

Chatbot-assisted medication allergy history taking: discrepancies and their potential clinical relevance between patients supported by a digital assistant and pharmacy technicians

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Relevance

- Accurate medication reconciliation (MedRec), including medication allergy documentation, is essential for patient safety and effective therapy
- Enabling patients to manage personal health records may reduce time and costs
- Discrepancies between patient-reported medication allergies and electronic health records are common, indicating room for improvement
- A digital assistant (DA) may support patients in self-documentation of medication allergies

Aim:

To identify, quantify and categorise discrepancies between medication allergy history taking performed by the patient guided by a DA (ChARM-A) versus pharmacy technicians

Methods

- Prospective, observational study (Feb – May 2025)
- Elisabeth-TweeSteden Hospital, Tilburg, The Netherlands



Figure 1. Study population and setting, MedRec= Medication Reconciliation

The digital assistant

Left: overview entered allergy information

Right: DA

Figure 2. The digital assistant (in Dutch)

Results

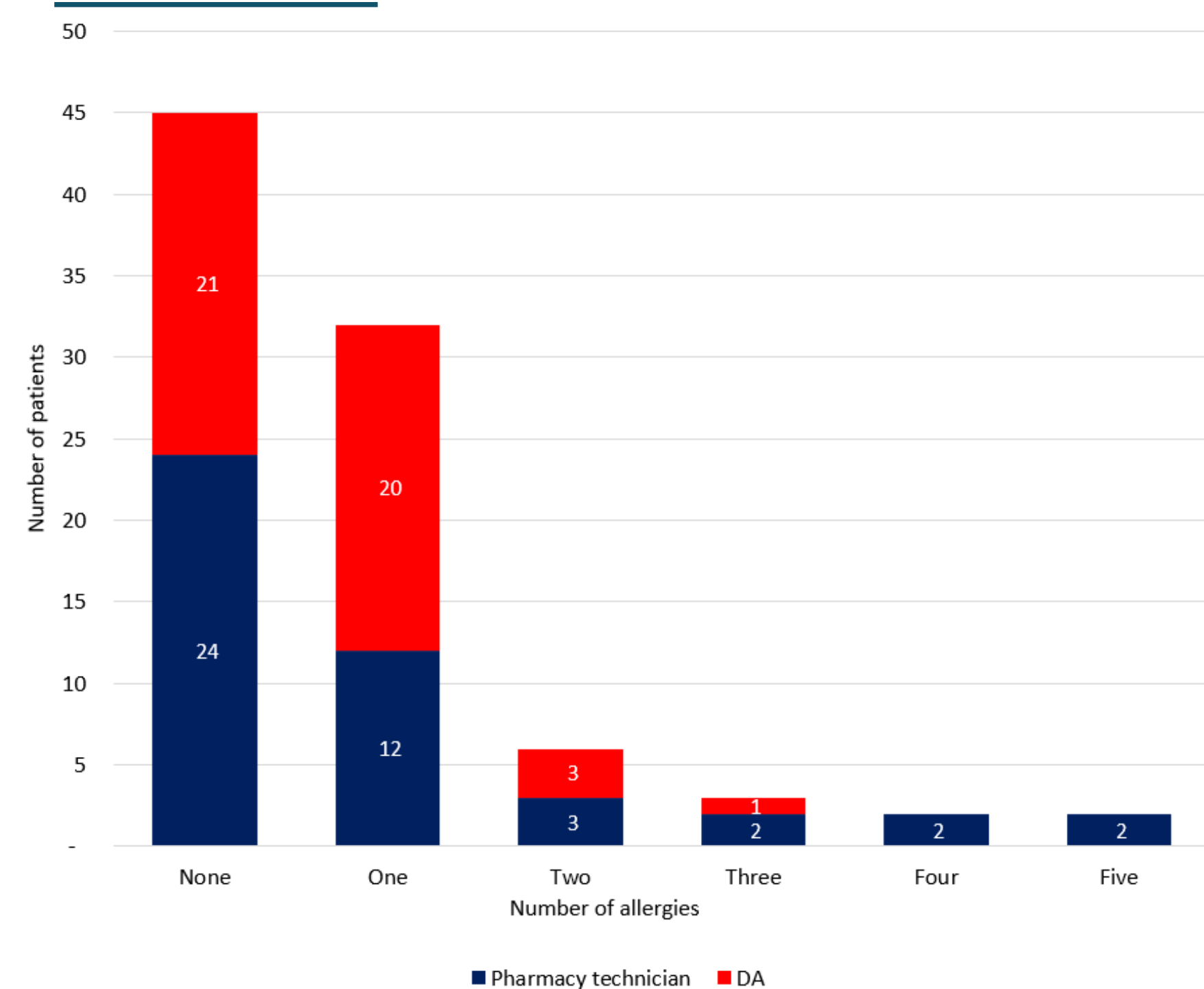


Figure 2. Number of allergies per patient (N= 45)

