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INTRODUCTION

Dengue, the most rapidly spreading vector-borne disease, poses a substantial burden on patients, healthcare systems, and society at large.

Its global upsurge has been associated with **urbanization** (creating mosquito-friendly environments), **international travel** (spreading the virus), **climate change** (expanding mosquito habitats), and **socioeconomic disparities** (increasing the impact of dengue on vulnerable communities).

OBJECTIVE

To estimate the economic burden of confirmed dengue cases in Spain.



METHOD

An **incidence-based cost-of-illness approach** from a **social perspective** was used to estimate the burden of an acute dengue episode and the burden of all confirmed cases in 2024.

- The burden was classified as **direct healthcare costs (DHC)**, **direct non-healthcare costs (DNHC)**, and **indirect costs (IC)**.
- The model was based on the **analysis of Spanish official databases** and a **scientific literature review** on PubMed®
- A **multidisciplinary advisory committee** validated the model, and a sensitivity analysis was included.
- Costs are presented per average patient, per hospitalized patient, and for all confirmed cases, in Euros from 2024.

RESULTS - Estimated socioeconomic burden

Number of **confirmed dengue cases in 2024**: between **598** and **724***

*Adding probable cases that could be confirmed.

Among DHC: the greatest burden, according to level of assistance, was associated with **Secondary care (99.6%)**; Secondary care was broken down as described in Figure 1.

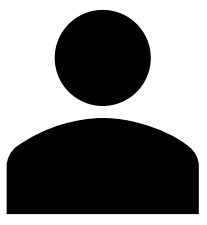
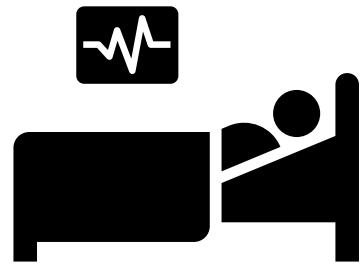
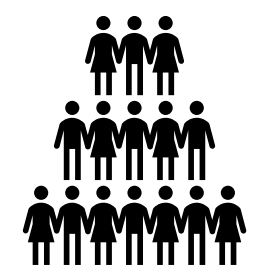
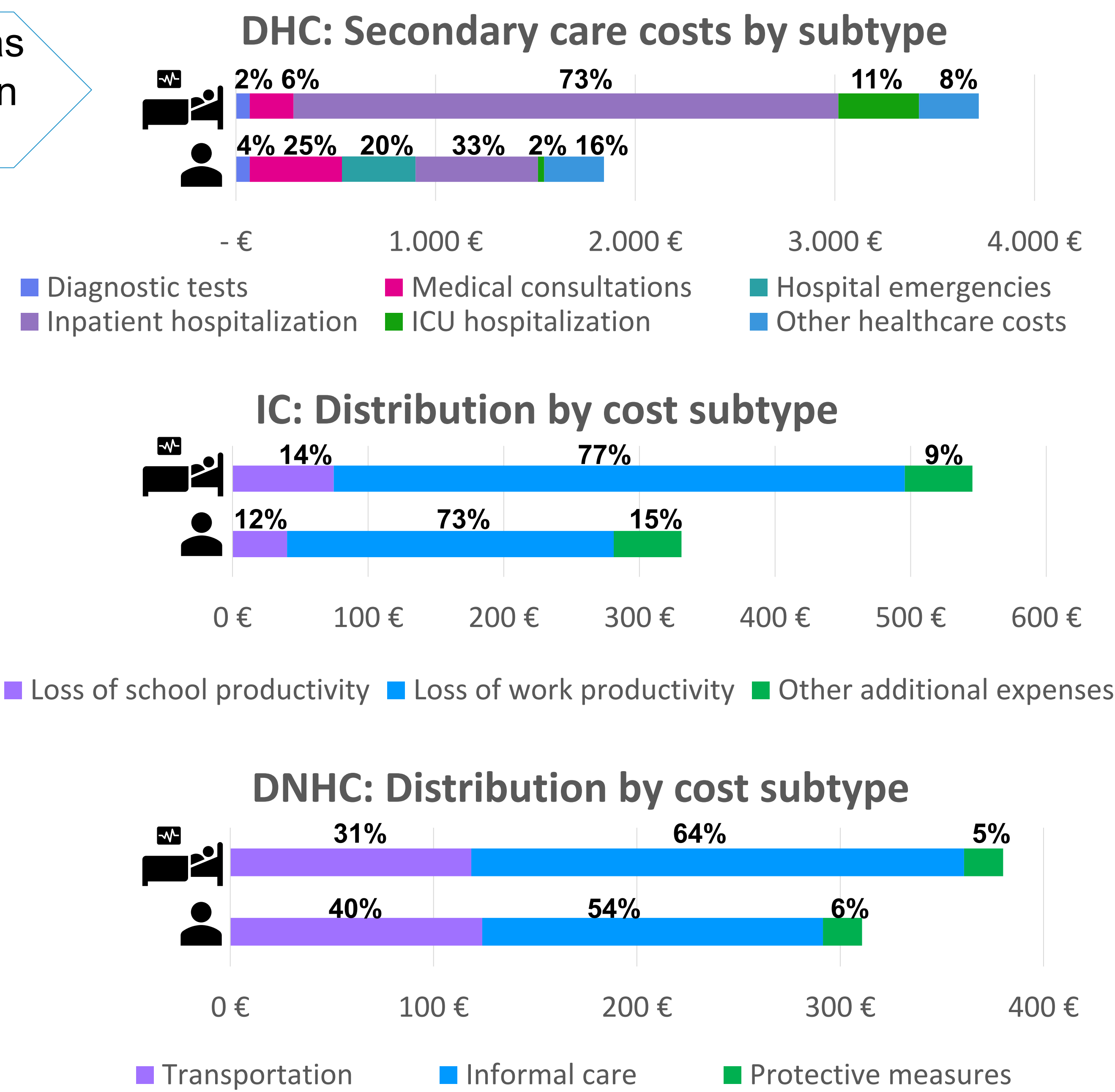
	 per average patient	 per hospitalized patient	 for all confirmed cases
Total Cost	€2,493 (€1,829 to €3,795)	€4,649 (€4,083 to €6,103)	€1,490,688 (€1,093,801 to €2,745,405)
DHC	€1,851 (74.2%)	€3,723 (80.1%)	€1,106,934
IC	€331 13.3%	€546 11.7%	€ 197,933
DNHC	€311 12.5%	€380 8.2%	€ 185,822

Figure 1. Proportion of the socioeconomic burden of a dengue episode in 2024 in Spain according to cost categories and subtypes, estimated for an average patient and an average hospitalized patient (€ 2024).



CONCLUSIONS

This study provides the **first estimate of the socioeconomic impact of dengue in Spain**, offering **insights to inform evidence-based public health policies**. Future studies should address the social return of preventive strategies such as public awareness campaigns, vector control programs, global collaboration, and immunization, among others.

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