



Hospital Readmission Rates

GROUP 5

VINAY VATTIPALLY

OLUFEMI OLAREWAJU

AHMED ELPANNANN

NEIL GUISE

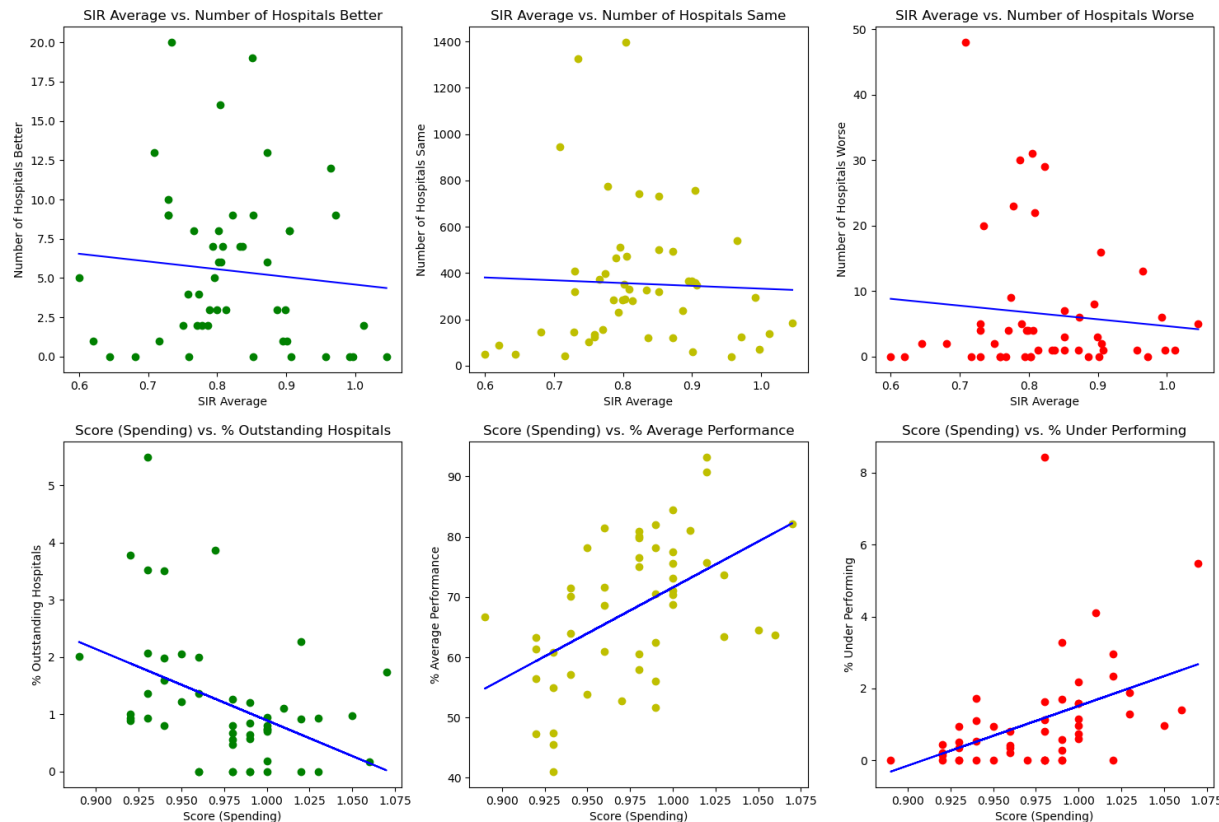
How do various factors affect hospital readmission rates?

- ▶ Hospital Medicare spending
- ▶ Associated Hospital Infection rates
- ▶ Timely and Effective Care
- ▶ Outpatient Imaging Efficiency
- ▶ What states have the highest and lowest readmission rates

