

**DOSE OMISSIONS ON A PAEDIATRIC INTENSIVE CARE UNIT**

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**Background** Omitted or missed doses are common to all patients within an acute setting and are the second most common medication related incident in paediatrics.<sup>1</sup> Literature reported rates varying from 2.4% to 13%.<sup>2</sup> The National Patient Safety Agency (NPSA) published a report highlighting potential harm from omitted and delayed medicines.<sup>3</sup> Five recommendations were made to reduce harm. A missed dose was defined by the NPSA, as a dose given more than one hour later than the prescribed time; omissions as no documentation for not administering the dose. In response to this report the Paediatric Intensive Care Unit (PICU) at Birmingham Children's Hospital produced a core time critical list of medicines.

**Aims** To assess the compliance with the NPSA's recommendations and the local resultant core critical list. To determine which medicines were missed most frequently, and establish whether a correlation existed between delays/omissions and specific times of the day.

**Method** PICU was visited at the same time twice daily for four weeks. Data collected included prescribed doses per patient, omissions and delayed doses. Drug name, formulation, length of delay, reasons for omission and prescribed time was recorded for all omitted or missed doses. Bedside nurses were surveyed for reasons in delays or omissions and measures which may help reduce incident frequency.

**Results** Data from 236 patients were included with 3363 doses. Of these doses 116 (3.45%) were missed or omitted. A previous audit found a rate of dose omission as 6.5%. Antibiotics (40%) and 28% anti-hypertensive drugs were the most common omissions or delays. Forty seven (40.5%) doses were delayed by more than three hours. Eight (6.8%) of the time critical medicines did not have a specific prescribed time defined. Intravenous medicines were more often delayed or omitted (58%) in comparison to enteral (38%). Omission and delay rates were higher during the 7am to 7pm shift, with peaks at peri-handover times. No omission or delay incident reports were completed as per the NPSA recommendations during the study.

Bedside nurses suggestions for reducing missed/omitted dose frequency included increasing the availability and variety of pre-filled syringes prioritising support and assistance when intravenous access is problematic.

Further recommendations following the audit include assigning specific times for all medicines on PICU, avoidance of hand-over and shift change times for medicine administration and re-audit following implementation of changes.

**Conclusion** This study reflects the literature with antimicrobials the highest medicine class delayed or omitted. Avoiding administration times around handovers and ward rounds as well as ready to administer medicines, may assist with further reducing omissions or delays in administering medicines.

## REFERENCES

- 1 National Patient Safety Agency. Safety in Doses: improving the use of medicines in the NHS. National Reporting and Learning Service. Report number: 0469/1007, London 2009.
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- 3 Ridge K. *et al.* Audit of missed or delayed antimicrobial drugs. *Nursing Times* 2013;104:11–14.