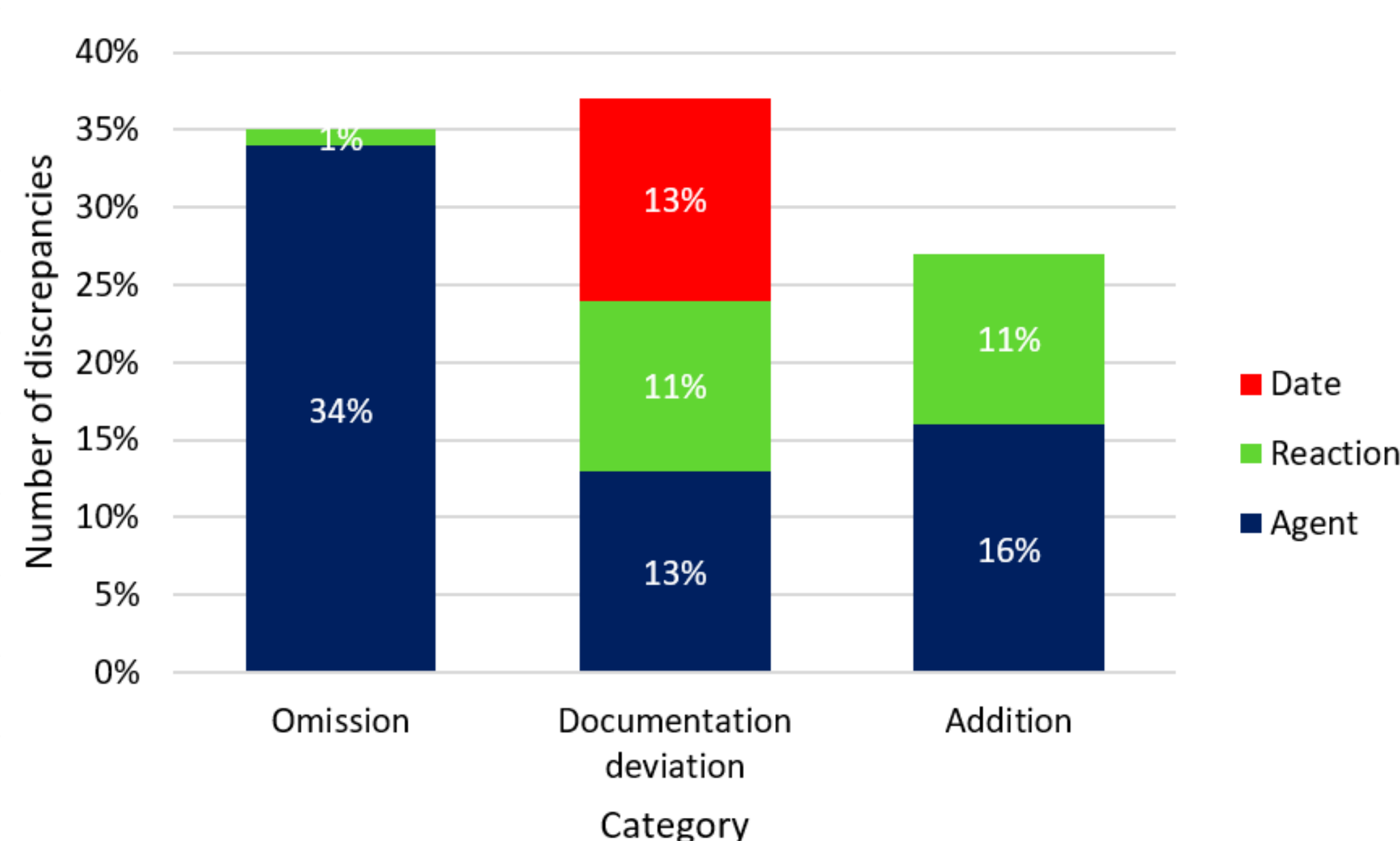


Figure 4. Nature and prevalence of the discrepancies (N=70; 28/29 patients with ≥ 1 discrepancy)

