

DRG VARIATION IN LENGTH OF STAY AND POTENTIAL AVOIDABLE BED-DAYS: EVIDENCE FROM ROMANIA, 2023

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OBJECTIVES

Variation in hospital length of stay (LOS) may reflect differences in clinical practice, case-mix or efficiency. We aimed to describe LOS variation across Diagnosis Related Groups (DRGs) in acute hospital care in Romania and to estimate the potential number of avoidable bed-days if hospitals aligned to DRG-specific benchmarks.

METHODS

We used national DRG data from the Romanian National Health Insurance House (CNAS) for 2023. For each DRG, we calculated hospital-specific LOS and the DRG-level 25th percentile (P25) as a benchmark. Potential avoidable bed-days were estimated as the difference between hospital-specific LOS and the DRG-specific P25, multiplied by the number of cases among hospitals above the benchmark. We examined variation across DRGs and between hospitals within the same DRG, and explored associations with hospital volume and case-mix index (CMI). As an illustrative high-volume example, we analyzed DRG E3031 (respiratory or inflammatory infections with catastrophic complications and comorbidities).

RESULTS

In 2023, the national average LOS in acute hospital care was 5.37 days. LOS differed across hospital types: municipal hospitals 5.46 days, county hospitals 5.71 days and university/clinical hospitals 5.46 days. LOS varied widely across DRGs and across hospitals treating the same DRG. In several DRGs, differences between hospitals exceeded multiple days. Across all DRGs, alignment to the DRG-specific P25 could theoretically release 5,054,512 bed-days (29.4% of total bed-days) in 2023. For DRG E3031, substantial between-hospital variation was observed, with only weak associations between LOS, hospital volume and CMI, suggesting that case-mix explains only part of the variation.

CONCLUSIONS

Large variation in LOS indicates scope to reduce unwarranted differences in hospital care. Estimated avoidable bed-days represent theoretical potential only and do not imply that all reductions are clinically achievable. Nevertheless, DRG-specific benchmarking may help identify priority areas for quality improvement and capacity planning in Romanian hospitals.

