# Socioeconomic and Demographic Drivers of Ambulatory Surgery Usage The 2020 HCUP National Ambulatory Surgery Sample in 10 Charts

Scalable, Multi-Platform, Open-access, Reproducible Data Pipeline

7.8 million patients, 2899 hospitals, 35 states, 1 nation

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LLMs Utilized: Claude Sonnet 4 | Opus 4.1; ChatGPT 40, 04, 5, 5-mini; Deepseek 3.1; Gemini 2.5 Pro; Grok 5



### AIM

To explore whether socioeconomics or demographics has more affect on the usage of ambulatory surgery.

## **METHODS**

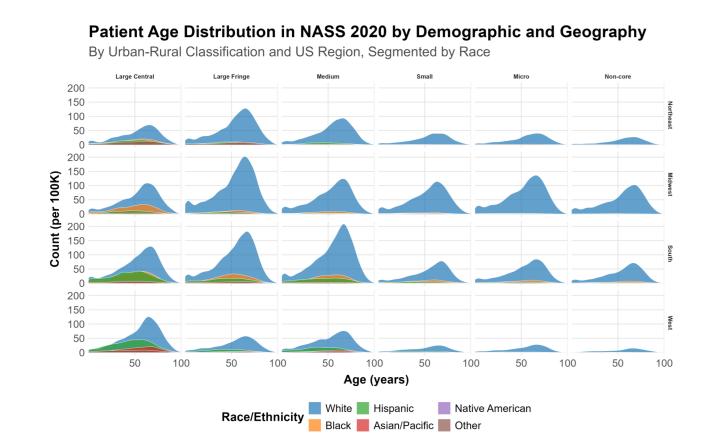
- Simple descriptive analysis → no statistical tests
- Vs 2020 US Census data → classical statistical tests
- Machine Learning → advanced statistical modeling
- Initially Traditional coding, later w/ use of Al/LLM

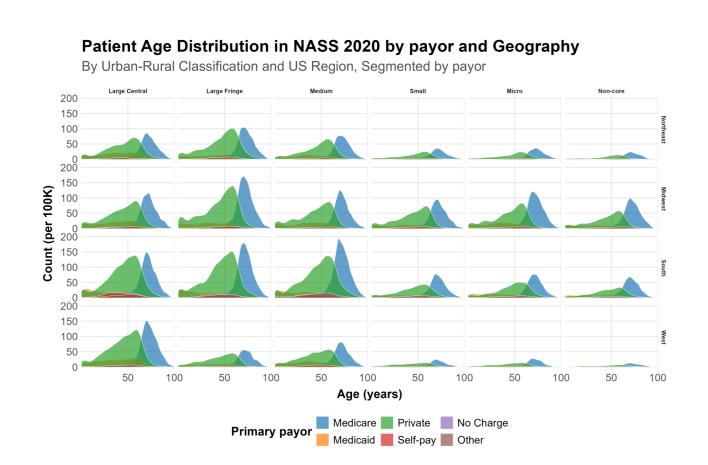
#### **KEY FINDINGS**

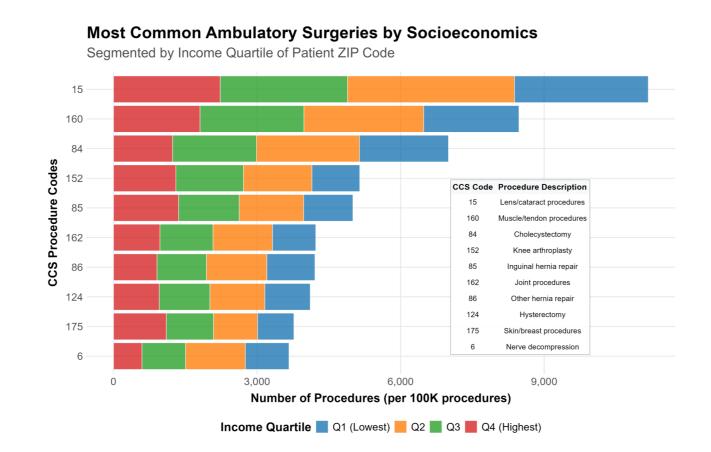
- Demographic shift over 1 American lifetime makes Age confounding
- Payor is the primary driver of ambulatory surgical access
- Medicare is the dominant payor, furthering Age confounding
- Geographical bias is a weakness of the dataset