Data Sources and Methods

- ▶ Our datasets come from <https://data.cms.gov/>

Hospital Spending and Healthcare Related Infections

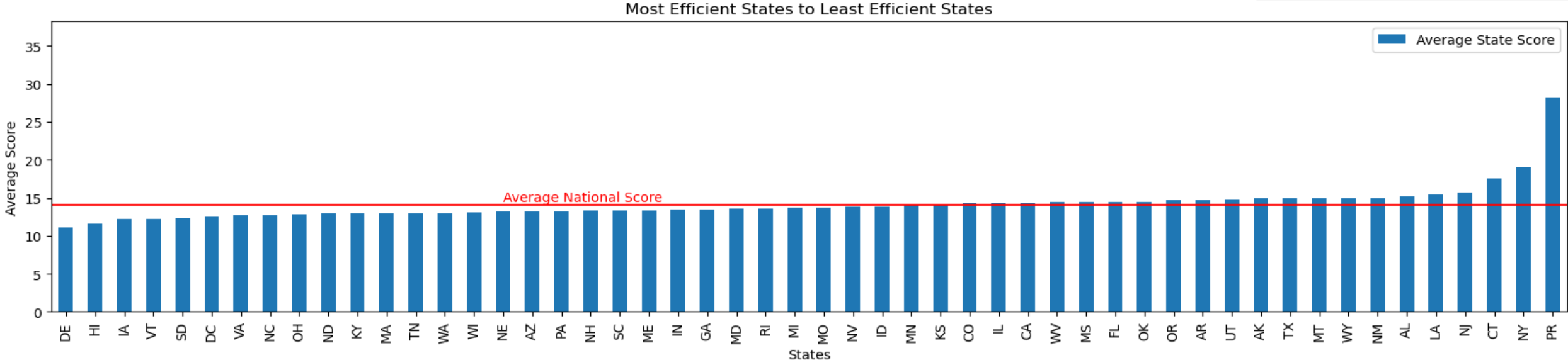


- SIR Average is the Standard Infection Rate by state
- We see there is a very weak or no relation between a hospital's SIR and Readmission Rate regardless of the hospital's performance
- Hospital spending is positively correlated in cases of average or underperforming hospitals
- But negatively correlated in cases of overperforming hospitals
- We can conclude that there are diminishing returns on spending

Outpatient Imaging Efficiency

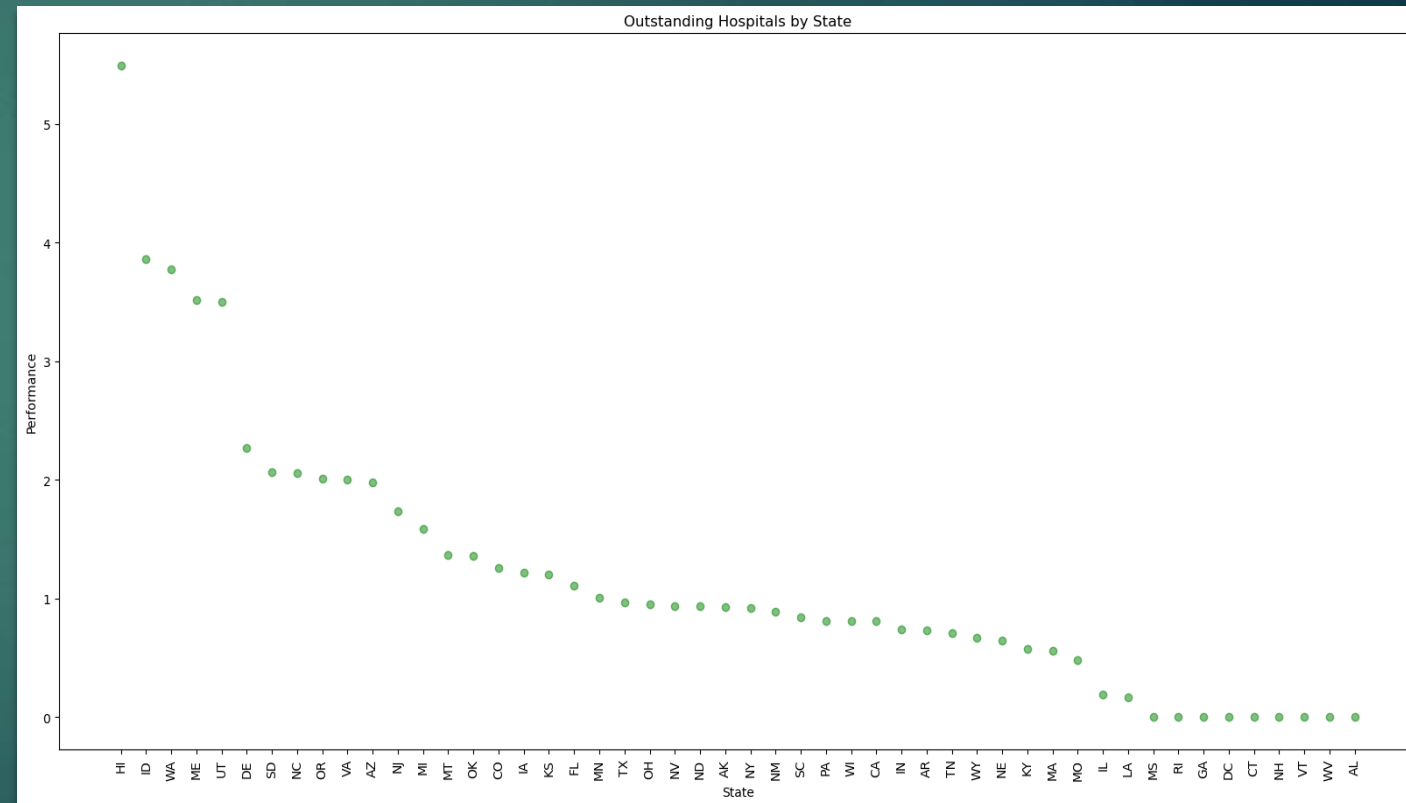
- To find correlation between Hospital readmission rates per State and Hospital Outpatient Imaging Efficiency per State