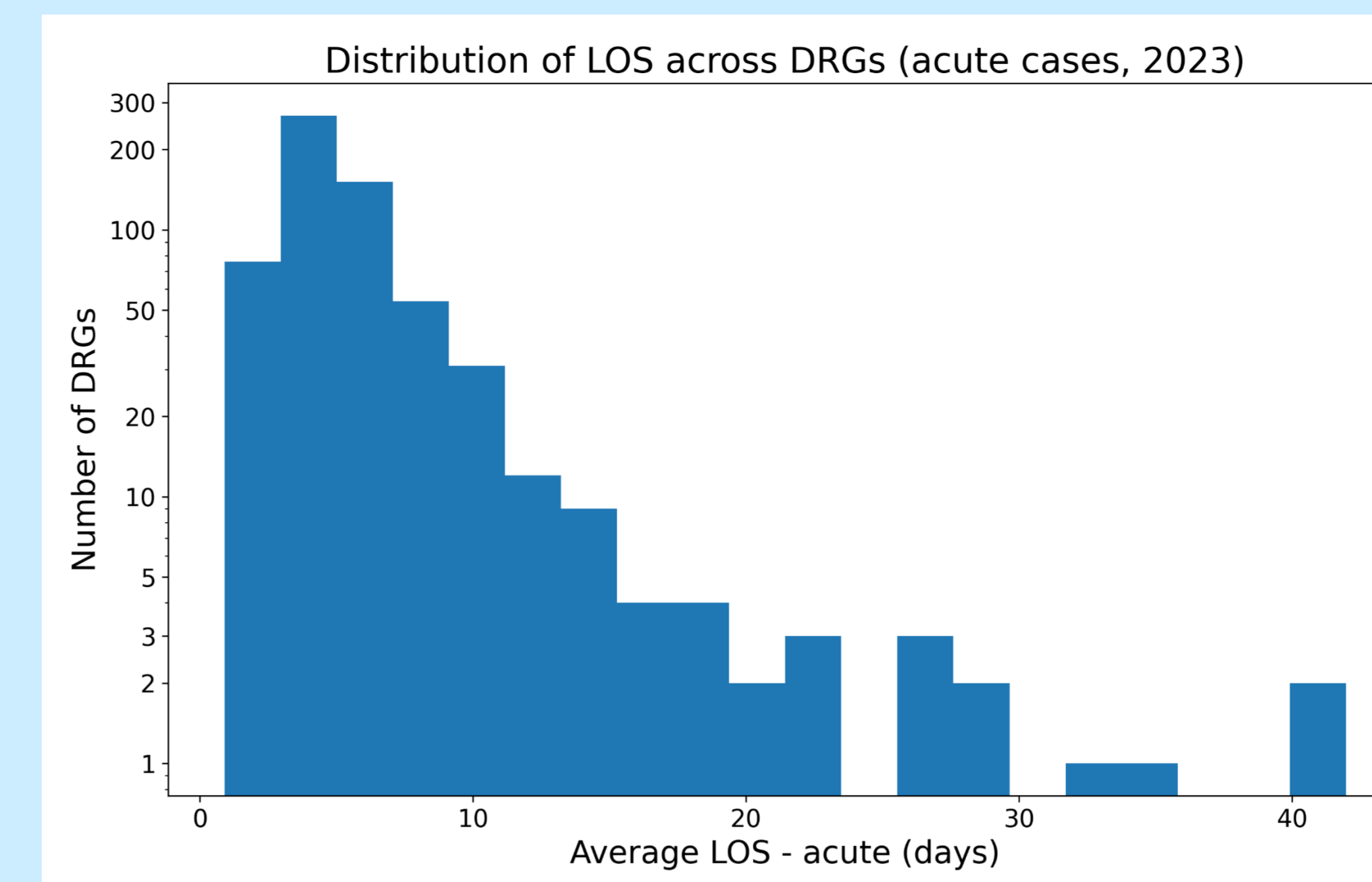


Figure 1. Distribution of LOS across DRGs (acute cases, 2023)

