# HOSPITAL PHARMACIST INTERVENTIONS IN AN ACCREDITED CARDIOLOGY DEPARTMENT

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eahp european association of hospital pharmacists

## Background

Pharmaceutical care is the pharmacist's contribution to the care of individuals in order to optimize medicines use and improve health outcomes. Pharmacist interventions involve the identification of actual or potential drug-related problems and the provision of recommendations to resolve or prevent them. Several studies have demonstrated the positive impact of pharmacist interventions in the patient care process by reducing the medication errors, rationalizing the therapy and reducing the cost of therapy.

## Objectives

The aim of this study was to characterize interventions performed during the review of prescription orders from the pharmacist responsible for supporting the cardiology department and evaluate prescribers` acceptance rates.

## Methods

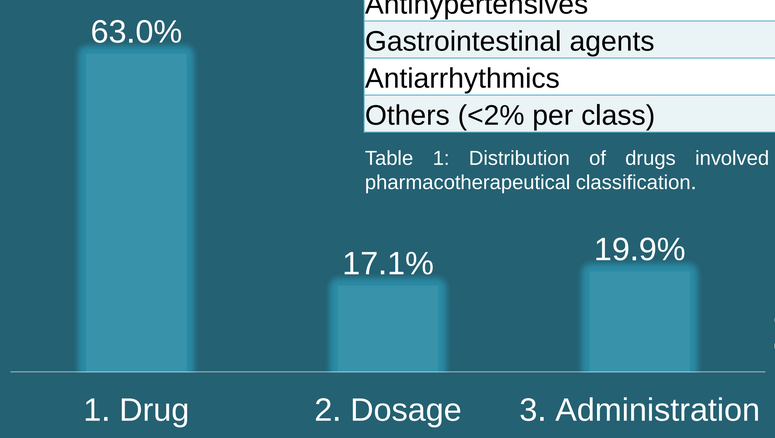
A descriptive, observational and retrospective study was performed between January 2015 and August 2017. The pharmacist screened the pharmacotherapy charts for drug-related problems leading to pharmacist interventions. All the pharmacist interventions registered on the electronic medical record system during the study period were eligible for inclusion. Interventions were quantified and characterized. Computer records were consulted to assess acceptance rates by prescribers. A descriptive analysis methodology was performed.

## Results

A total of 15707 prescriptions were reviewed and 1152 pharmacist interventions were made. The pharmacist interventions were categorized into three main sets: drug, dosage and administration related.

| Pharmacotherapeutical classification | Drug (n) | % |
|---|---|---|
| Anticoagulants and Antithrombotics | 382 | 26.0 |
| Antacids and Antiulcer drugs | 182 | 12.4 |
| Antibacterials | 176 | 12.0 |
| Psychotropic drugs | 90 | 6.1 |
| Urological agents | 78 | 5.3 |
| Antihypertensives | 69 | 4.7 |
| Gastrointestinal agents | 69 | 4.7 |
| Antiarrhythmics | 36 | 2.5 |
| Others (<2% per class) | 123 | 26.3 |

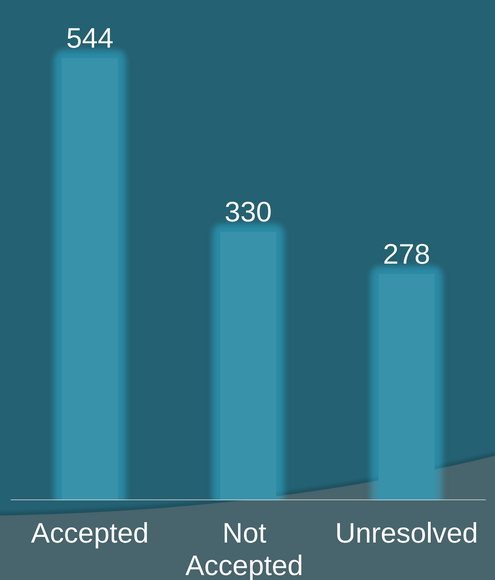
Table 1: Distribution of drugs involved in pharmacist interventions by pharmacotherapeutical classification.




Graph 1: Pharmacist interventions distribution by categories.

Considering the total of pharmacist interventions, 544 were accepted, 330 were not accepted and 278 were unresolved (Graph 2).

The majority of interventions made were classified as alternative/new therapy recommended (19,0%), more appropriate dose/ dosage regimen (12,9%) and optimization of drug administration (11,9%).




