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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

- Funding received from the Neonatal and Paediatric Pharmacist Group (NPPG)

- Chi Huynh’s PhD is joint funded by the UCL School of Pharmacy and Guy’s and St Thomas NHS Foundation Trust
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 studies\(^4\) and also adopted by a Canadian paediatric study\(^5\).
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