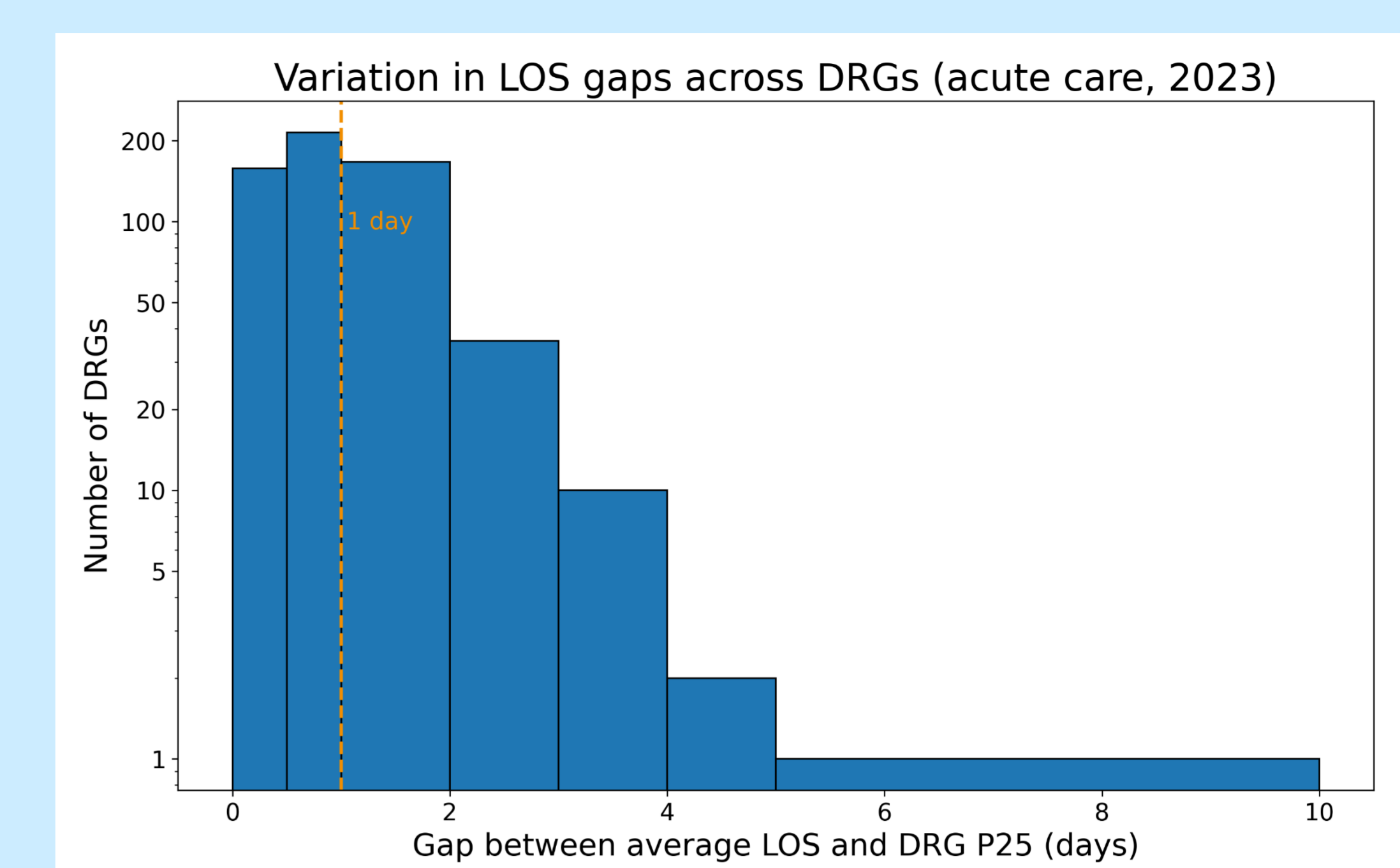


Figure 2. Variation in LOS gaps across DRGs (acute cases, 2023)