Graph 2

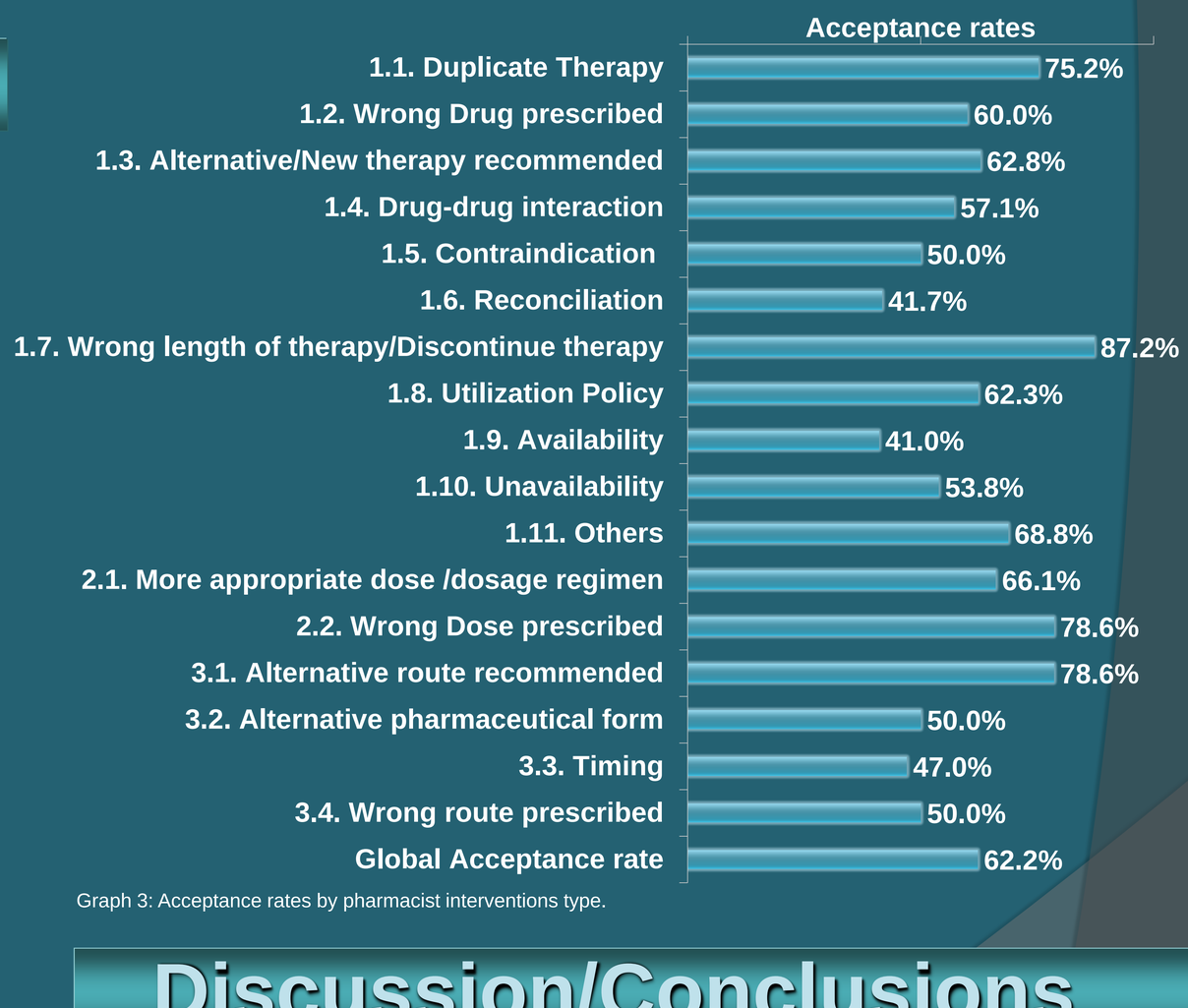
**C01 – Cardiac therapy**
**4CPS-027**

## Results

| Pharmacist interventions type | n | % |
|---|---|---|
| 1.1. Duplicate therapy | 113 | 9.8% |
| 1.2. Wrong drug prescribed | 16 | 1.4% |
| 1.3. Alternative/New therapy recommended | 219 | 19.0% |
| 1.4. Drug-drug interaction | 67 | 5.8% |
| 1.5. Contraindication | 22 | 1.9% |
| 1.6. Reconciliation | 46 | 4.0% |
| 1.7. Wrong length of therapy/Discontinue therapy | 56 | 4.9% |
| 1.8. Utilization policy | 63 | 5.5% |
| 1.9. Availability | 53 | 4.6% |
| 1.10. Unavailability | 21 | 1.8% |
| 1.11. Others | 50 | 4.3% |
| 2.1. More appropriate dose/dosage regimen | 149 | 12.9% |
| 2.2. Wrong dose prescribed | 48 | 4.2% |
| 3.1. Alternative route recommended | 34 | 3.0% |
| 3.2. Alternative pharmaceutical form | 36 | 3.1% |
| 3.3. Timing | 137 | 11.9% |
| 3.4. Wrong route prescribed | 22 | 1.9% |

Table 2: Pharmacist interventions characterization and distribution.

Analyzing the most relevant pharmacist interventions type, the highest acceptance rates were for interventions advising for wrong length of therapy/ discontinue therapy (87,2%), wrong dose prescribed (78,6%), alternative route of administration (78,6%) and duplicate therapy (75,2%). The global rate of acceptance was 62,2%.




Graph 3: Acceptance rates by pharmacist interventions type.

## Discussion/Conclusions

The results from this study revealed that prescribers` acceptance rates for pharmacist interventions were higher for medication-prescribing errors compared with recommendations for pharmacological therapy optimization or safety concerns. The acceptance rate could be more accurate if in a further study verbal interventions would be included, since the most urgent recommendations are made verbally, which would likely increase the acceptance rate. The integration of clinical pharmacist on multidisciplinary team seems to be essential to promote a more safety and efficacy culture in hospital setting.

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