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THE IMPACT OF PHARMACIST INTERVENTIONS ON SAFETY AND COST SAVINGS

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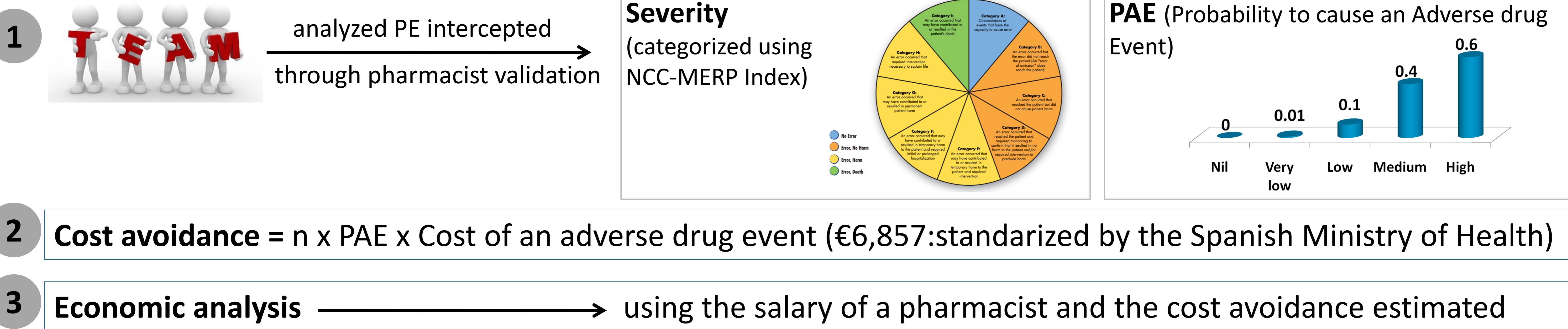
OBJECTIVES

Background: Prescribing errors (PE) are frequent, cause significant harm and prove costly. Pharmacists are a key element for safe prescription of drugs through the interception of PE during the validation process.

Objective: To characterize the severity and cost of the potential outcome of PE and to develop an economic analysis.

METHODS

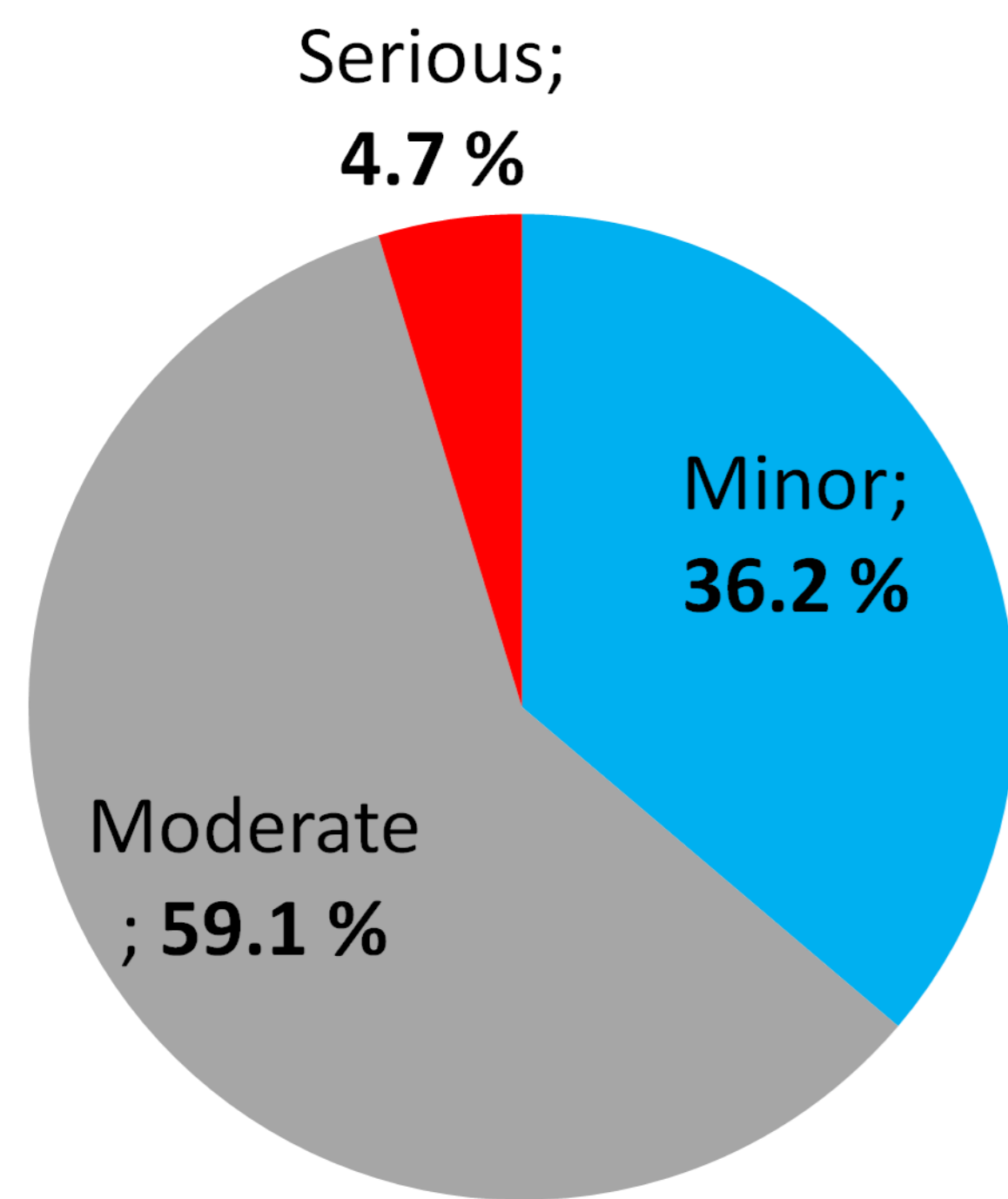
Design: A prospective observational study of all prescriptions made during 6 months in a 1,300-bed tertiary teaching hospital provided with a Computerized Physician Order Entry(CPOE) tool combined with a basic Clinical Decision Support System(CDSS).



