practice: A multi-center study of medicines reconciliation following admission in four acute hospitals in the UK

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Abstract

Background: Many studies have highlighted the problems associated with different aspects of medicines reconciliation (MR). These have been followed by numerous recommendations of good practice shown in published studies to decrease error; however, there is little to suggest that practice has significantly changed. The study reported here was conducted to review local medicines reconciliation practice and compare it to data within previously published evidence.

Objectives: To determine current medicines reconciliation practice in four acute hospitals (A–D) in one region of the United Kingdom and compare it to published best practices.

Method: Quantitative data on key indicators were collected prospectively from medical wards in the four hospitals using a proforma compiled from existing literature and previous, validated audits. Data were collected on: i) time between admission and MR being undertaken; ii) time to conduct MR; iii) number and type of sources used to ascertain current medication; and iv) number, type and potential severity of unintended discrepancies. The potential severity of the discrepancies was retrospectively dually rated in 10% of the sample using a professional panel.

Results: Of the 250 charts reviewed (54 Hospital A, 61 Hospital B, 69 Hospital C, 66 Hospital D), 37.6% (92/245) of patients experienced at least one discrepancy on their drug chart, with the majority of these being omissions (237/413, 57.1%). A total of 413 discrepancies were discovered, an overall mean of 1.69 (413/245) discrepancies per patient. The number of sources used to reconcile medicines varied with 36.8% (91/247) only using one source of information and the patient being used as a source in less than half of all medicines reconciliations (45.7%, 113/247). In three out of the four hospitals the discrepancies were most frequently categorized as potentially requiring increased monitoring or intervention.

Conclusion: This study shows higher rates of unintended discrepancies per patient than those in previous studies, with omission being the most frequently occurring type of discrepancy. None of the four centers

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adhered to current UK guidance on medicines reconciliation. All four centers demonstrated a strong reliance on General Practitioner (GP)-based sources. A minority of discrepancies had the potential to cause injury to patients and to increase utilization of health care resources. There is a need to review current practice and procedures at transitions in care to improve the accuracy of medication history-taking at admission by doctors and to encourage pharmacy staff to use an increased number of sources to validate the medication history. Although early research indicates that safety can be improved through patient involvement, this study found that patients were not involved in the majority of reconciliation encounters. © 2014 Elsevier Inc. All rights reserved.

Keywords: Medicines reconciliation; Medication history taking; Discrepancies; Pharmacist; Hospital

Introduction

The Institute for Healthcare Improvement (IHI) defines medicines reconciliation as:

“the process of creating the most accurate list possible of all medications a patient is taking — including drug name, dosage, frequency, and route — and comparing that list against the physician’s admission, transfer, and/or discharge orders, with the goal of providing correct medication to the patient at all transition points within the hospital.”¹

Accurate medicines reconciliation is important as it has been shown to reduce both error and hospital re-admission, thus decreasing both patient harm and expenditure.^{2,3} The value of undertaking this process, especially at admission, has been promoted by various organizations over the last 5 years, including the National Institute of Health and Clinical Excellence (NICE) & the National Patient Safety Agency (NPSA), the World Health Organization (WHO) and the Institute of Healthcare Improvement (IHI).^{1,4,5} All these organizations have campaigned for an increased focus on accurate information transfer at transition points in care including hospital admission, ward transfer and discharge. International efforts have encouraged the review of existing procedures and implementation of appropriate protocols and policies to standardize current medicines reconciliation processes. The WHO has gone further to stipulate that medicines reconciliation should be undertaken within 24 h of a patient being admitted to hospital.⁵

Many studies have highlighted the high number of errors in medication history-taking at admission which led to subsequent unintended discrepancies on inpatient charts.^{6–12} The most common error has consistently been the omission of clinically relevant medication from inpatient charts with an incidence of 39–72%.^{13–20} These studies have been followed with a number of recommendations

of good practice which further studies have shown to decrease error, including pharmacist-led interventions, improved multidisciplinary working, focused education and IT solutions.^{6,11,14,21–26}

There is little to suggest, however, that practice has significantly changed over the last 15 years within the UK, creating the need for further improvement to try to reduce the number of medication errors which occur at admission.

Upon admission to hospital, medication histories should be collected from the most recent and reliable source and where possible, information should be cross-checked and verified against another source.²⁷ Various sources of information can contribute to an accurate medication history. These include General Practitioner (GP) (family doctor)-based information, e.g., GP medication list print-outs, repeat prescribing slips (paper forms which patients use to order repeat prescriptions for long-term conditions) and the electronic health records (EHR); information from the patient or carer, patients’ own medication, health care professional (HCP) and patient-produced hand-held lists and monitored dosage systems (MDS); or other sources such as medicine administration record (MAR) charts, previous discharge summaries, and community pharmacy records.^{7,8,10,18,27–32} However, there is an evidence to suggest that the reliability of these sources may not always be accurate; hence the importance of using more than one source to verify information.³²

Current UK guidance on medicines reconciliation is based on error rates from one Canadian and one US study, making its relevance and applicability to the United Kingdom (UK) uncertain.^{6–8} This study determines the current picture of unintended medicines reconciliation discrepancies and compares these to existing data within national and international literature to contextualize the scale of problems with medicines reconciliation and highlights the relevance

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