Classification of DRPs with new prescriptions using a modified PCNE classification system

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A drug-related problem is an event or circumstance involving drug therapy that actually or potentially interferes with desired health outcomes.
**Background**

Different studies with different detection rates because of:

- different definitions of DRPs
- different classification systems
  - (no standard tool)
- variations in the methods used to identify DRPs
- different inclusion criteria
- different health care systems
- different settings
To set the scene:

**DRPs in community pharmacies**

- Chronic patient ongoing treatment
- Acute patient situation newly prescribed drug
  - Hospital discharge
  - Primary care
Aims of the study

- Exploration of occurrence, nature and pharmacists’ management of DRPs in new prescriptions detected in community pharmacies
- Differences between new primary care and hospital discharge prescriptions
- Analysis of possible differences between electronically printed and handwritten prescriptions
- Evaluation of applicability of a modified PCNE classification system
Data collection

During internship, trained fifth-year pharmacy students collected in a consecutive way 5 hospital discharge and 5 primary care (incl. outpatients) prescriptions with newly prescribed medicines.
Patients and drugs with DRPs

- Patients (n=616): 329 (53.4%)
- Drugs (n=2309): 1389 (60.2%)
Top 10 of clinical DRPs (single items)

- Drug dose too low or dosage regimen too long (2.8%)
- Duration of treatment too short (2.8%)
- Inappropriate duplication (2.8%)
- Inappropriate drug form (5.0%)
- Drug dose too high or dosage regimen too frequent (5.7%)
- Wrong/not appropriate drug (6.4%)
- Insufficient awareness of health and diseases (7.1%)
- Inappropriate drug (7.8%)
- Not appropriate time of application (8.5%)
- Potential interaction (36.9%)
Technical DRPs (n=278)

- Missing prescription of necessary application aids: 1.1%
- Missing/unclear drug name though legible: 5.0%
- Missing/unclear drug form, if several available: 8.3%
- Missing/unclear drug potency, if several available: 10.1%
- Unreadable prescription: 11.9%
- Missing/unclear dosing/application instruction: 30.9%
- Missing/unclear package size and/or therapy length: 32.7%
Problems in electronic and handwritten prescriptions

- Primary care electronic prescriptions: 17.9%
- Primary care handwritten prescriptions: 5.5%
- Hospital discharge electronic prescriptions: 27.2%
- Hospital discharge handwritten prescriptions: 49.4%

n=419
Conclusions

- In Switzerland, half of all new prescriptions show a DRP; two-thirds are technical DRPs.

- The PCNE classification V5.1 needs to be amended, to include technical DRPs.

- The occurrence of clinical or technical DRPs is only influenced by the number of prescribed drugs. It is not relevant if the prescriptions were electronically printed.