

The Socioeconomic Roots of Racial Disparities in Hospitalizations

SURE 2024

Nicole Sorensen, Macey Kalmanek, Cristina Antonacci, & Jainiah Harden

Preventing Hospital Stays Matters



- In 2017, there was **\$33.7 billion** in avoidable hospital expenses
- Medicare rate **12x** higher than ages 14 to 44.
- Black patients face **4x more** preventable stays than Asian/Pacific Islanders.
- Patients face lower quality of life, prolonged recovery times, and patient suffering

How can we bridge the gap to ensure better health outcomes for everyone?

Research Question and Importance

Question: Do income inequality, unemployment and high school completion rates affect the number of preventable hospital stays of certain racial groups at the county level?

Why is this important?

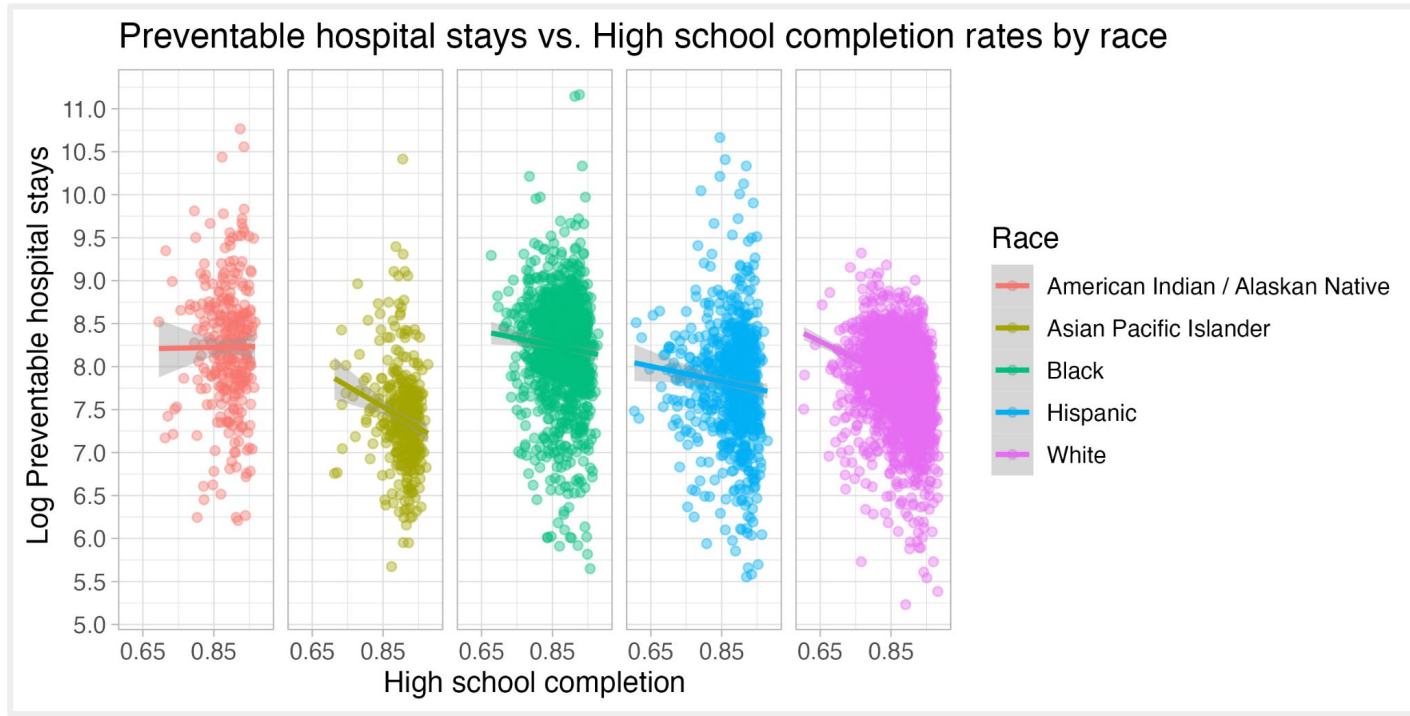
- Help identify and address health disparities
- Guide public health policies
- Develop targeted interventions