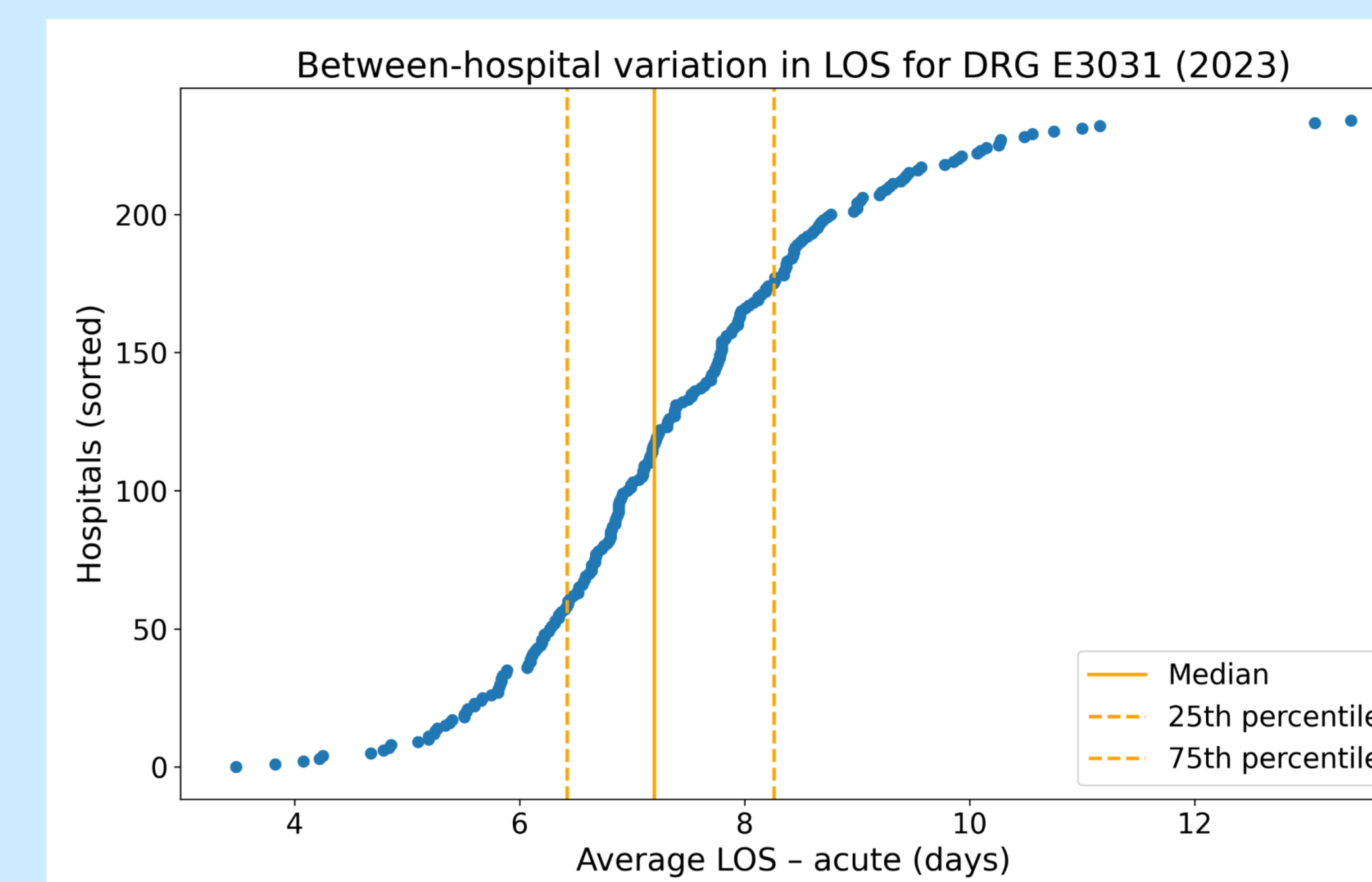


Figure 3. Between-hospital variation in LOS for DRG E3031 (2023)

