



RESOLUTION OF ELECTRONIC PRESCRIBING ERRORS AFTER INTERVENTION FROM A SPECIALIZED HOSPITAL PHARMACIST OR A SUBSTITUTE HOSPITAL PHARMACIST: A RETROSPECTIVE CROSS-SECTIONAL STUDY

S. Wilkes¹, L. Kalfsvel¹, F. van Rosse¹, J. Versmissen^{1,2}, H. van der Kuy¹, R.J. Zaal¹

¹Erasmus MC, University Medical Centre Rotterdam, Department of Hospital Pharmacy

²Erasmus MC, University Medical Center Rotterdam, Department of Internal Medicine

Contact: s.wilkes@erasmusmc.nl

Background & Importance

- Specialized hospital pharmacists, integrated in medical teams on the ward, can improve pharmacotherapy, by proposing interventions to reduce prescribing errors.
- When a specialized hospital pharmacist is temporarily not available, the pharmaceutical care will be conducted by a substitute hospital pharmacist with less specific knowledge about that patient population.

Aim

- Our objective is to compare the resolution rate of prescribing errors between specialized hospital pharmacists and their substitutes.
- Besides, we investigate whether other characteristics of the pharmacists, prescriber, patient, drug or the intervention itself are associated with the resolution rate.

Methods

- A retrospective cross-sectional study: analysis of electronic medication orders prescribed in June 2021.
- To identify prescribing errors, a medical doctor and hospital pharmacist analyzed all orders with an alert, that were retained to be checked by a pharmacist.
- A prescribing error was defined as 'an alert that required intervention of the pharmacist to prevent harm or to optimize therapy.'

- We defined 'prescribing error resolved' when the pharmacist intervention resulted in the resolution of the prescribing error within 24 hours after detection.
- In our hospital specialized hospital pharmacists have specific knowledge about a patient population, for example in the field of cardiology, and know the health care professionals (HCPs) on that ward. The substitute hospital pharmacist has general knowledge about the pharmacotherapeutic field and occasionally contacts the HCPs on that ward.

Results

- 145 574 medication prescriptions were newly made or altered and 448 prescribing errors were detected.
- 94.0% of the prescribing errors was resolved within 24 hours
- No differences were found between the resolution rate of prescribing errors after advice from a specialized hospital pharmacists and their substitutes (see table).

Interventions	Resolved n (%)	Not resolved n (%)	Resolution rate (%)	Pearson chi-square p-value
Specialized hospital pharmacist	168 (42.9)	10 (40.0)	94.4	0.145
Substitute hospital pharmacist	158 (40.3)	14 (56.0)	91.9	
No pharmacist involved	66 (16.8)	1 (4.0)	98.5	
Total	392 (100)	25 (100)	94.0	

- Neither other characteristics of the pharmacist, prescriber, patient, involved drug nor the intervention itself were associated with the acceptance rate.

Conclusion and Relevance

- After implementation of specialized pharmacists on the ward the vast majority of the prescribing errors are resolved.
- In the temporarily absence of the specialized pharmacists, the resolution rate remains high in this setting.

