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20 years of declining hospital length-of-stay in different European healthcare models and systems

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Background:

Hospital length of stay (LOS) is an important indicator of healthcare systems' performance. Several factors are closely related to LOS, which is characterized by high heterogeneity among countries. This study aims to investigate the 20-year time-trends of LOS and their association with different healthcare systems' and reimbursement models among 25 European countries.

Methods:

We conducted a 20-year time-trend analysis (2000-2019) using a Weighted Least Squares model for panel data to investigate the association between LOS, healthcare systems' models (National Health Service, NHS, National Health Insurance, NHI, Social Health Insurance, SHI, and Etatist Social Health Insurance, ESH), reimbursement schemes (Prospective Global Budget, PGB, Diagnosis Related Groups, DRG, and Procedure Service Payment, PSP), and several control variables. Data were extracted from the Eurostat and GBD study databases.

Results:

The analysis showed a generalized reduction of LOS across the 25 countries, ranging from 9.20 days in 2000 to 7.24 in 2019. SHI was associated with a lower LOS compared to the reference category (NHS) ($b = -0.6327$, $p < 0.05$). Both DRG ($b = 1.2399$, $p < 0.05$) and PSP ($b = 1.1677$, $p < 0.05$) reimbursement models were positively associated with LOS when compared to PGB.

Conclusions:

Our results confirmed the downward trend of LOS in the last 20 years among European countries, highlighting the strong influence of the healthcare system model. The results of this study offer insight into the factors influencing healthcare utilization and can inform the design of more efficient and sustainable healthcare systems.

Key messages:

- This study investigated the relationship between HS models, financing, regulation, service provision, reimbursement schemes, and LOS, across 25 European countries in the last 20 years.
- This study found a dominant influence of the HS models on LOS. SHI models were associated with shorter LOS compared to National Health Systems, after accounting for several factors.