

# 4CPS-148 EVALUATION OF DAILY DOSE MANUAL DRUG DISPENSING ACCURACY

A. BOR<sup>1</sup>, E.E. NAGY<sup>1</sup>, A. SZILVAY<sup>1</sup>, Á. KISS<sup>1</sup>, N. GYIMESI<sup>1</sup>

<sup>1</sup>JENŐ MANNINGER TRAUMA CENTER, DEPARTMENT OF PHARMACY, BUDAPEST, HUNGARY

## Background and importance

**Medication errors (MEs)** associated with drug therapy pose a **direct risk to patient safety** and negatively affect therapeutic success. Identifying drug dispensing-related MEs allows for root cause analysis and the implementation of preventive measures. **Clinical pharmacy service is one applicable resource of minimizing MEs.**

## Aim and objectives

Prior to extending clinical pharmacy control on **daily dose manual drug dispensing (MDD)** in new hospital settings, our study aims to **assess the accuracy and appropriateness** of this method, as well as to communicate findings to relevant departments and **to develop strategies to rectify identified errors.**

## Results I.

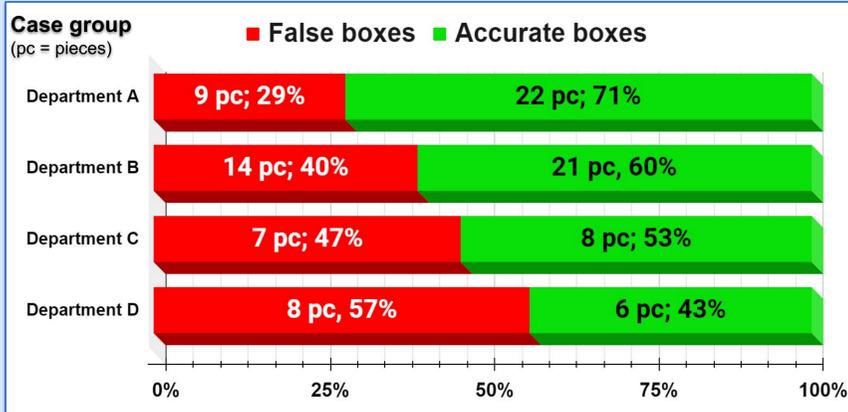
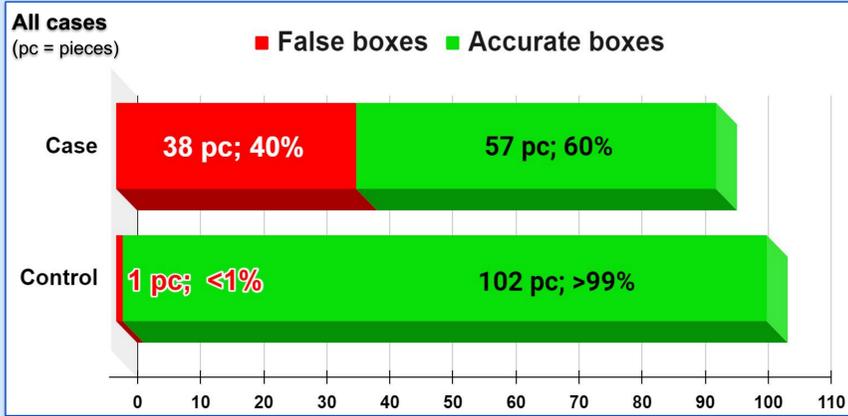
Drug dispensing errors were frequent in the **case group**: 38 false boxes out of 95 (**40% failure rate**). Overall, 59 mistakes were identified. In the **control group**, out of 103 boxes 1 error (<1%) was identified during the study period.

## Material and methods

Unannounced point prevalence studies were conducted in September 2023, on two different occasions. Data were collected in **8 inpatient care units** (30 beds each) using camera-equipped mobile phones. **Photographic comparison** of MDD boxes has been made **visually by clinical pharmacists (CP)**, comparing box content with relevant medication charts. In departments under clinical pharmacy control (=CONTROL GROUP) drug dispensing was performed by pharmacy assistants under CP supervision, while in **departments with no clinical pharmacy control (=CASE GROUP)** MDD was accomplished by nurses without double-check or supervision. Classification of MEs (using PCNE categories, Pharmaceutical Care Network Europe, version 9.1.) and prescribed drugs on ATC 7 level were recorded and analyzed in Excel table (MS Office 2021).

## Results II.

Inappropriate dosing intervals (PCNE C.6.1.) happened in 5.0% of all mistakes, **wrong drug was administered (C.6.5.) in 13.6%**, deviation from the prescribed dosage (C.6.2. and C.6.3.) occurred in 17.0%, **drug administration was missed (C.6.4.) in 64.4%**. Omitted medications were mainly drugs acting on the cardiovascular system.