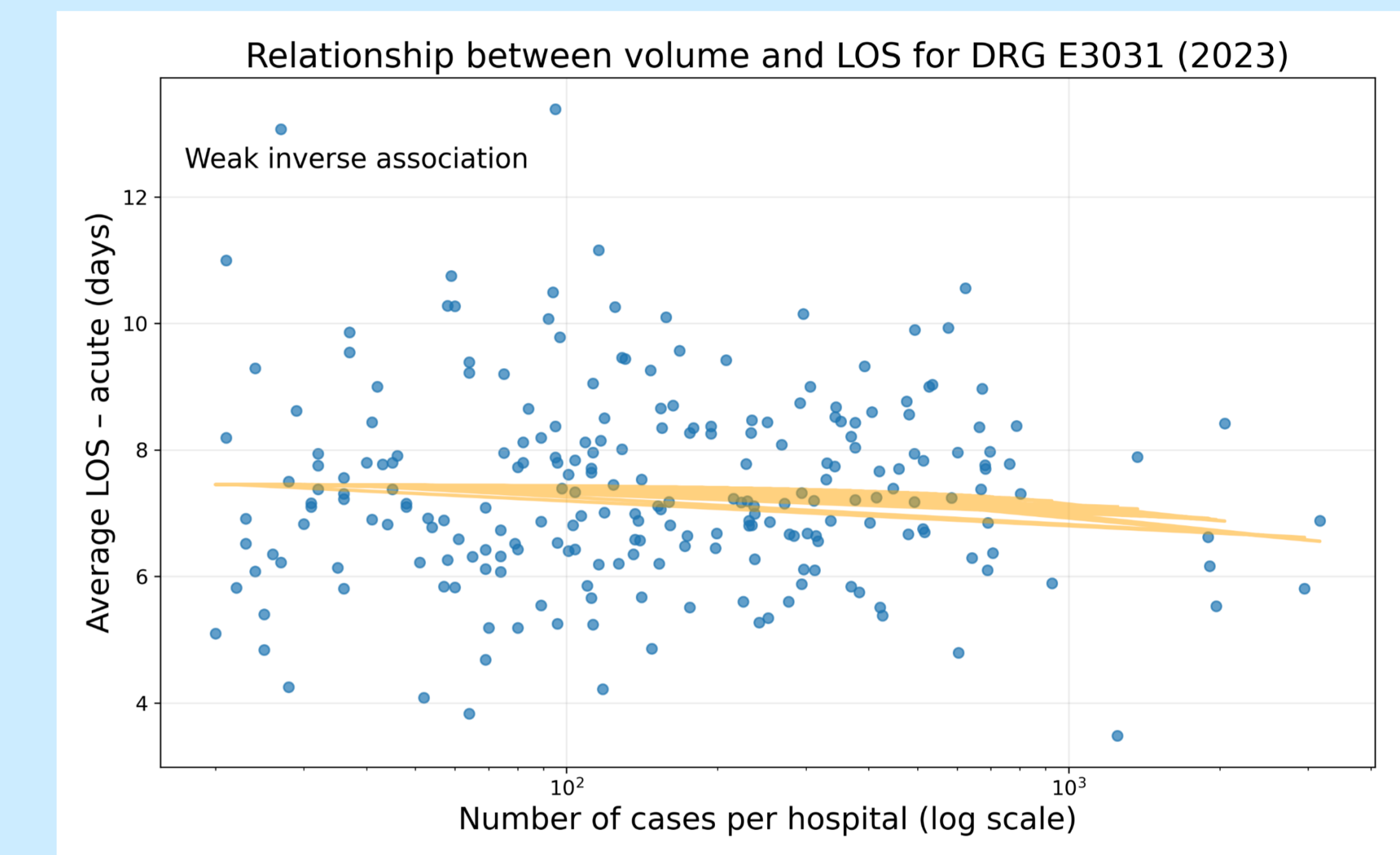


Figure 4. Relationship between volume and LOS for DRG E3031 (2023)

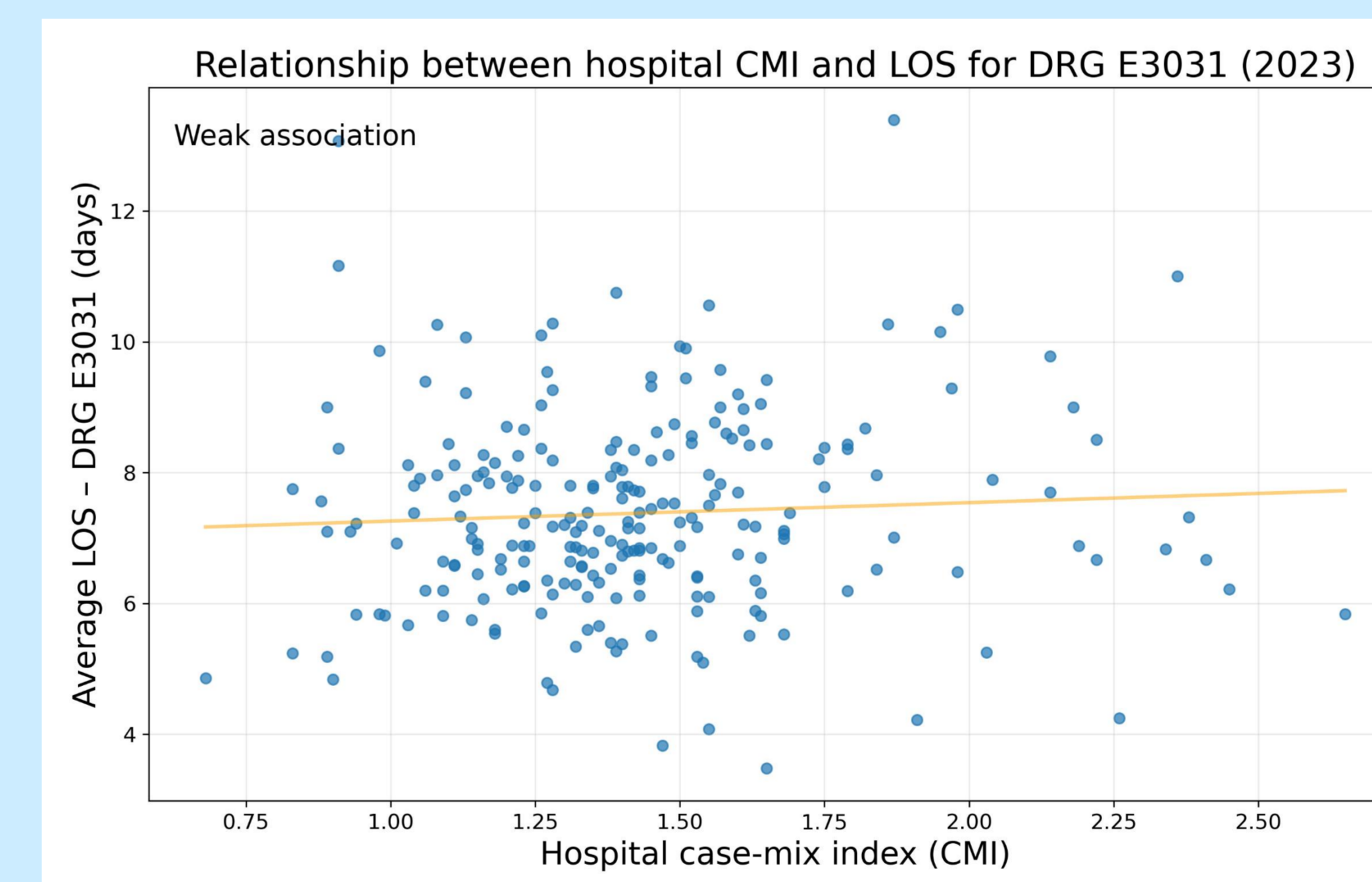


Figure 5. Relationship between hospital CMI and LOS for DRG E3031 (2023)