Data

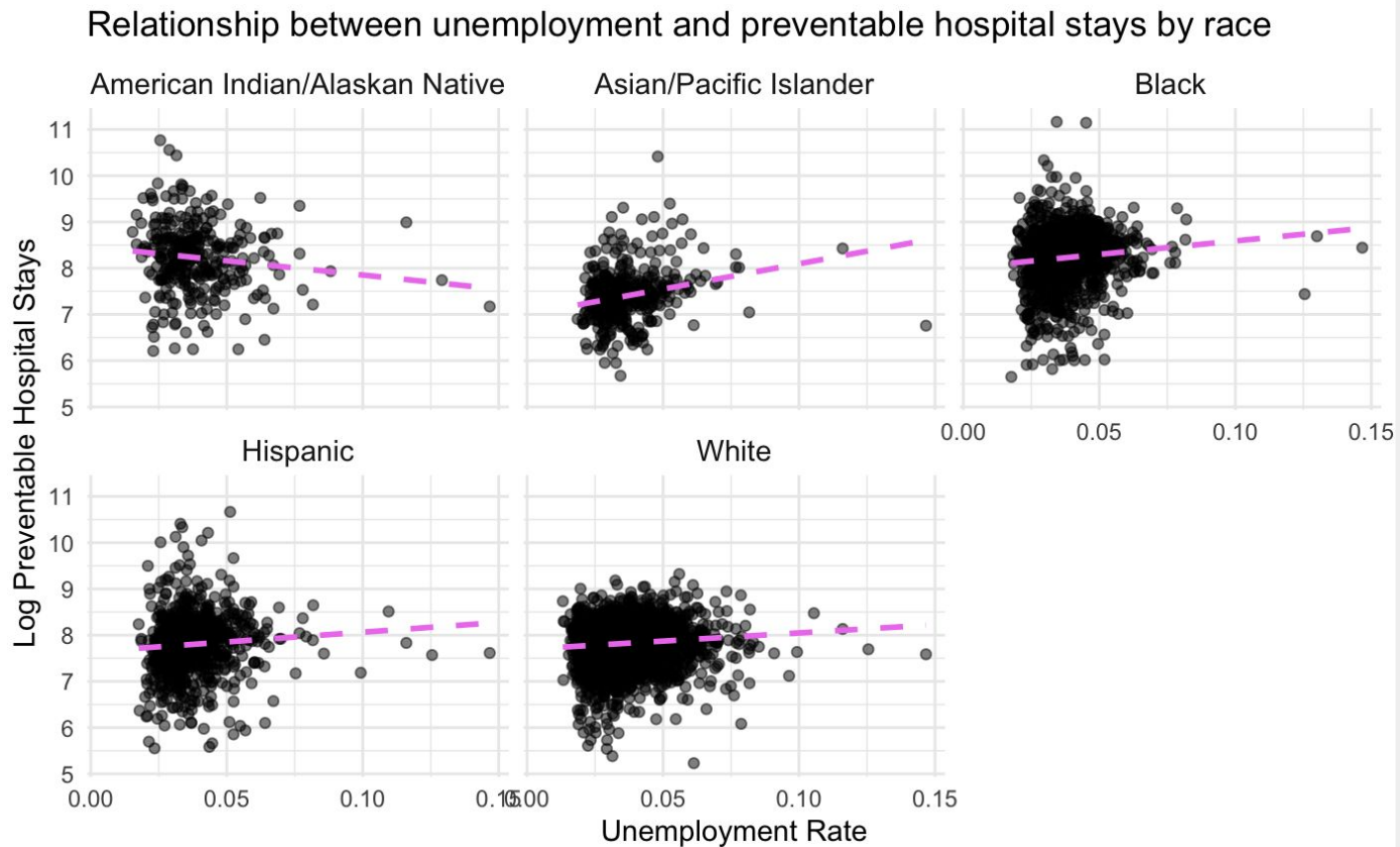
Data is provided by County Health Rankings & Roadmaps

- Explanatory variables:
 - Income inequality - ratio of household income at the 80th to 20th percentiles
 - Unemployment - % of population ages 16+ unemployed but seeking work
 - High school completion - % of adults ages 25+ with a high school diploma or equivalent
 - Race percentages
- Response variable:
 - Preventable Hospital Stays - admissions that result from conditions that, if properly managed in a timely manner in a primary care setting, would not escalate to the point where hospitalization is necessary.

Counties with higher high school completion rates tend to have lower preventable hospital stays for most racial groups

