

Hospitalization Patterns and Healthcare Costs in Liver Cirrhosis by Area Deprivation Index

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Background


- Hospitalizations in cirrhosis reflect worsening disease and reduced quality of life
- Socioeconomic status (SES) affects access to care, but its link to cirrhosis hospitalizations is understudied.
- The **Area Deprivation Index (ADI)**, a zip-code–based measure of resource scarcity, is associated with **poor health outcomes** in cirrhosis

This study fills a gap by linking cirrhosis hospitalization patterns to community-level resource availability


Goal

Compare hospitalization trends and healthcare costs in cirrhosis patients across high- vs low-resource areas defined by the Area Deprivation Index (ADI)


Methods




Study Design
Retrospective Cohort
2011–2022
Cirrhosis patients




Data Source
Claims Data
Large national insurer
Non-HMO Medicare Advantage (for cost analysis)



Cohort
393,745 Adults
Age >18
Diagnosed with cirrhosis



Outcomes
Primary
Hospitalization rate
Secondary
Inpatient cost (during Medicare Advantage enrollment)



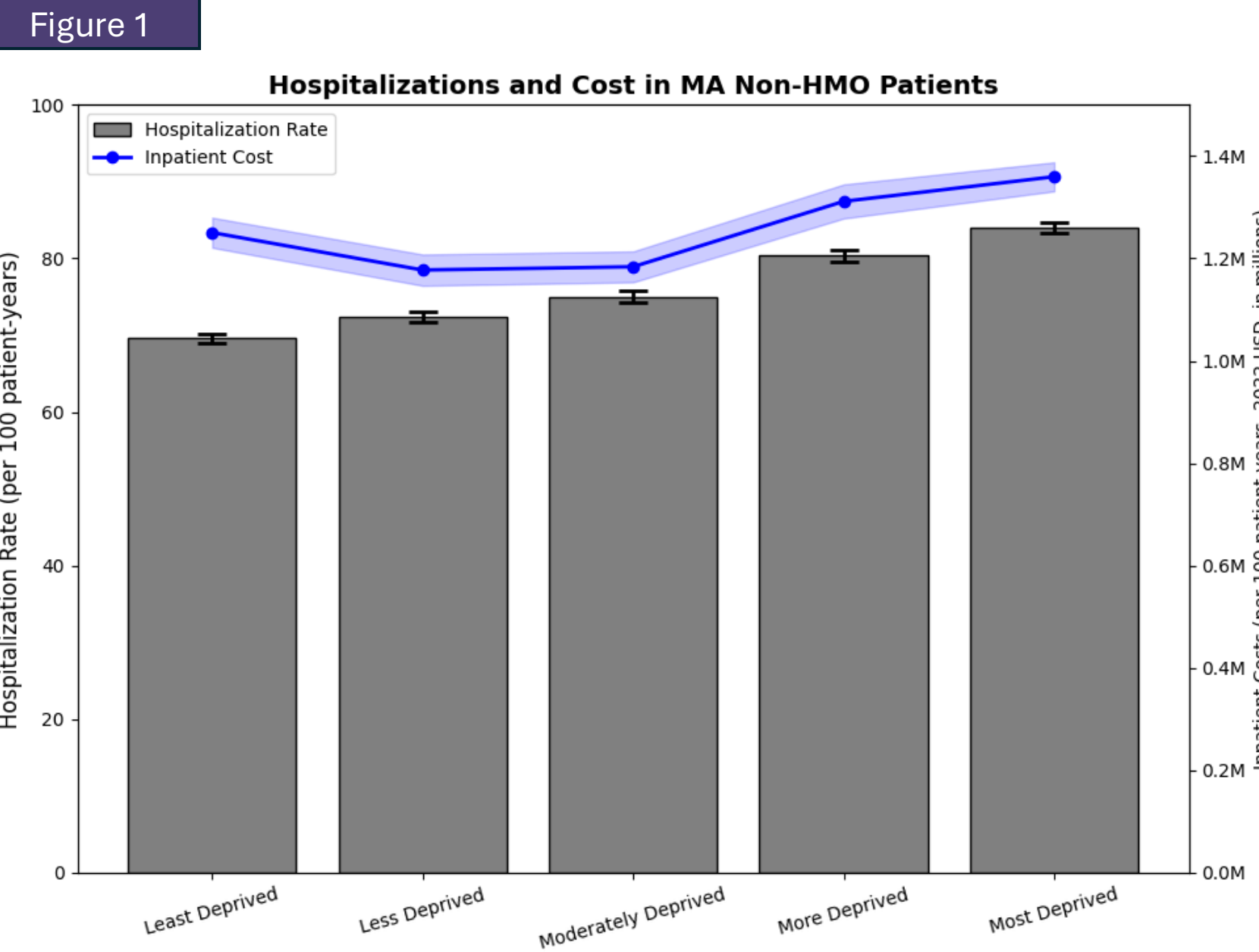
Socioeconomic Measure
Area Deprivation Index (ADI)
Based on zip code at diagnosis
5 levels; Least → Most deprived

