

# HOSPITAL PHARMACIST-LED PROJECT TO IMPROVE ANTIBIOTIC USE IN THE HOSPITAL SETTING

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## PURPOSES

1. To analyse the contribution of an antibiotic pharmacist after the introduction of the antimicrobial stewardship programme.
2. To analyse the economic impact of pharmacists' recommendations.

## MATERIALS AND METHODS

An antibiotic pharmacist designed a protocol to optimize antibiotic therapy in agreement with infectologists and microbiologists. The programme started running in December 2013.

On a daily basis, the pharmacist obtains a list of inpatients prescribed antibiotics from the computerized prescription order entry system and recovers information from the electronic health record. The pharmacist checks the following items:

- 1) adequacy of empirical and targeted antimicrobial treatment to clinical practice guideline;
- 2) local microbiota and cultures results;
- 3) dose adjustment to clinical situation;
- 4) appropriate duration and...
- 5) ...administration route. If treatments are susceptible to improvement, the pharmacist contacts physicians to propose recommendations. Activity is registered on a database. Additionally, economic impact is evaluated in antimicrobial or dose changes.

## RESULTS

We analyzed 2.250 prescriptions (32% of total) over a 10-month period. Physicians were contacted on 347 occasions; 96% related to antibiotics and 4% to antifungals. In 86% of the cases they agreed with the proposals. Reasons to act were: 36% excessive duration, 20% inadequate targeted antibiotic selection, 18% unadjusted dose, 14% inappropriate empirical treatment, and 11% unestablished sequential therapy.

Direct economic impact could be estimated in 32% of the antibiotic and antifungal recommendations, leading to net economic savings of 9.566€ (49%) and 10.041€ (51%).

## CONCLUSIONS

1. The contribution of an antibiotic pharmacist, as part of an antibiotic stewardship programme, results in a reduction of excessively prolonged antimicrobial courses and improvements in adequacy to cultures results, dose to patient condition, adjustment of empirical treatment to recommendations, and selection of an adequate route for administration.
2. Interventions in antifungal therapy were associated with greater economic savings.