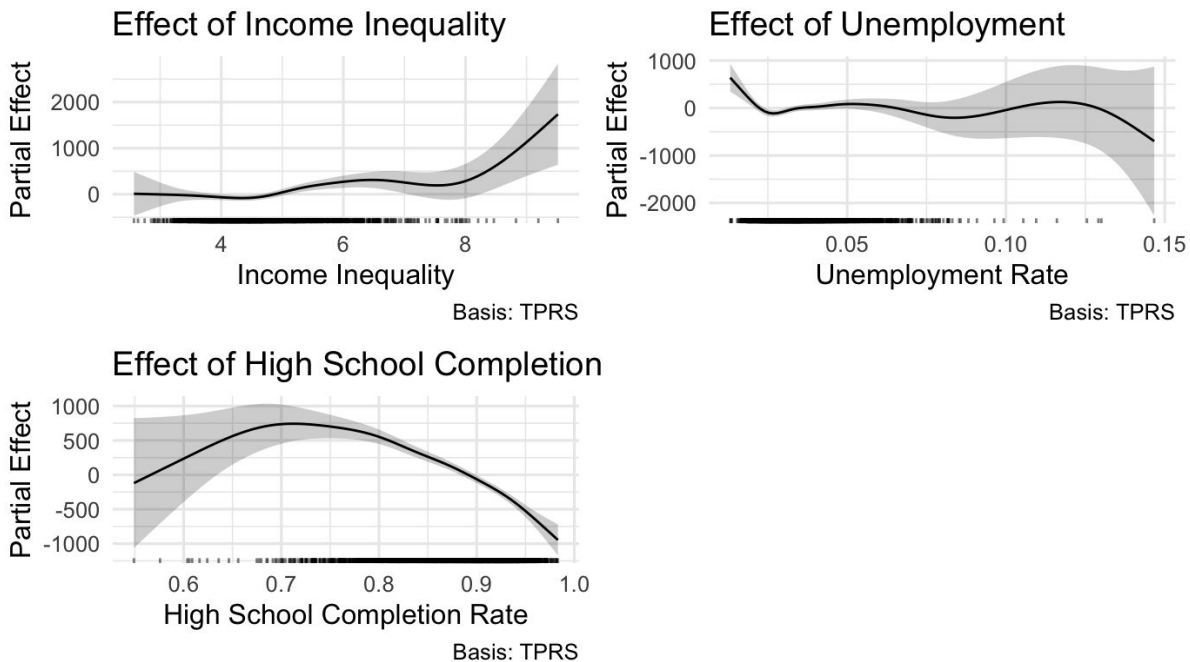


Counties with higher unemployment have more preventable hospital stays for most races except American Indian / Alaskan Native

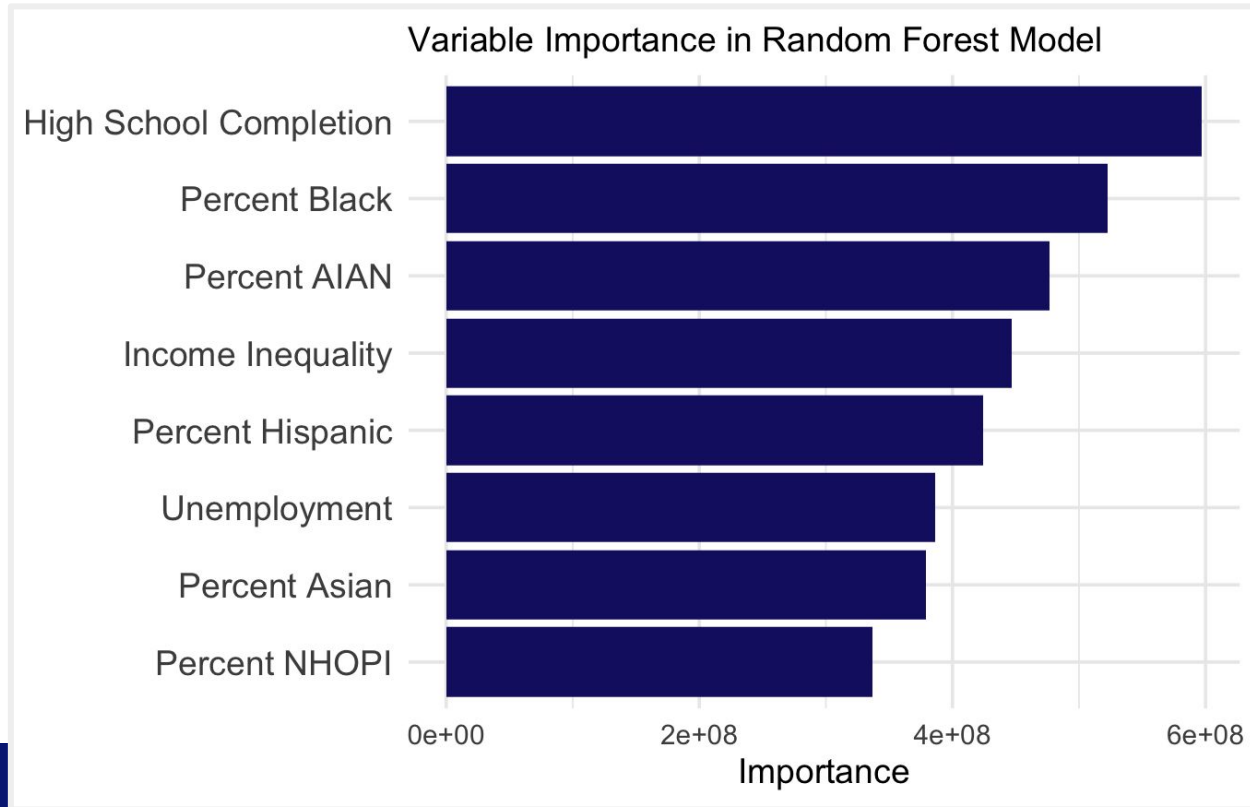


Higher income inequality increases preventable hospital stays, while more high school completion decreases preventable hospital stays