State	Average State Efficiency Score	Average National Efficiency Score	State Efficiency Verdict
MA	12.975	14.025	Efficient
NJ	15.725	14.025	Inefficient
FL	14.450	14.025	Inefficient
RI	13.575	14.025	Efficient
NY	19.075	14.025	Inefficient
DC	12.550	14.025	Efficient
IL	14.350	14.025	Inefficient
NV	13.825	14.025	Efficient
MI	13.700	14.025	Efficient
WV	14.425	14.025	Inefficient

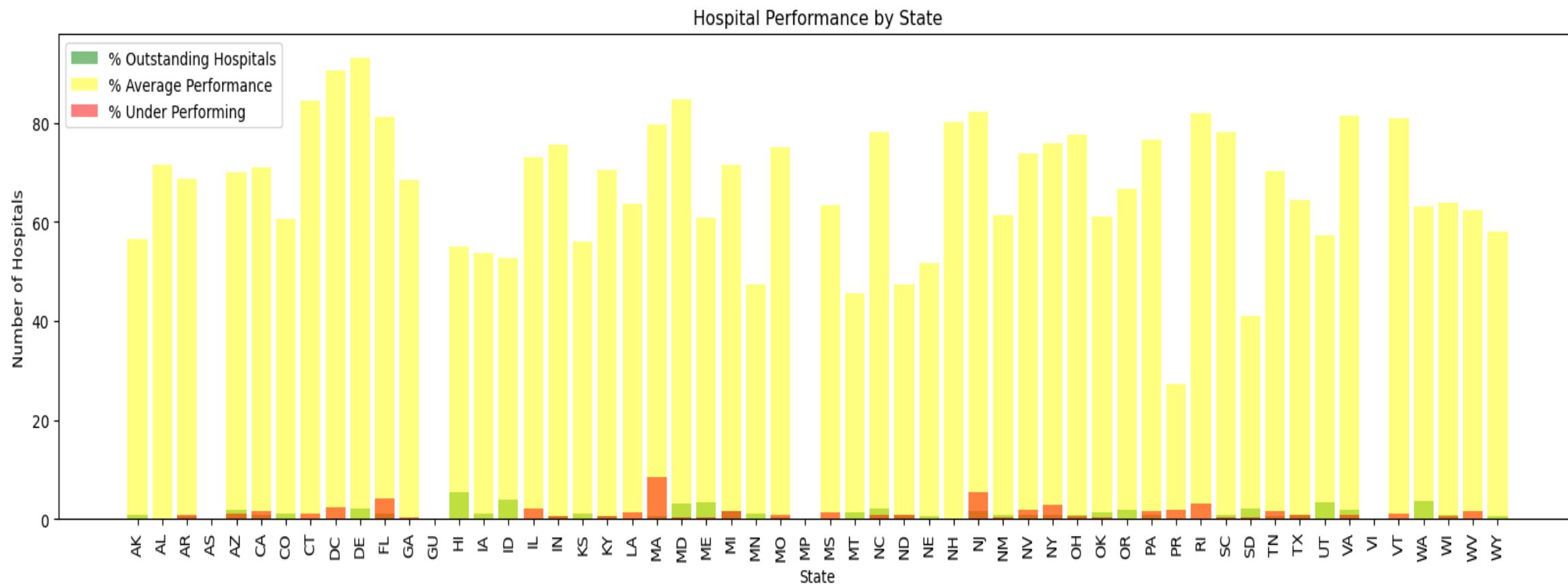


Unplanned Hospital Visits

- ▶ We can see that the states with better performing hospitals with lowest readmission rates (compared to the National average) are Hawaii, Idaho, Washington, Maine and Utah.
- ▶ We can see that the states with Under performing hospitals with lowest readmission rates (compared to the National average) are Maine, New Jersey, Florida, Rhode Island and New York.
- ▶ All the States have majority of the hospitals under average performing category (are performing same as the National average)
- ▶ Four territories American Samoa, Guam, Northern Mariana Islands and Virgin Islands does not have enough data to compare with the other states.

