

# INITIATION OF A CLINICAL PHARMACIST LED, PROSPECTIVE AUDIT ON ANTIBIOTIC PRESCRIBING

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## Background and importance

A pharmacist led, prospective audit on antibiotic prescribing was introduced on 3 hospital wards, as an element of the local, institutional antibiotic stewardship program (ASP).

## Aim and objectives

Our aims were to document and evaluate each antibiotic prescription and therapy based on the antimicrobial stewardship program recommendations and to give feedback to prescribers on their compliance to ASP guidelines.

## Materials and methods

A paper-based audit form was prepared. Patient data, documentation of allergies, indication of the therapy and circumstances of microbiological testing were recorded. The pilot phase was started in September 2018, and ended in November 2018.

Detailed information on antibiotic therapy and the 48-72-hour revision and its outcome were also documented. Pharmacist interventions and their acceptance were collated. Microsoft Excel and R-Commander were used for data management and analysis.

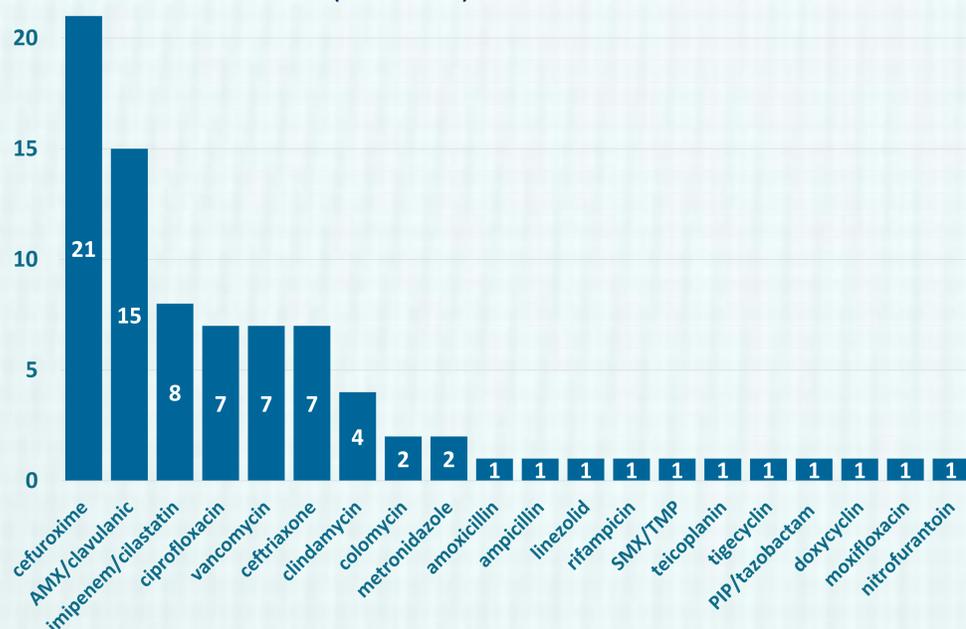
## Results I.: Demographic features

69 patients were involved in our study, 45 men and 24 women (mean age was 57.7 years  $\pm$  16.4 years and 71.3 years  $\pm$  12.5 years).

	Males	Females	Total
No. of patients	45	24	69
Mean age (years)	57,7	71,3	62,4
SD (years)	$\pm$ 16,4	$\pm$ 12,5	$\pm$ 16,4

## Results II.: Baseline data on AB therapies

Overall, **84 antibiotic therapies** (50 empirical and 34 targeted) were evaluated. 21 different antimicrobial agents were prescribed, the most frequent were cefuroxime (21 cases) and amoxicillin-clavulanic acid (15 cases).



## Conclusion and relevance

The audit gives the pharmacist an opportunity to give **continuous feedback to prescribers** in order to improve their compliance with the ASP guidelines. The relatively **high rate of inappropriate antibiotic prescriptions** shows a need for improvement in this area. Longer term, an **improved synergy** between clinical pharmacists and prescribers may result in an **increased acceptance rate** of pharmacist interventions.

## Results III.: Therapy appropriateness

Based on clinical pharmacist and infectologist follow-up decisions, **44 cases (52%) of all antibiotic therapies were inappropriate**. Initial antibiotic therapies weren't optimal in 29 cases (35%), mainly due to the unnecessarily **wide spectrum** of the chosen drug (65% of initial inappropriate therapies). Therapeutic decisions at the revision point were inappropriate in 32 cases (38%).

## Results IV.: Clinical pharmacist interventions

Pharmacist interventions were offered in 50 cases, most frequently de-escalation (16 cases). The interventions were actioned in 60% of the cases. **Higher rates of interventions were accepted** when **modification of the dose** was advised (87%) and **lower acceptance** when **de-escalation** was suggested (31%).

Type of intervention	Total (%)	Accepted	Partially accepted	Declined	Acceptance rate (%)
De-escalation	16 (32%)	4	1	11	31,3%
Dose-modification	15 (30%)	9	4	2	86,7%
Drug switch (escalation)	10 (20%)	6	0	4	60%
Discontinuation	4 (8%)	1	1	2	50%
Additional drug	2 (4%)	0	0	1	0%
Change of drug form	1 (2%)	0	1	0	100%
Change of regimen	1 (2%)	1	0	0	100%
Other	1 (2%)	1	0	0	100%
Total	50 (100%)	23	7	20	60%

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https://www.eahp.eu/25-NP-004