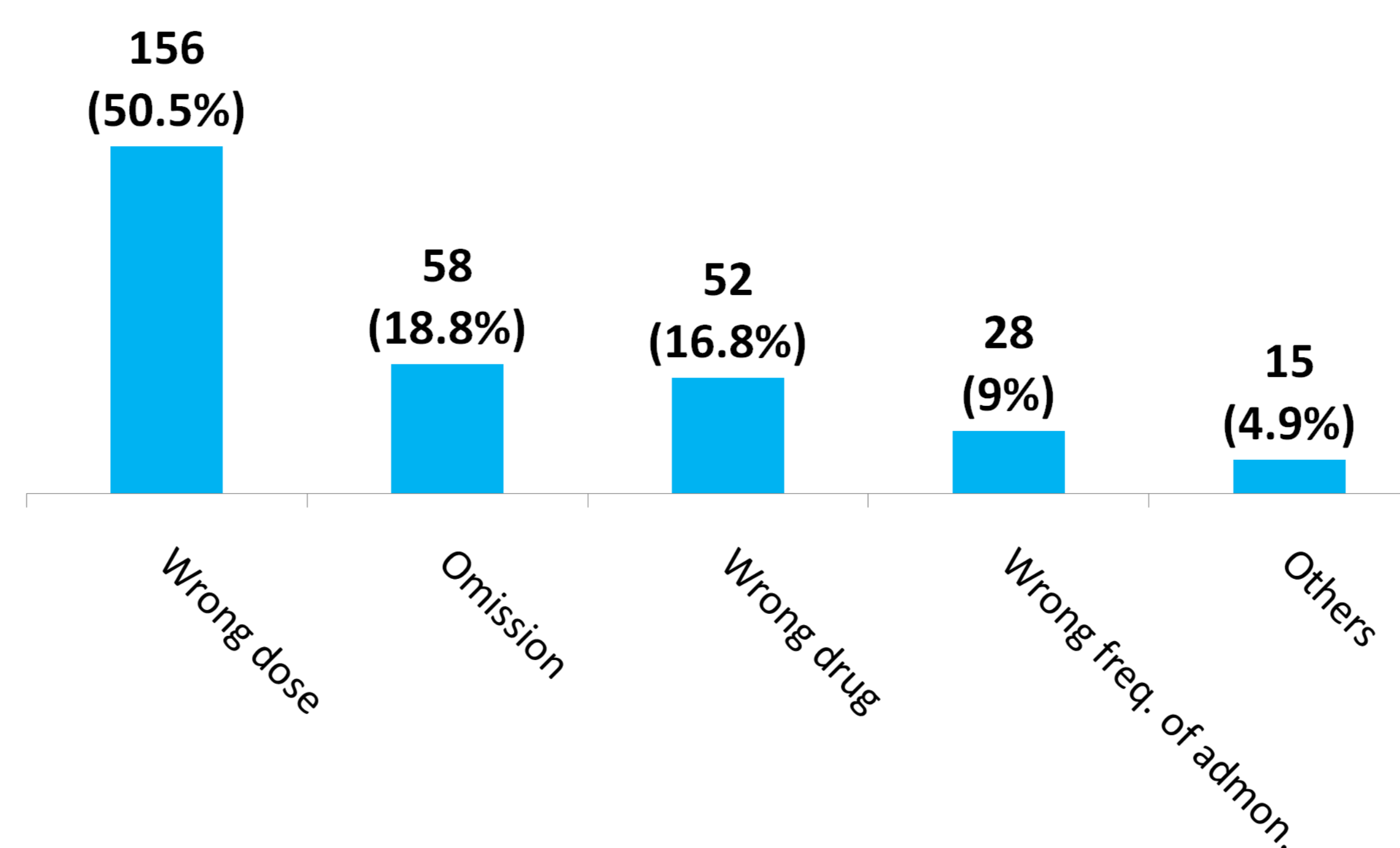
RESULTS

484 PE were intercepted

Graph 1. Severity of PE intercepted



Graph 2. Types of moderate-serious PE

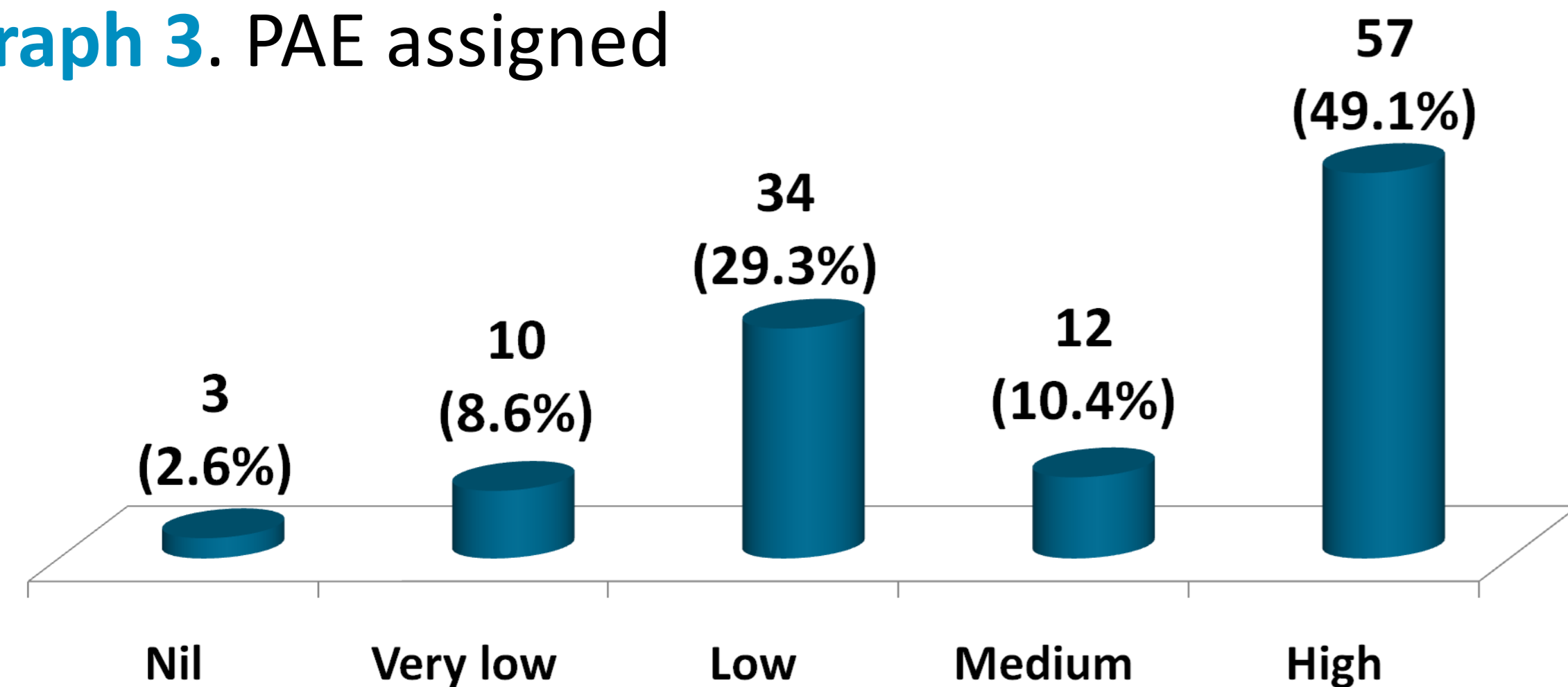


Families of drugs involved in moderate-serious PE:

- Antineoplastic agents (22.3%,69/309)
- Antimicrobials (17.2%,53/309)

To avoid a possible overestimation of the cost avoidance, we used only those errors with a severity of F-I (116 PE).

Graph 3. PAE assigned



Cost avoidance = € 291,422

Table 1. Economic analysis

Item	
Cost avoidance (€)	291,422
Total profit (€)	291,422
Net profit * (€)	122,312
Profit/cost ratio ¹	1.7

*Taking into account the cost per year of a clinical staff pharmacist: €56,369 (€28,185 during the study period). Six pharmacists were involved in the study: €28,185 × 6 = €169,110. Net profit = 291,422– 169,110. ¹Profit/cost ratio = 291,422/169,110.

Return on investment = 1.7

The overall inter-rater agreement was moderate for the severity (κ =0.57;p<0.005) and strong for the PAE (κ =0.77;p<0.005).

CONCLUSIONS

PE persist despite the implementation of a CPOE system combined with a CDSS.

Pharmacists add important value in preventing PE, and their interventions are financially beneficial for the institution.