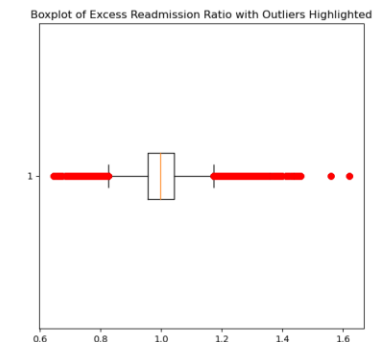
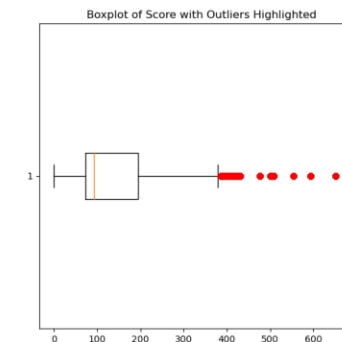
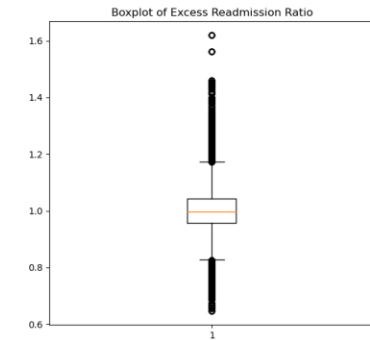
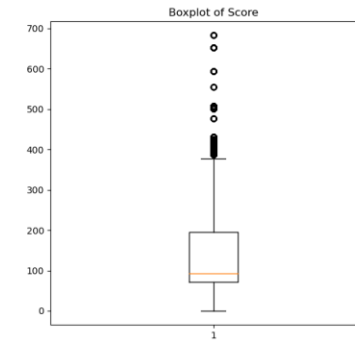
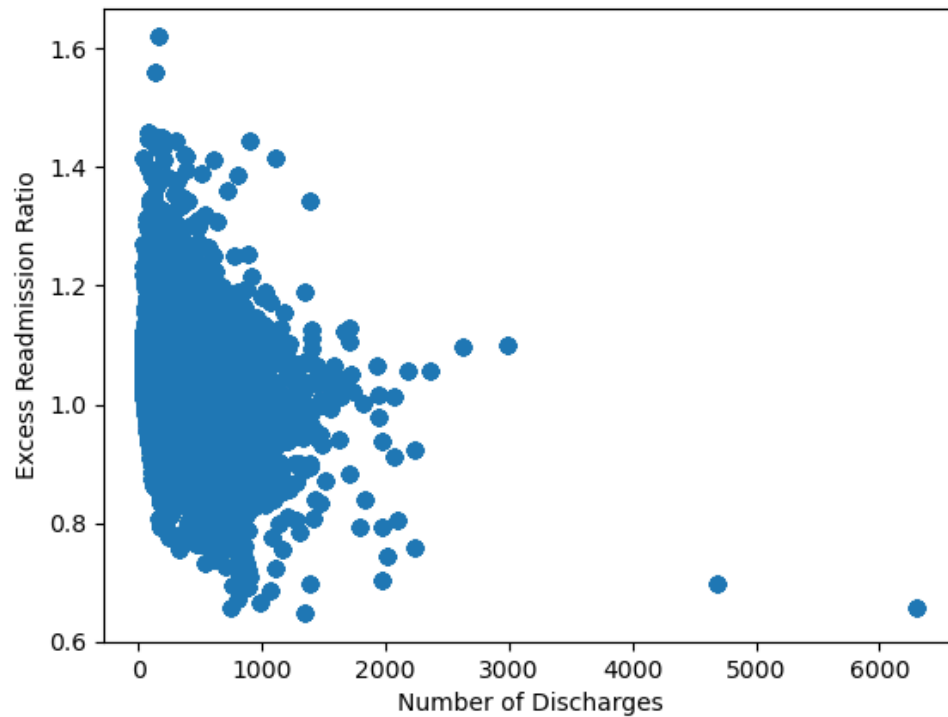


Hospital Performance by State



Does timely and efficient care correlate to readmission

Scatter plot between Number of Discharges and Excess Readmission Ratio



Conclusion

- ▶ Medicaid spending has a positive correlation for the average and under-performing hospitals. However, there is a negative correlation in the outstanding hospitals which indicates the spendings by the hospitals have less readmission rates.
- ▶ With the limited data available for us we were unable to find a correlation between the outpatient imaging and readmission rate.
- ▶ While larger states had lower readmission rates overall with the limited data there is no positive correlation between the timely and effective care and the readmission rate.