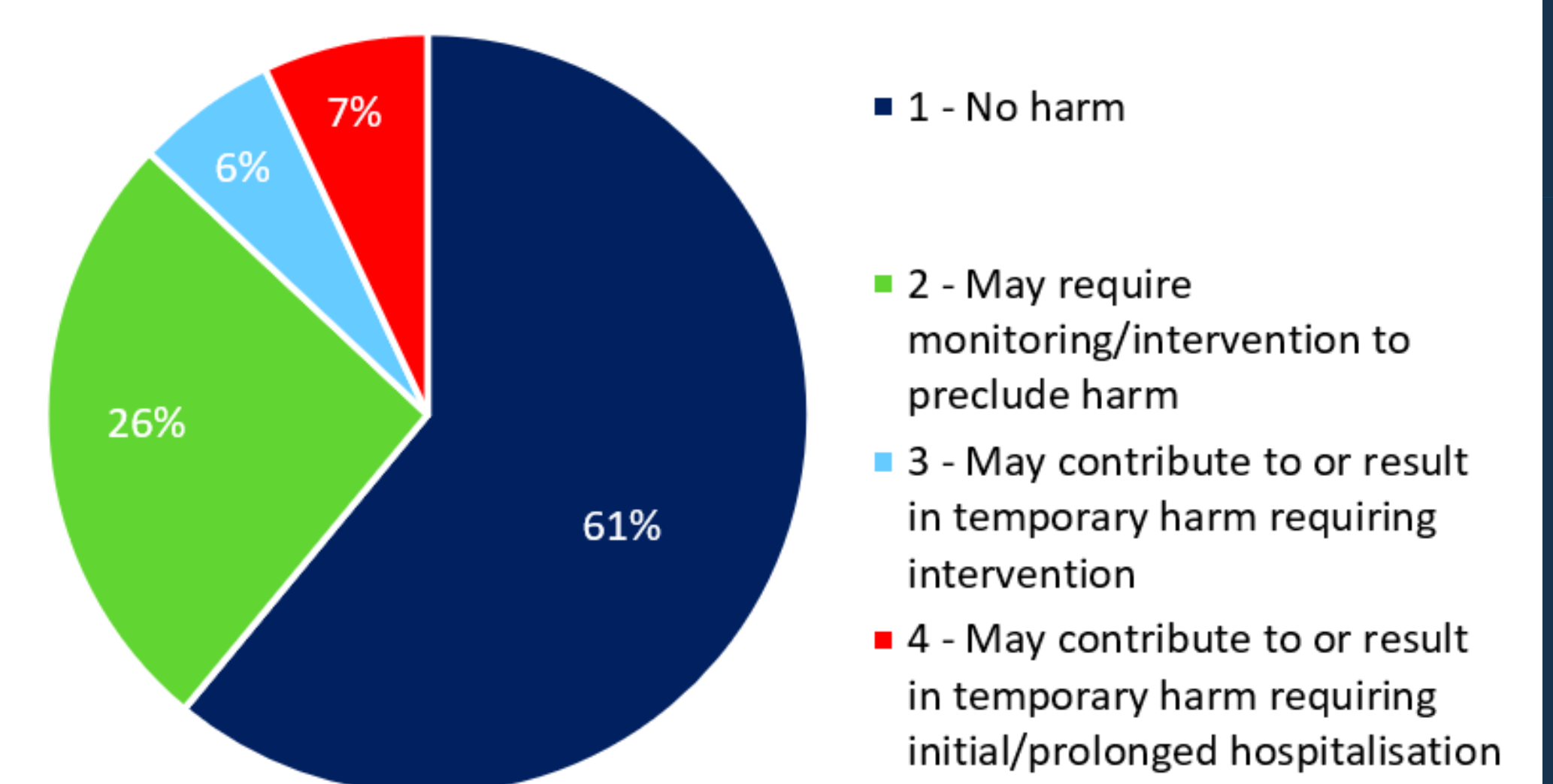


Figure 5. Clinical relevance of the discrepancies¹ (N= 70)

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Conclusion

- A high number of discrepancies was found between patient-reported medication allergy histories using a DA and those reported by pharmacy technicians
- The clinical relevance of these discrepancies was low
- The study highlights the added value of a DA, though additional research and optimisation of the DA is needed

A higher number of allergies per patient was significantly associated with a higher number of discrepancies per patient (p=0.03 [95% CI: 1.03-1.94])

1. NCC MERP. Index for Categorizing Medication Errors. [Internet]. Available from: <https://www.nccmerp.org/types-medication-errors>. [Accessed 26th May 2025].