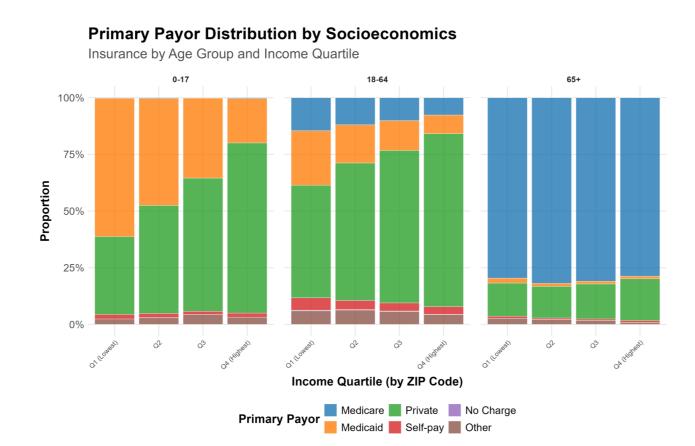
# **CONCLUSION**

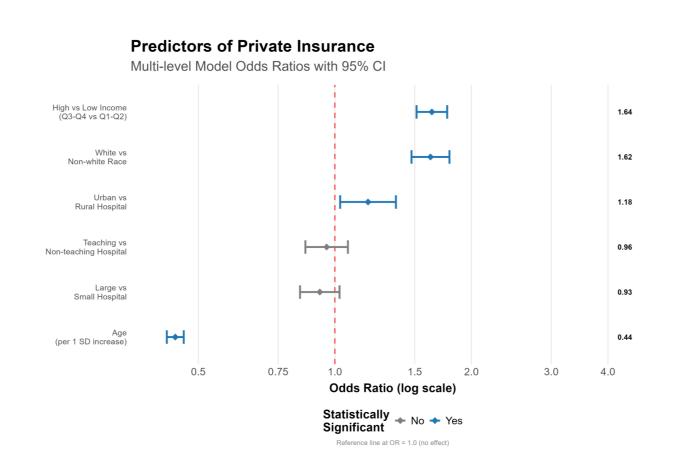
- HCUP NASS data shows minimal socioeconomics imbalance
- Demographics generally reflect US population trends

