

The clinical significance of medicines reconciliation in children admitted to hospital

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Outline

- **Background**
- **Aims and Objectives**
- **Method – Study design, Data collection and clinical assessment**
- **Results – demographics, data, clinical assessment**
- **Limitations**
- **Conclusions**
- **Future work**
- **Key messages**

Conflicts of interest statement

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Background

- According to the NICE guidance, children under the age of 16 are excluded from the national guidance on medicines reconciliation upon hospital admission.¹
- A study, suggested that potential adverse drug reactions are not uncommon in children and may be 3 times more common in paediatrics compared to adults.²
- Preliminary work showed that the absence of medicines reconciliation on admission to hospital for children increases their exposure to risk from discrepancies.³

Aims and objectives



Primary

- Use medicines reconciliation to identify if discrepancies occur upon hospital admission across four hospitals

Secondary

- Clinically assess for potential harm to discrepancies that were identified

Population targeted

- Paediatrics (aged 0 – 18 years) on long term medication.

Method – Study Design

- **Prospective observational study** across 4 NHS hospitals in Birmingham, London, Leeds and North Staffordshire.
- Registered with R&D office, NHS ethical approval not required
- **Setting**
 - Paediatric wards for 2 sites/Paediatric hospital for the other sites
- **Inclusion criteria**
 - Patients aged 0 – 18 years old on long term medication
 - Patients admitted into hospital via A&E and home
- **Exclusion criteria**
 - Patients transferred from other hospitals
 - Patients transferred from the same ward
 - Patients on PICU
- **Sample size**
 - 240 patients consecutively admitted to the hospital ward during the study period January – May 2011 (Approximately 60 per site)

Method – Data Collection



- Data was collected by pharmacists across the 4 sites – all pharmacists received training
- Standardised paper data collection forms were used to collect information from the following: -
 - Caregiver interview
 - GP (via telephone or fax)
 - Patient Own Drugs
 - Drug chart (Admission medication orders)
- Medication name, Dose, Directions were recorded for each source of information
- The pharmacists would make their own list of what the patient's recommended therapy would be based on the information found.

Method – Data collection (2)

- Data from all sites were transferred onto an excel spreadsheet and combined
- Discrepancies between the GP record and Drug chart at admission were identified and marked as intentional or unintentional after discussion with prescriber
- An expert panel screened through the unintentional discrepancies

Method – Clinical Assessment

- Panel of 5 Healthcare professionals met together and were presented with each unintended discrepancy which was discussed.
- **A score would be agreed by discussion until a consensus was met.** Judges were not given the opportunity to record their own scores
- Scores were given based on the likelihood of causing potential discomfort or clinical deterioration: -
 - **Class 1** Unlikely
 - **Class 2** Moderate
 - **Class 3** Severe
- Scoring had been used in adult studies⁴ and also adopted by a Canadian paediatric study⁵

Results (Demographics)

- Over the 5 month data collection period 244 patients were seen and 1004 medication regimens were identified.
(60 patients seen in Birmingham/Leeds, 61 at North Staffordshire, 63 in London)
- Age range 1 month – 16 years of age (median 5 years, interquartile range 1.5 years to 11 years)
- Majority of patients from General Paediatric medicine

Results (Data)

- 1004 medication regimens (n = 244) were identified
 - 588 Discrepancies were identified (n = 205 patients)
 - 316 of which were initially identified as unintentional (n = 135)
 - **209** were true unintentional discrepancies (n = **109** patients)

Results – Clinical Assessment

- A panel of 5 healthcare professionals (2 registrars, 1 nurse, 2 senior pharmacists) discussed the 209 discrepancies
- 189 were classifiable.

189 were classified (100 patients)

- **Class 1 discrepancies (unlikely) = 57 (30%) 40 patients (40%)**
- **Class 2 discrepancies (moderate) = 89 (47%) 62 patients (62%)**
- **Class 3 discrepancies (Severe) = 43 (23%) 28 patients (28%)**
- ***20 unintended discrepancies (18 patients) were cases where the deviation from the GP record would have been the right thing to do.**

Limitations

- The method of comparing the GP and Drug Chart did not consider the scenario where deviating would have been beneficial
- The clinical assessment method assessed the discrepancy per medication basis
- The research captured what was on the GPs record but did not look into adherence.

Conclusions

- Medicines reconciliation used has identified that medication discrepancies do occur when a child is admitted to hospital
- The unintended discrepancies have been found to be potentially harmful if unresolved in 70% of cases

Future work

- Development of a pharmacist led – medicines reconciliation intervention for children upon hospital admission
- Exploring post hospital discharge medicines reconciliation in children

Key Messages

- Children who are admitted to hospital who are on long term medication
 - Do experience medication discrepancies at this point of transition which have a clinical consequence if not rectified
 - Medicines reconciliation is required in this group of patients in order to resolve these discrepancies. This may not be as straightforward as contacting the GP

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