

# EVALUATION OF NON-FORMULARY DRUGS PRESCRIPTION AND ACCEPTANCE OF AN ALTERNATIVE DRUG

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## Background

Hospitals can not include all marketed drugs in their formularies. Those drugs not included in the formulary (NFD) need an alternative drug available (ALT) in order to cover all patient requirements.

## Purpose

To assess the prevalence of NFD prescriptions and factors associated with the acceptance recommendation on an ALT.

## Material and methods

Retrospective study performed in a tertiary university hospital during 2012-2015.

Data collected:

- Drug-related problems (DRP), DRP-related NFD prescription (DRP-NFD).
- Admissions with DRP-NFD prescription data: demographic, Charlson comorbidity index, urgent/scheduled admission, surgical/medical service, distinct drugs received during admission, ATC-group, acceptance of ALT.
- NFD classification:
  - NFD with ALT (NFD-ALT): ALT is a drug able to present the same clinical effect and safety profile than NFD
  - Non-replaceable drug NFD (NFD-NR): drug for which no therapeutic alternative is available
  - NFD of doubtful therapeutic efficacy (NFD-DTE): drug with limited evidence on its effectiveness

Clinical pharmacists made an annotation in the electronic medical record, offering an ALT when it was available, proceeding to its acquisition when it was NFD-NR and recommending withdrawal when it was NFD-DTE.

## Results

Total admissions: 69,686

Admissions affected by DRP-NFD: 441 (0.6%)

Table 1. DRP-NFD and recommendation outcome.

DRP, n	10,480
DRP-NFD, n (%)	557 (5.3)
- NFD-ALT	496 (89.0)
- NFD-NR	5 (0.9)
- NFD-DBT	56 (10.1)
Recommended ALT accepted, n (%)	154/496 (31.1)
Recommended ALT not accepted, n (%)	287/496 (57.9)
Recommendation non-evaluable, n (%)	55/496 (11.1)

Figure 1. Most commonly involved ATC groups.

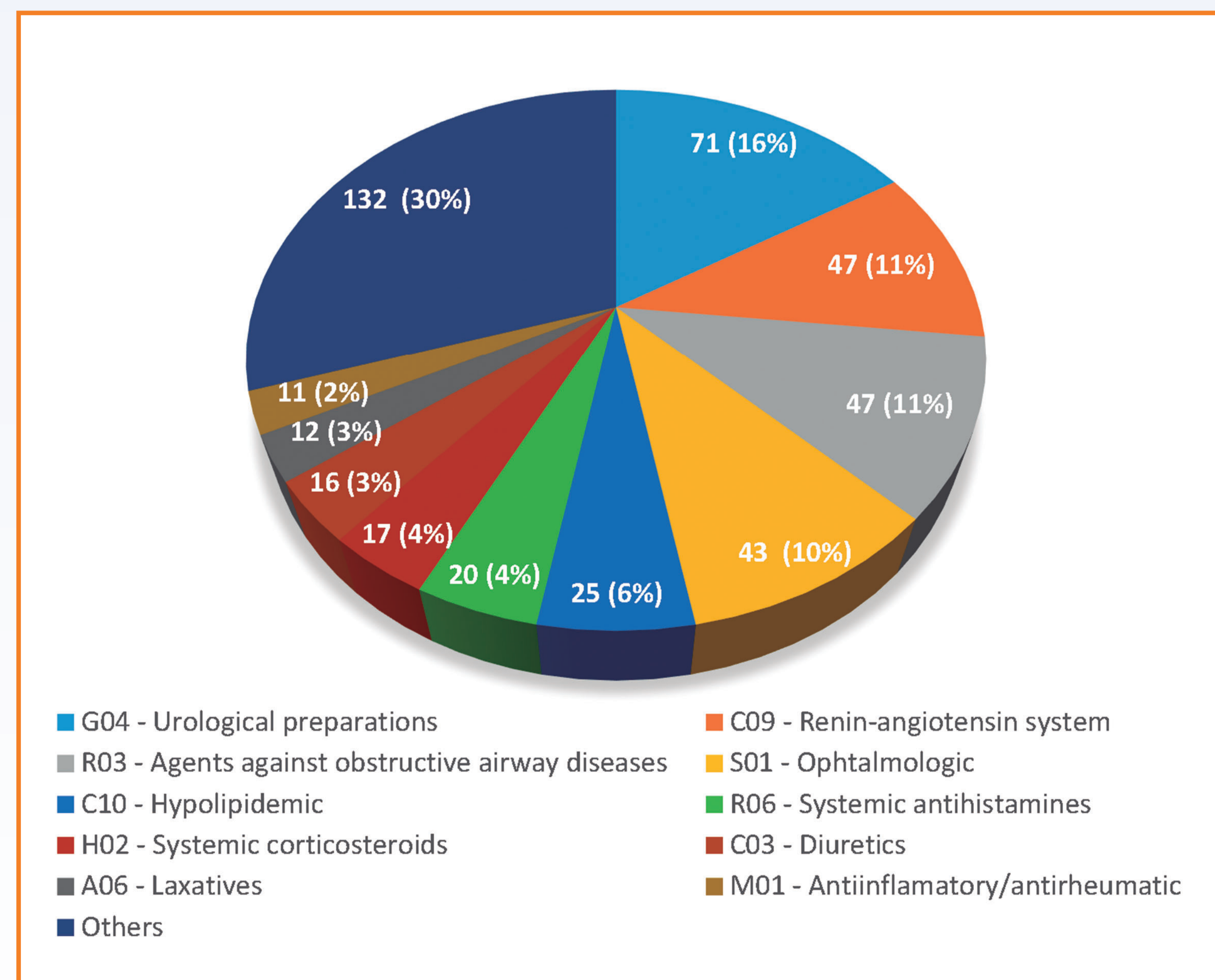


Table 2. Acceptance of ALT proposed by clinical pharmacists.

Admissions	ALT accepted (n=154)	ALT not accepted (n=287)	p
Men, n (%)	83 (53.9)	150 (52.3)	p=0.744
Age (years), mean (SD)	69.8 (13.2)	69.5 (14.9)	p=0.725
Charlson $\geq 2$ , n (%)	67 (43.5)	102 (35.5)	p=0.260
Urgent admission, n (%)	70 (45.5)	122 (42.5)	p=0.552
Surgical service, n (%)	68 (44.2)	144 (50.2)	p=0.228
Distinct drugs received, mean (SD)	21.3 (13.5)	18.8 (10.9)	p=0.079
<b>ATC groups with significant differences</b>			
R06, n (%)	3 (15.0)	17 (85.0)	p=0.002
S01, n (%)	11 (25.6)	32 (74.4)	p=0.001
R03, n (%)	13 (27.7)	34 (72.3)	p=0.002
C09, n (%)	16 (34.0)	31 (66.0)	p=0.029
G04, n (%)	27 (38.0)	44 (62.0)	p=0.044

## Conclusions

- Most drugs not included in the formulary are substitutable for an available alternative (99.1%).
- Although no factors are significantly associated, there is a trend towards acceptance of the recommended therapeutic alternative in patients with prescription of a higher number of concomitant drugs.
- Acceptance was less than 30% when the ATC involved were systemic antihistamines, ophthalmologic preparations and agents against obstructive airway diseases.