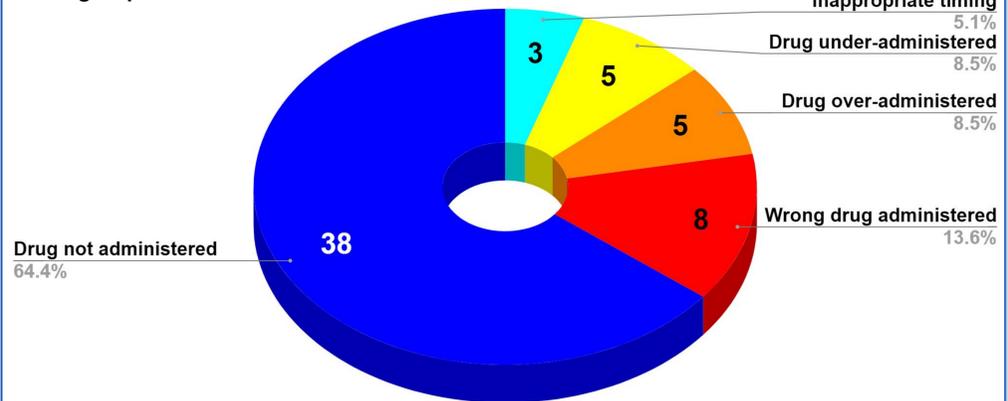
## Drug dispensing errors by PCNE classification

### 6. Drug use process

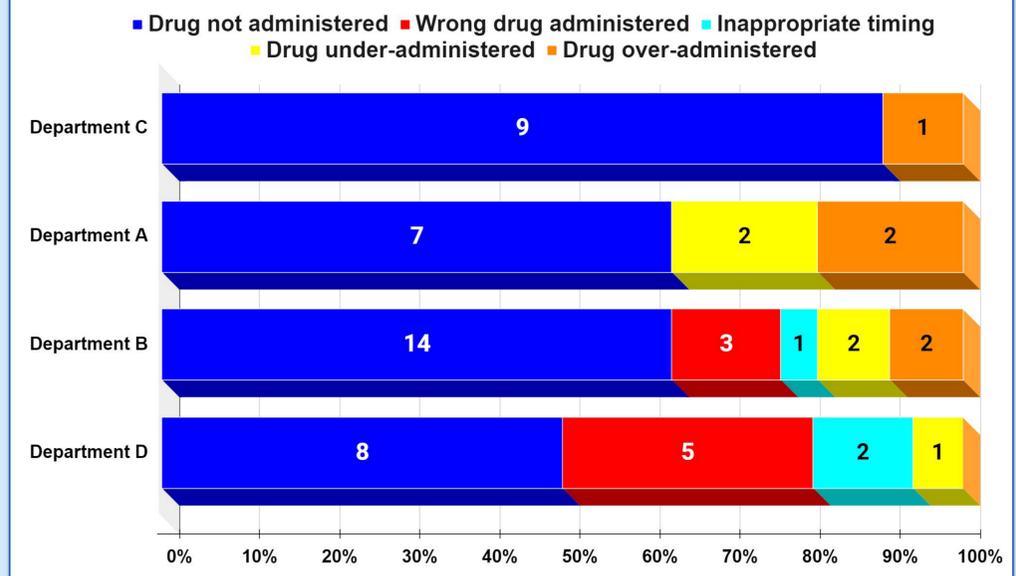
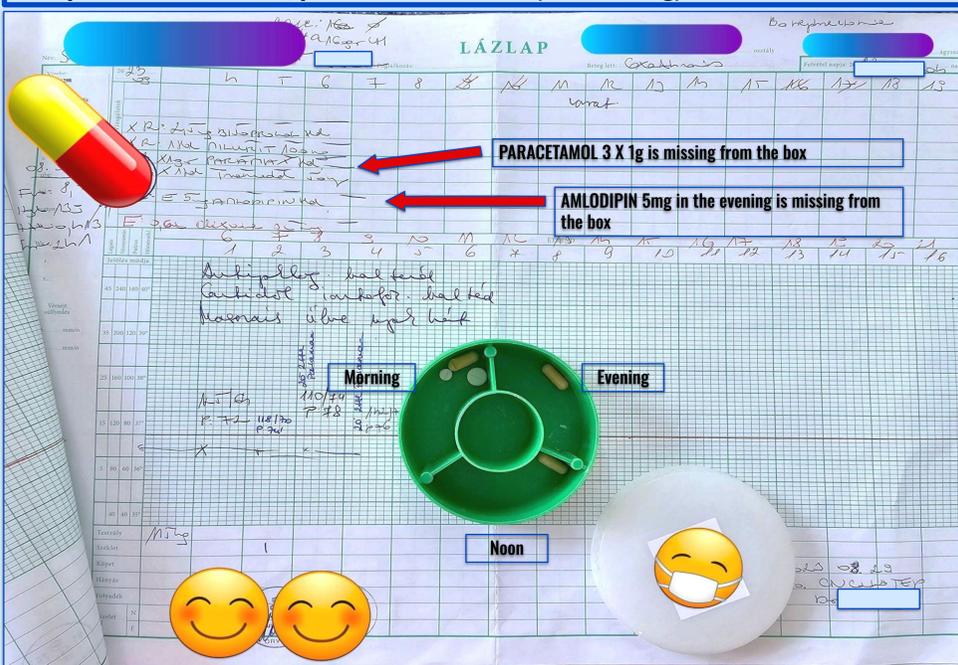
The cause of the DRP is related to the way the patient gets the drug administered by a health professional or other carer, despite proper dosage instructions (on label/list)

C6.1	Inappropriate timing of administration or dosing intervals by a health professional
C6.2	Drug under-administered by a health professional
C6.3	Drug over-administered by a health professional
C6.4	Drug not administered at all by a health professional
C6.5	Wrong drug administered by a health professional
C6.6	Drug administered via wrong route by a health professional

## Case group



## Example for PCNE C.6.4. type medication errors (missed drug)



## Conclusion and relevance

Identifying drug dispensing-related MEs enables the introduction of targeted interventions that **minimize mistakes, enhance patient safety and promote accuracy in practice.** Additive safety controls implemented in units with CP supervision can significantly reduce the occurrence of MEs in MDD systems (failure prevalence approaching zero).

