

# Medication discrepancies and their clinical impact: a study at the emergency department

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## Objectives:

Transition between different healthcare settings is a risk factor for medication discrepancies in the patient's medication list. A large number of discrepancies has the potential to cause adverse drug events<sup>1</sup>.

Obtaining a complete medication list of a patient is very important to avoid unintentional medication discrepancies and medication related problems at admission. We aimed to evaluate the added value of a structured medication reconciliation in the emergency department by pharmacy technicians.

## Methods:

Trained pharmacy technicians performed a medication reconciliation of patients admitted to the emergency department by using a structured form and different sources (patient, family, medication list, family doctor, etc). The physician acquired medication list was compared with that acquired by the technician to identify unintentional discrepancies (any difference between the two medication lists). The clinical impact was independently evaluated by a multidisciplinary team of 2 pharmacists and 2 pharmacologists by a validated scale<sup>2</sup>.

## Results:

From February to April 2016, 279 (74.9%) medication discrepancies were identified in 113 medication lists. The most common discrepancies were **omission of a drug** (43.7%), **omission of frequency** (17.2%) and **omission of dose** (14.7%) (Table 1).

Type of discrepancy	Number	%
Drug omission	122	43,7
Omission of frequency	48	17,2
Omission of dose	41	14,7
wrong frequency	38	13,6
wrong dose	12	4,3
other	9	3,2
addition	6	2,2
wrong drug	3	1,1

Table 1

Drugs belonging to the ATC class **Alimentary tract and Metabolism** (A), **Cardiovascular system** (C) and **Nervous System** (N) were associated with the highest discrepancy rates (table 2).