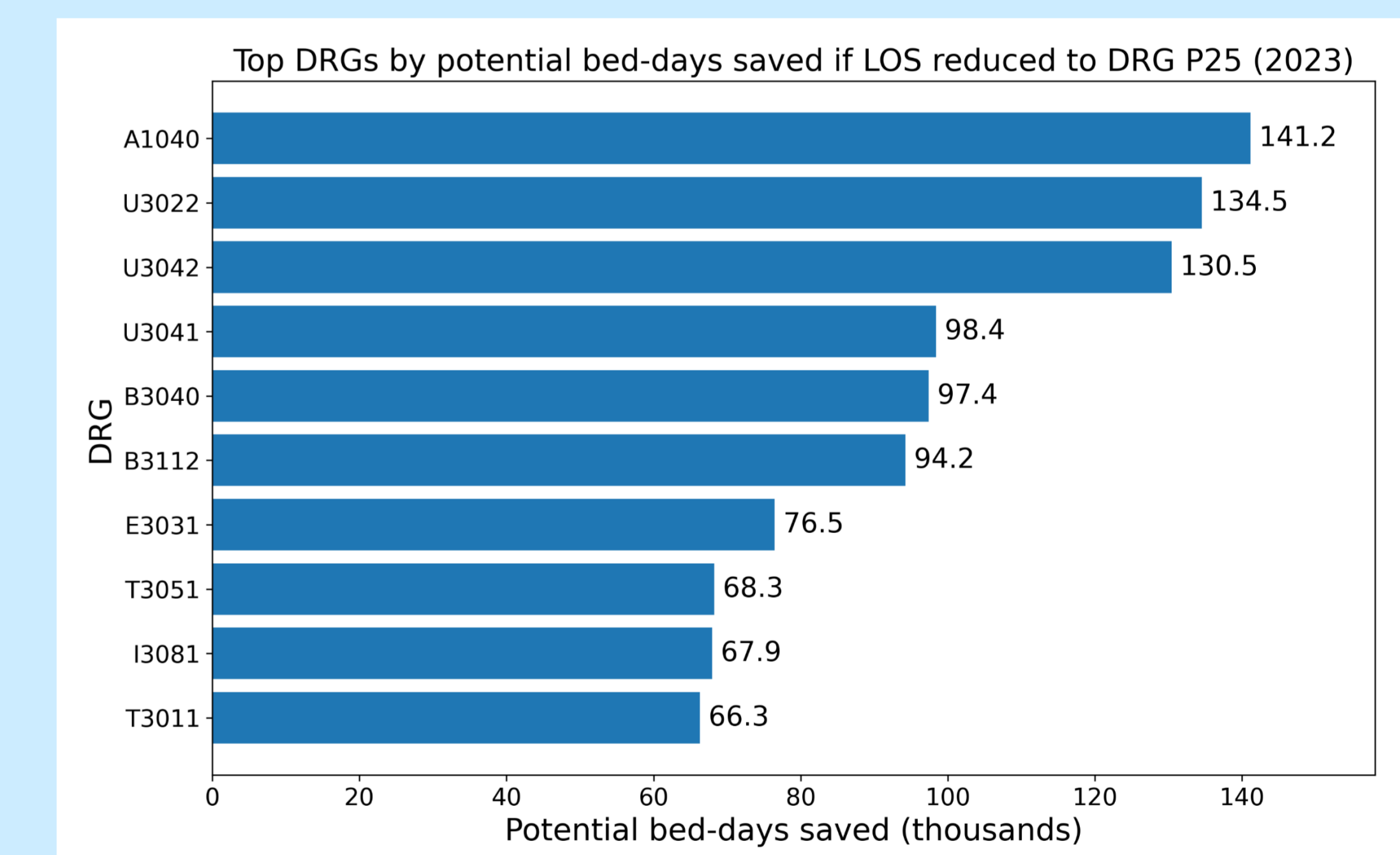


Figure 6. Top DRGs by potential bed-days saved if LOS reduced to DRG P25 (2023)

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