Results

Hospitalization rates and costs vary by deprivation level

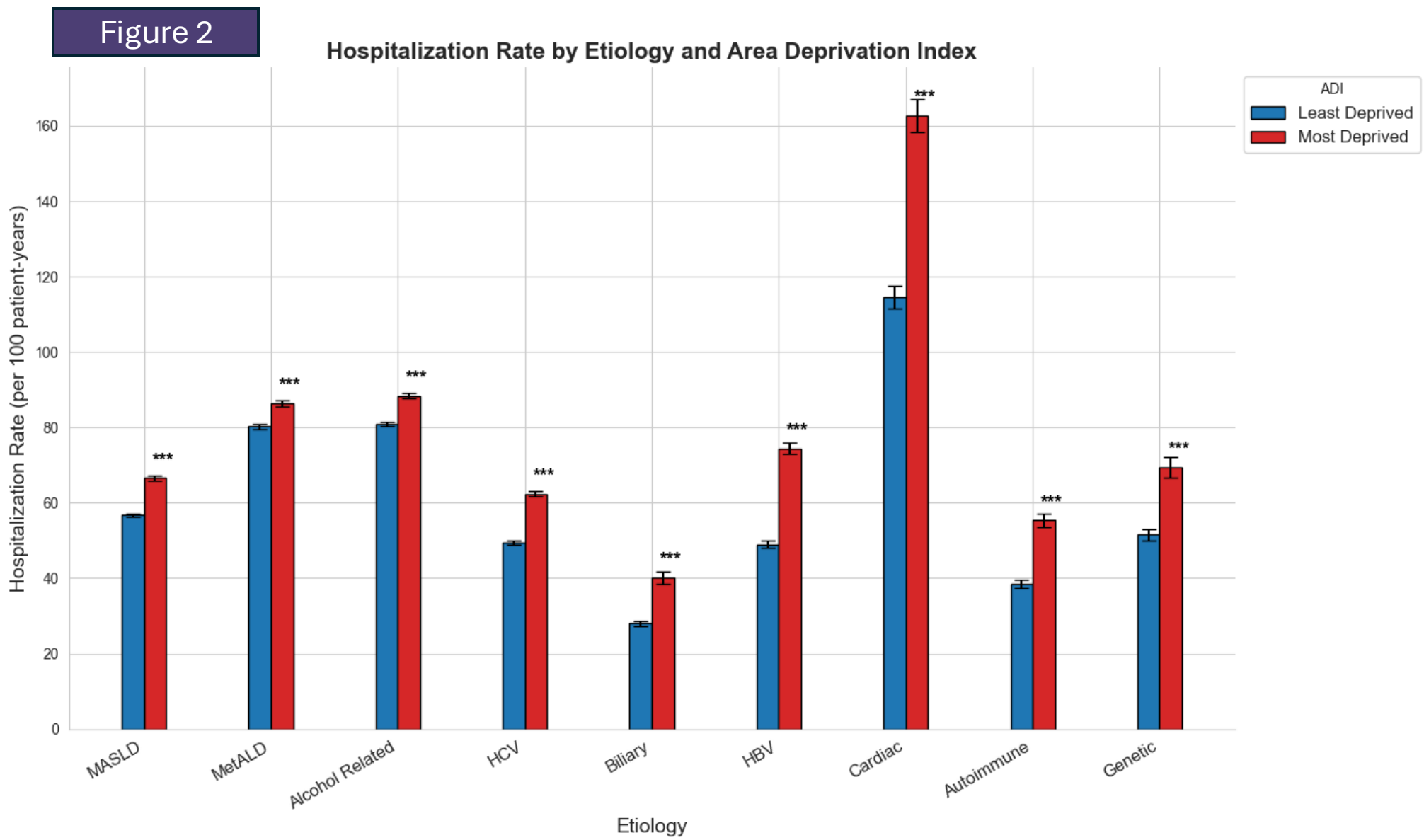
- Hospitalization rates were **9.7% higher** in the most deprived vs. least deprived areas [Figure 1]
- Compensated cirrhosis patients had **21.59 hospitalizations per 100 patient years vs. 91.09** in decompensated patients
- Outpatient-to-inpatient visit ratio **13% lower** in the most deprived areas compared to the least deprived
- Mean hospitalization rate was 65 per 100 patient years

Hospitalizations by Cost and ADI



- Average cost per hospitalization = \$16,529
- Cost per hospitalization: \$17,967 (least deprived) vs \$16,195 (most deprived)
- **But total inpatient costs were 8.7% higher** in most deprived areas

Hospitalizations and Cost by ADI



Hospitalization rates **varied by etiology**: cardiac cirrhosis (137.6), MetALD (84.2), MASLD (62.1) per 100 patient-years

Conclusions

- Hospitalization rates are high for patients with cirrhosis, especially for patients with cardiac cirrhosis and decompensated cirrhosis
- **Patients most deprived areas require have 9.7% more hospitalizations, 13% fewer outpatient relative to inpatient visits and 8.7% higher inpatient costs of inpatient care**

Limitations

Limited by administrative data without chart validation, subset of insurance types, and zip code-level ADI which may obscure individual-level socioeconomic differences