

# Territorial and size-based analysis of determinants of medication expenditure in nursing homes

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## Background and importance

As life expectancy rises, reaching 73,4 years in 2023, the demand for elderly care is increasing. Nursing home residents often present multiple comorbidities, leading to higher medication use compared to the general older population.

Understanding patterns of drug consumption in these settings is essential for optimizing patient care and controlling pharmaceutical costs

- Rising life expectancy → increased demand for nursing home care
- Residents have higher medication use due to multiple comorbidities

## Aim and objectives

To analyse drug consumption patterns and pharmaceutical costs in nursing homes of varying sizes and across different healthcare management areas in Catalonia (AGA, Àrees de Gestió Assistencial in Catalan).

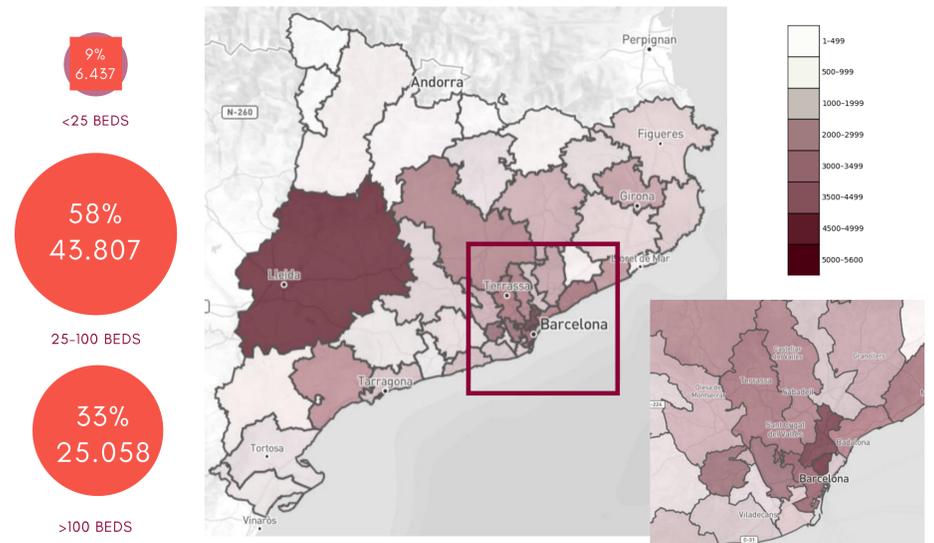
- Evaluate nursing homes with different sizes: <25, between 25 and 100, and >100 beds.
- Compare total drug cost, cost per patient, and pack prices by facility size and territory.
- Identify factors influencing net expenditure, including patient number and cost per patient.
- Assess trends in specific drug types (e.g., antibiotics, antipsychotics) according to facility size.

## Materials and methods

This study analysed drug consumption and pharmaceutical costs in nursing homes across different sizes and healthcare territories. Data from the national healthcare service (CatSalut) covering January-December 2024 were used to evaluate patterns in drug use, net expenditure and other costs.

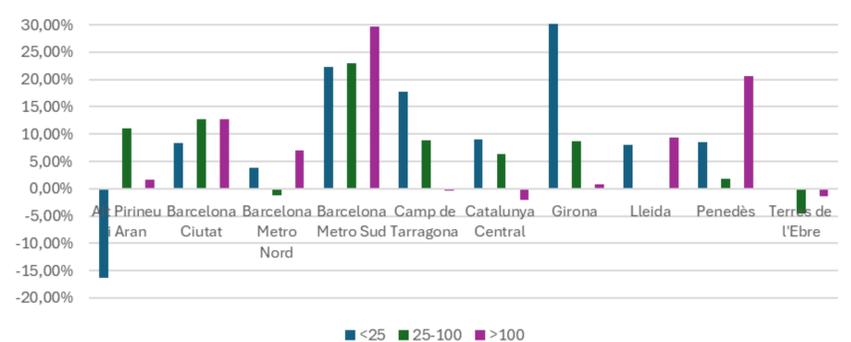
- Nursing homes were categorized:
  - By size:
    - 6.437 patients in nursing homes with <25 beds
    - 43.807 patients in nursing homes with 25 to 100 beds
    - 25.058 patients in nursing homes with >100 beds
  - And by geographic territory: nursing homes across 43 AGAs
- Statistical analyses includes correlation analyses to evaluate relationships among costs, number of patients and consumption
- One-tailed t-tests were used to compare differences between facility sizes for key drug classes (antibiotics and antipsychotics)
- Results were summarized as average costs per bed, per patient and per medicine pack.

## Results



Graphic 1. Distribution of patients in nursing homes in Catalonia

Table 1. Net expenditure increase (2023 vs 2024)



For this table, since there are 43 healthcare management areas (AGA), we grouped each area into its corresponding health region (Regió Sanitària, in Catalan) and calculated the average increase in net expenditure.

Table 2. Average total medication expenditure annual costs (2025)

	Per bed	Per patient	Per medicine pack
Average costs	1.424,53€	1.167€	14,47€

The mean cost per medicine pack was consistent across the territory, between 14 and 16€. However, this was 20,9 and 38,2% higher than in community pharmacies, where the average price per medicine pack was 11,58€.

## Conclusion and relevance

- Drug costs varied significantly by territory but were not influenced by nursing home size.
- Interannual analysis showed that changes between 2023 and 2024 were explained by increased total cost per patient, not by the increase in the number of patients.
- Consumption patterns differed by size:
  - Antibiotic use increased with nursing home size
  - Antipsychotic use decreased with nursing home size