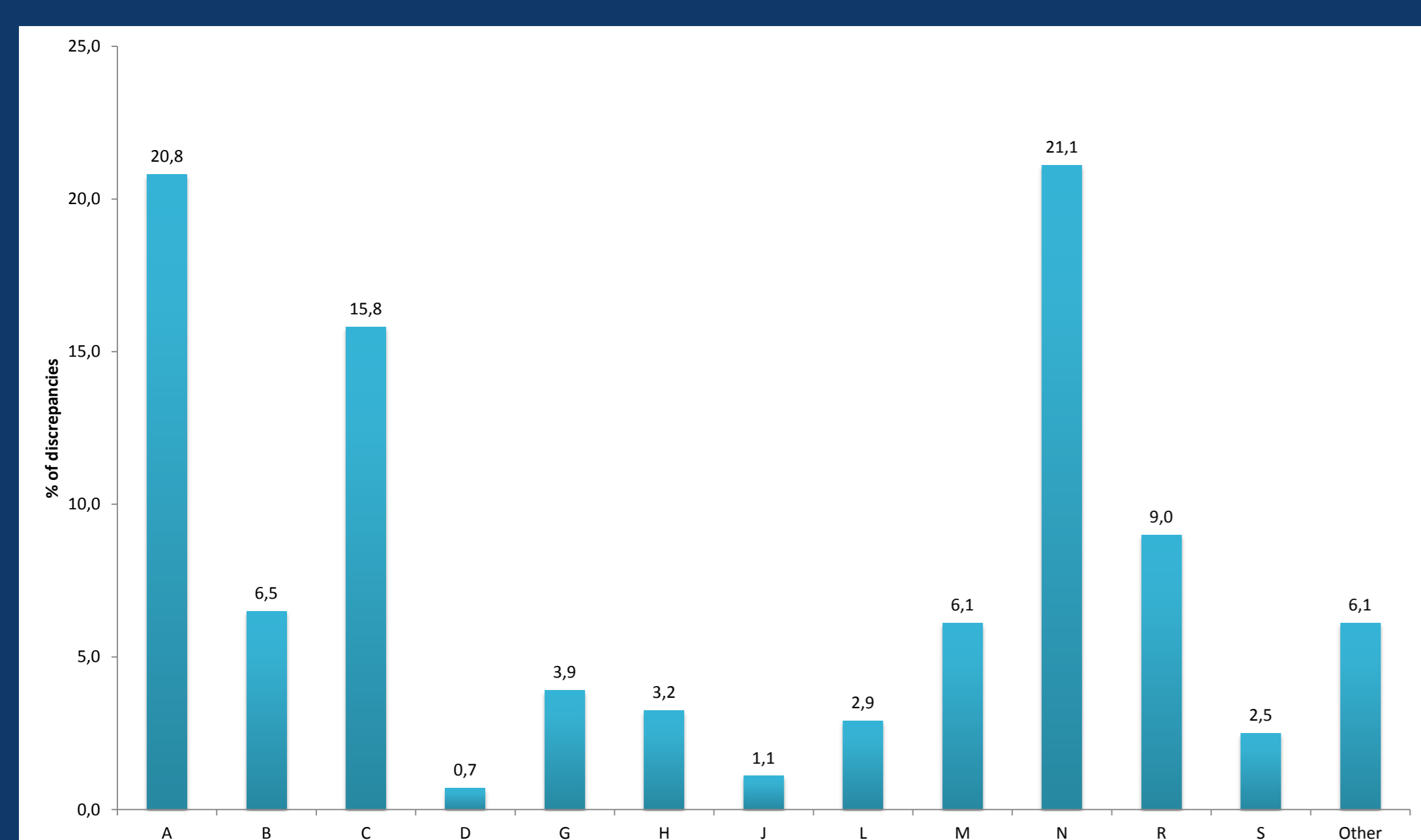


Table 2

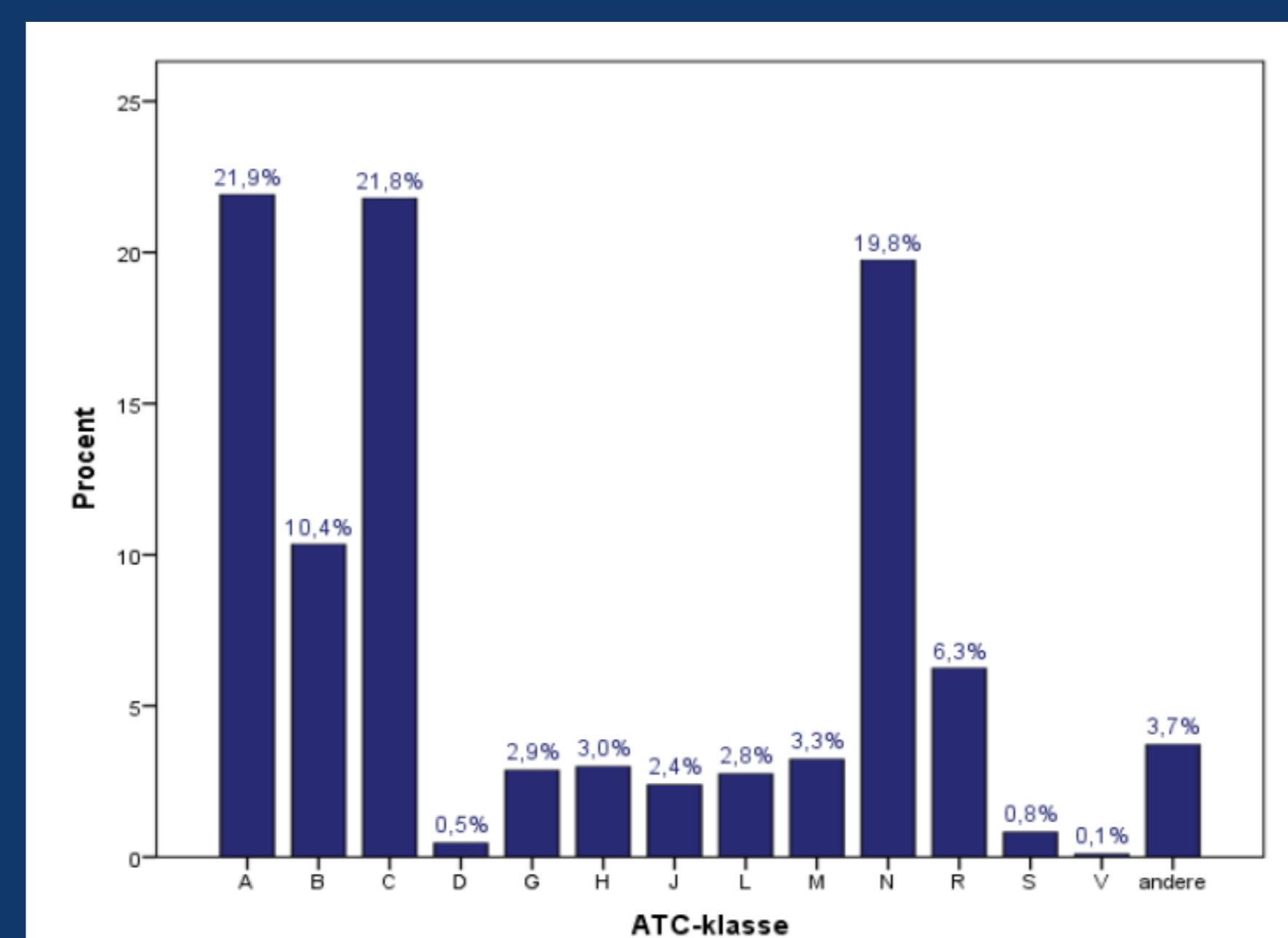


Table 3  
Prescribed drugs per ATC class

There was a positive association between the **number of discrepancies** and **the number of drugs** ( $p=0.002$ ), the **number of information sources** ( $p=0.026$ ) and **the time needed to perform the reconciliation** ( $p=0.001$ ).

6.5% of the discrepancies were evaluated as having a potentially very significant impact on the patient's health; 30.6% were evaluated as having the potential to cause moderate clinical impact and 2.2% as potentially having a minor or no impact (Kappa = 0,193).

## Conclusion:

This study provides evidence that structured medication reconciliation is useful to obtain a complete medication history, in order to avoid medication related problems and to guarantee the patient's safety.

## References:

- Mueller SK, et al., Arch Intern Med 2012;172:1057-69.
- Cornish PL et al., Arch Intern Med 2005;165:424-9.