NHS Resolution

Did you know?

Paediatric medication errors

Advise / Resolve / Learn

Did you know?

193

An analysis of medication error claims received by NHS Resolution between 1st April 2010 until 31st March 2020 has identified **193** claims concerning children under the age of 18*

91

Out of these **193** claims, **91** were settled with damages paid, **61** without merit and **41** remain open.

£19,783,043

The total cost of closed claims is **£19,783,043**. This includes payments for claimant legal costs, NHS legal costs and damages although the cost will be higher when we factor in costs associated with periodical payments.

The analysis held within this leaflet focuses on closed, successful medication error claims and concern an element of the medication process: prescribing, transcribing, dispensing, administering and monitoring.

*It is possible that the number of claims is greater than 193 as the age of the claimant is not always recorded.

Paediatric medication error claim themes

The majority of successful paediatric medication error claims concerned the prescribing or administration element of the medication error process. This aligns with findings of published research.

Prescribing errors are often due to the incorrect dose being prescribed. Dosing errors may result from a failure to consider the weight of the child which can fluctuate[1]. This, in combination with physical immaturity compared to adults, can increase the likelihood of paediatric medication errors causing harm[2].

Standardising drug doses is not possible and, due to the personalisation required in paediatric medicine, drug dose calculations need to be manually made and often entered onto electronic prescribing medicine administration systems (EPMA)[3]. Medication errors can occur at this point in the medication process.

Calculation errors involving the decimal point may result in ten-fold dose administration errors that can contribute to significant harm[4].

[1]Haleb M, Barber N, Franklin B, Wong ICK. The incidence and nature of prescribing and medication administration errors in paediatric inpatients. Arch Dis Child 2010; 95(2):113-8

[2]The Pharmaceutical Journal, PJ February 2021, Vol 306, No 7946;306(7946): DOI:10.1211/PJ.2021.1.42997

[3]Healthcare Safety Investigation Branch (2022) **Weight-based medication errors in children**

[4]Kaufman J, Laschat M, and Wappler F (2012). Medication errors in paediatric emergencies. Deutsches Arzteblatts 109 (38): 609-616: DOI: **https://doi.org/10.3238%2Farztebl.2012.0609**

Which specialty results in the most claims?

Paediatric medication error claims were most commonly seen in the specialities of emergency medicine, paediatric medicine, paediatric surgery and anaesthetics.

Which types of drugs were involved in paediatric medication error claims?

Medications involved in medication error claims included; antibiotics, anaesthetics, anticonvulsants, opioid based analgesics, immunosuppressant's, steroids, vaccinations, chemotherapy agents and non-opioid analgesics.

Did you know? Key causes for medication error claims:

- Dosage incorrectly calculated, prescribed or dispensed
- Incorrect dose administered
- Medication given despite documented allergy
- Omission of prophylactic antibiotic

Did you know? Key contributing factors resulting in fatality:

- Dosage incorrectly calculated and prescribed
- Incorrect dose administered
- Rapid administration of medication
- Failure to administer prescribed medication with urgency
- Failure to monitor and prepare for adverse side effects of medication

Illustrative case story

Labelling of medication for dispensing is an area where an error can result in repeated medication errors. This can be compounded if patient own medicines are used during hospital admissions.

A child was prescribed an anticonvulsant which is usually prescribed in a 5mg/5ml solution. An error occurred in the community pharmacy and the prescribed dose and 5mg/5ml solution label were applied to a 25mg/5ml bottle of medication.

The error went unnoticed and the child received the increased dose for several weeks before being admitted to hospital with breathing difficulties. On admission, the hospital continued to use the patient's own medicine for further doses. Queries about the discrepancy between the applied patient drug label and manufacturer label did not result in correction until several days after admission.

Points for reflection:

- Do you have a process for checking and use of patient own medicines?
- Do you consider the integrated care system when investigating medication errors?

What can you do?

- Facilitate easy access to the **British National Formulary for Children (BNFC)** for accurate individualised dosing and administration of medicines for children
- Provide prescribers with readily available access to prescribing support and expertise of hospital and/or community pharmacists
- Minimise distractions to those responsible for calculating doses and prescribing medications
- Ensure that the weight of patient is checked regularly for accurate dosing of medication
- Check the allergy status of the patient at each point of the medication administration process
- Maintain awareness and communicate the risk of tenfold dosing errors
- Ensure robust policies and procedures exist around supervision and checking of repeat prescriptions
- Review local protocols to support the correct use of infusion pump settings for drug administration
- Review your organisation's claims history regarding medication errors and ensure learning is shared with clinicians and pharmacists

Helpful resources

- **British National Formulary for Children (BNFC)** (2022)
- Care Quality Commission (2019) **Medicines in Health and Social Care**
- General Medicine Council (2021) **Good Practice in Prescribing and Managing Medicines and Devices Content**
- Healthcare Safety Investigation Branch (2022) **Weight-based medication errors in children**
- NHS England (2018) **Stopping over medication of people with a learning disability, autism or both (STOMP)**
- NHS England (2018) **Supporting Treatment and Appropriate Medication in Paediatrics (STAMP)**
- World Health Organisation (2017) **Medication Without Harm**

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