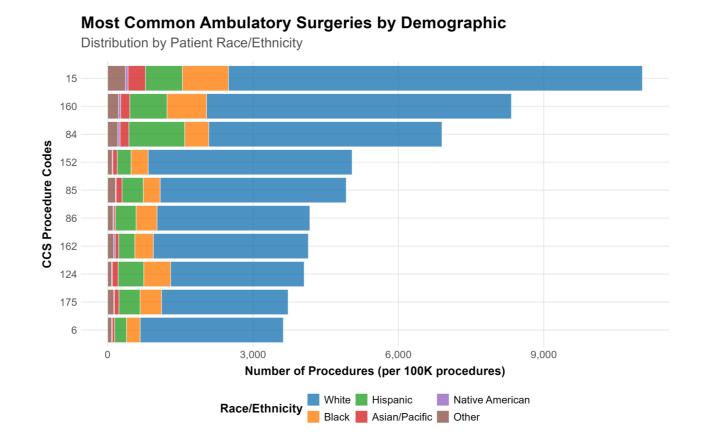


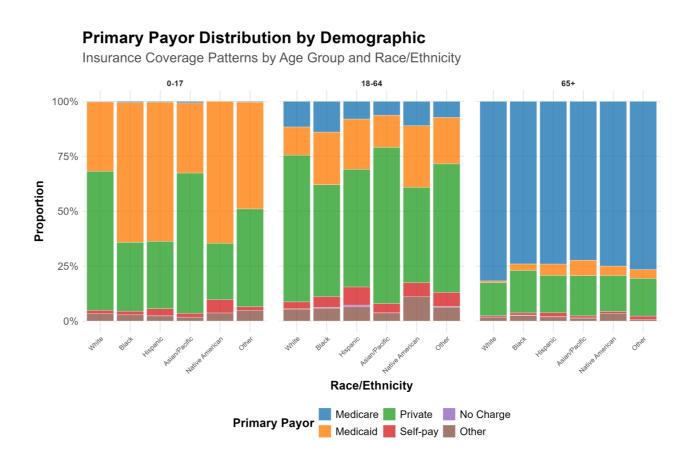


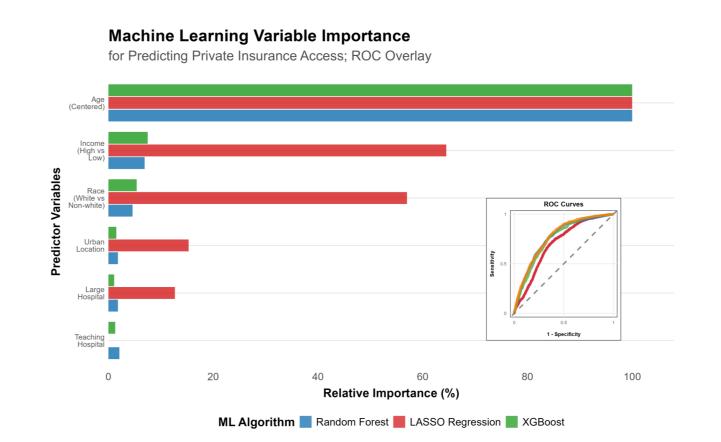


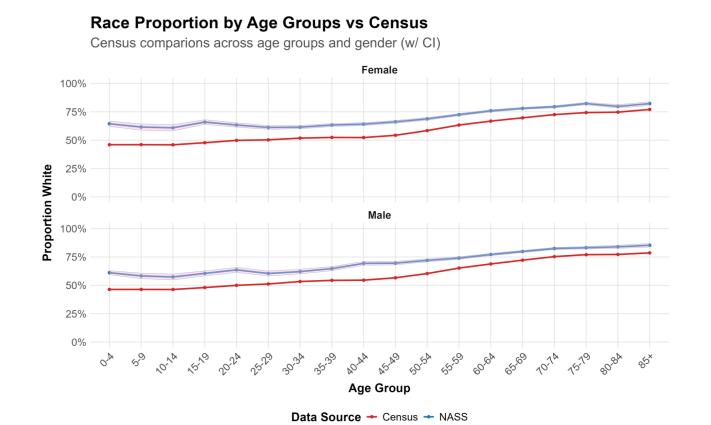


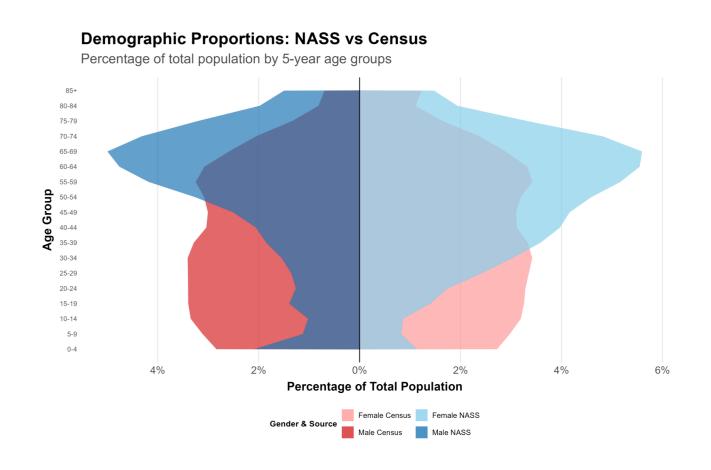












# Run this analysis on your phone!

Generate this Poster
Explore Statistics and Code
Deploy your own VM

Scan here (Passcode: asa) →



Google Colab Link