

# Non-Medical Out-Of-Pocket Costs of Febrile Children's Emergency Department Attendances and Admissions: A European Survey.

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**Background:** Going to the emergency department (ED) due to sudden or unexpected illness with fever is common for children(1). Whilst multiple European countries provide free healthcare to children at the point of delivery(2-6), families may still face non-medical out-of-pocket costs (OOPC) of accessing healthcare(7).

**Objective:** To assess the burden of non-medical OOPC that families' incur during ED attendances or admissions for childhood febrile illness.

**Methods:** Multicentre survey-based study in tertiary paediatric hospitals in Germany, Greece, the Netherlands, Slovenia, and the UK between March 2022 and February 2024. Non-medical OOPC were estimated by participants including: transport, food and drinks, childcare, and clothes and toiletries. Median (IQR) costs per day were converted to US\$ using purchasing power parity (PPP) to attempt to equalise purchasing power of the different countries, and assessed as a percentage of monthly wage to allow comparison between countries. Summative content analysis of free-text responses was undertaken.

**Results:** 370 responses (149 UK, 86 Slovenia, 68 the Netherlands, 50 Greece, and 17 Germany) were recorded. Most participants (n=264, 71.4%) reported OOPC. Total costs across all participants were \$36.50 (17.79-62.96) per day, or 0.88% of mean monthly wage per day. For Germany, Greece, the Netherlands, Slovenia, and the UK daily costs were \$35.36 (10.95-71.86), \$13.69 (10.27-20.53), \$52.02 (35.59-75.28), \$27.37 (10.27-61.59), and \$47.90 (27.37-75.28), respectively. Costs compared to wage were highest in the UK (1.06%), and lowest in Greece, (0.63%). Most respondents incurred transport (N=252, 68.1%) and food costs (N=216, 58.4%). Parents described restructuring household bills, skipping meals or using rent money to meet the unexpected costs. Qualitative analysis also showed parents faced difficulties with basic needs (e.g. food) and faced emotional and social impacts, and households with a single- or self-employed parent or from deprived areas were disproportionately affected.

**Conclusion:** Most families face OOPC for febrile children's ED attendances or admissions. OOPC can be significant, and in the current cost-of-living-crisis can cause financial burden, alongside other (e.g. social and emotional) impacts. Increased social and financial aid could support families and reduce the financial burden.

# Non-Medical Out-of-Pocket Costs of Febrile Children's Emergency Department Attendances and Admissions: a European Survey

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## Background

Febrile illness is one of the most common causes of Emergency Department (ED) attendance and admission for children. These attendances and admissions can cause **significant non-medical out-of-pocket costs** for the families.

These costs can lead to financial hardship and inequity. By comparing different European countries, we aim to identify areas where the health care provider can aide to alleviate the financial burden.


## Methods

-  7 hospitals in 5 countries (3 UK, 1 each Germany, Greece, Netherlands, Slovenia)
-  Any child <16 years of age attending with febrile illness
-  Survey assessing: transport, food, childcare, miscellaneous costs
-  Costs equalised for purchasing power, and as % of average monthly wage

## Results

"Household bills had to be restructured, TV cut off, mobile phone reduced. Meals had to be skipped as I could not afford to eat"

"We had to use money for our rent due to it not being an expense we expected."

-  370 survey responses.
- Total costs were **highest** in the **Netherlands** and cost per day as % of monthly wage highest in the **UK**, and both were **lowest** in **Greece** (Table 1).
- Transport costs were highest in the Netherlands, and food costs were highest in Germany (Figure 1)
- Germany, Greece, and Slovenia provide aid for the family towards **food, wages and travel** expenses, whereas the Netherlands and the UK provide little support.
- Costs were **lower** for families where the healthcare system provides **more social and financial support**.

Country	Total Costs per Day (\$USD using PPP)	Cost per day as % of Monthly Wage
All Countries (n=264)	36.50 (17.79-62.96)	0.88
Germany (n=14)	35.36 (10.95-71.86)	0.72
Greece (n=43)	13.69 (10.27-20.53)	0.63
Netherlands (n=51)	52.02 (35.59-75.28)	0.99
Slovenia (n=45)	27.37 (10.27-61.59)	0.70
UK (n=110)	47.90 (27.37-75.28)	1.06

Table 1. Median (IQR) total costs per day for families in USD using purchasing power parity (PPP), and costs per day as percentage of monthly mean wage

"[Need] food provided for me as I didn't really have the money to spare for hospital prices and no one to bring me anything."

"We suffered due to both having full time jobs and unable to access grants from charities. There should be equal financial support for parents who work and not just the ones on benefits"

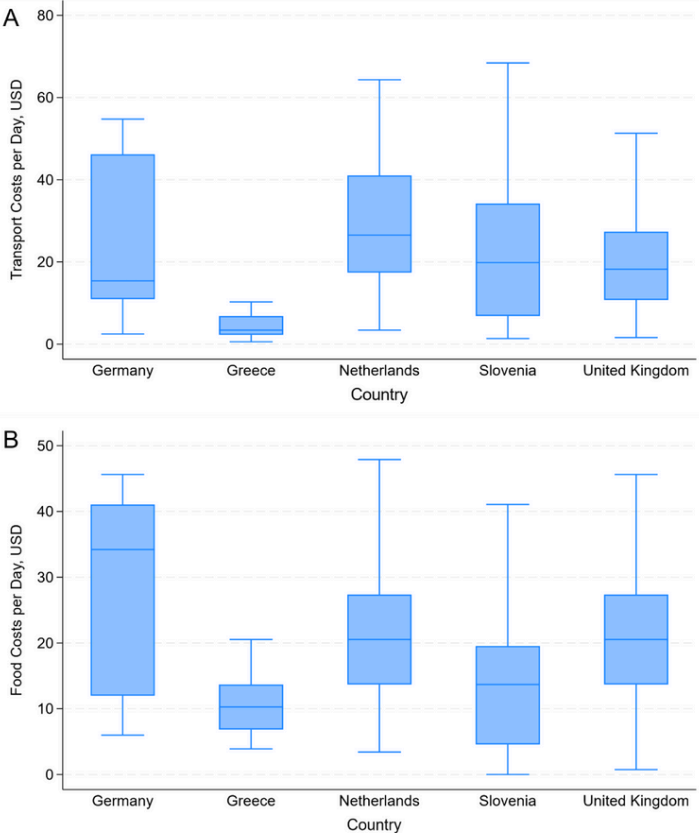


Figure 1. Boxplot of transport costs and food & drink costs per day per country

## Impact on Patient Safety

Alleviating costs of accessing emergency care for febrile children could mitigate **financial barriers and impacts** of emergency care and **promote positive patient safety behaviours**, e.g. **earlier illness presentation**, and contribute to **improved health outcomes** for children.

## Conclusions

- Most families face significant out of pocket costs** when their child attends hospital with febrile illness, causing financial stress.
- Costs could be alleviated by **hospitals providing further support** with food for parents, or providing reductions on travel and parking.
- Improved diagnostic ability could aim to **reduce length of stay** and subsequently reduce costs for admission for both parents and hospitals.