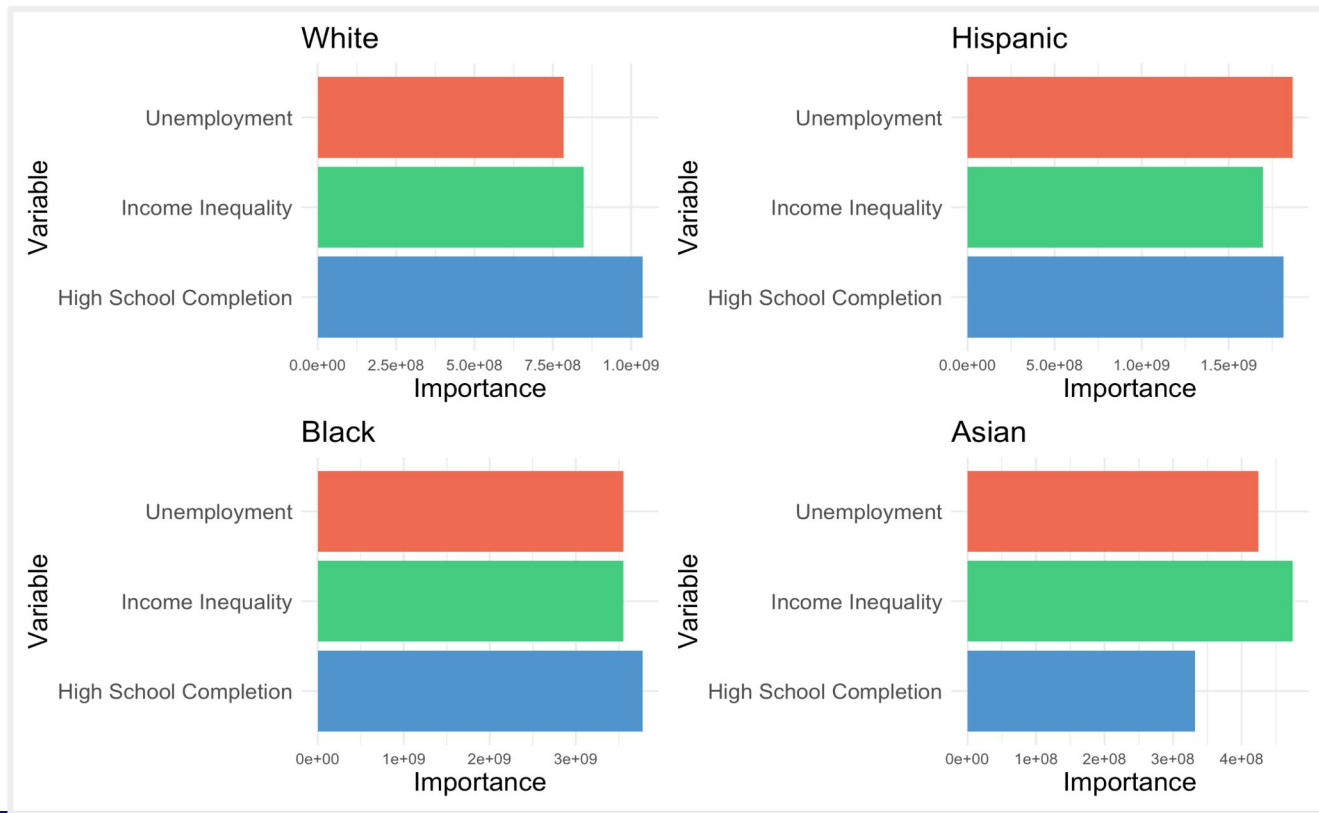
Partial effects of predictors on preventable hospital stays in GAM model



High school completion and percent black appear to be most important in predicting preventable hospital stays



Variable Importance in Predicting Preventable Hospital Stays by Racial Group



Takeaways

1. Counties with higher income inequality tend to have higher rates of preventable hospital stays.

2. As more people in a county complete high school, fewer individuals go to the hospital for preventable conditions.

3. High school completion is most important in predicting hospital stays for white and black people, while income inequality is most important for asians.

Limitations / Future Directions

- Income inequality, high school completion, unemployment not available for each race
- Variables such as access to healthcare services, community support, and poverty rate might better predict preventable hospital stays
- Conclusions only for individuals 65 and older which excludes younger people who also experience preventable hospital stays