

Background

Drugs have been a big problem of late, with the opioids epidemic sweeping the nation. More than 100,000 Americans died of drug overdose in 2022, and more than 2 million Americans live with addiction to opioids. Even with so many casualties, the desire for drugs remains real. What are the factors that may help explain this at a high level?

Hypotheses

- Unemployment increases drug related deaths, as drugs may be seen as a way of escapism.
- Increased drug use will increase the number of violent crimes committed.

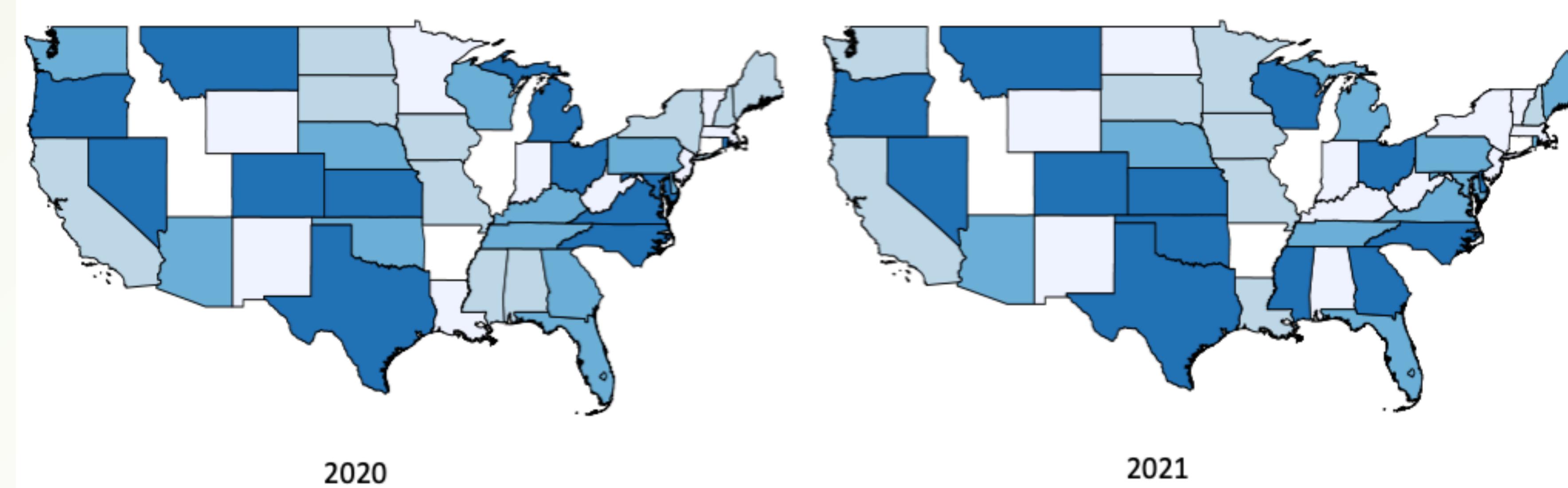
Data Sources

- Age adjusted death rate from all drugs per 100,000 people in 2020 and 2021 for all US states and DC was obtained from the CDC's State Unintentional Drug Overdose Reporting System (SUDORS) database:
<https://www.cdc.gov/drugoverdose/fatal/dashboard/index.html>
- Similar unemployment rate data was obtained using the Bureau of Labor Statistics Data Finder tool:
<https://beta.bls.gov/dataQuery/search>
- Violent crime rate data was obtained from the Bureau of Justice Statistics LEARCAT dashboard:
<https://learcat.bjs.ojp.gov>

Methods

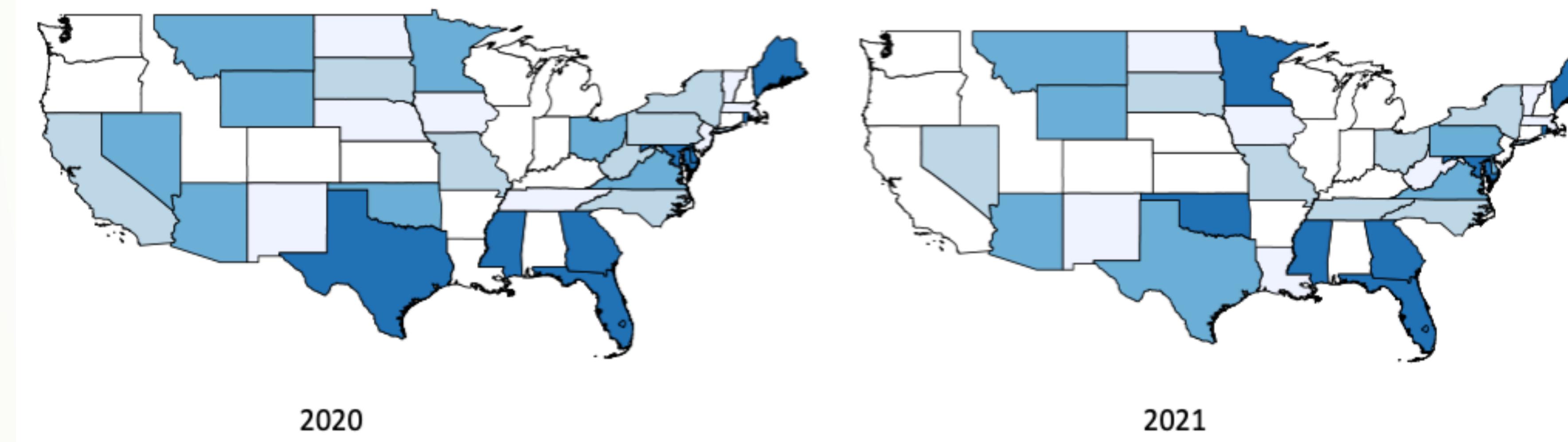
- I plotted the data on the US map to get an understanding of the geographic patterns of unemployment, drug use and violent crime in the US.
- I used boxplots and correlation analyses to test my hypotheses.

Figure 1. US Unemployment Rate



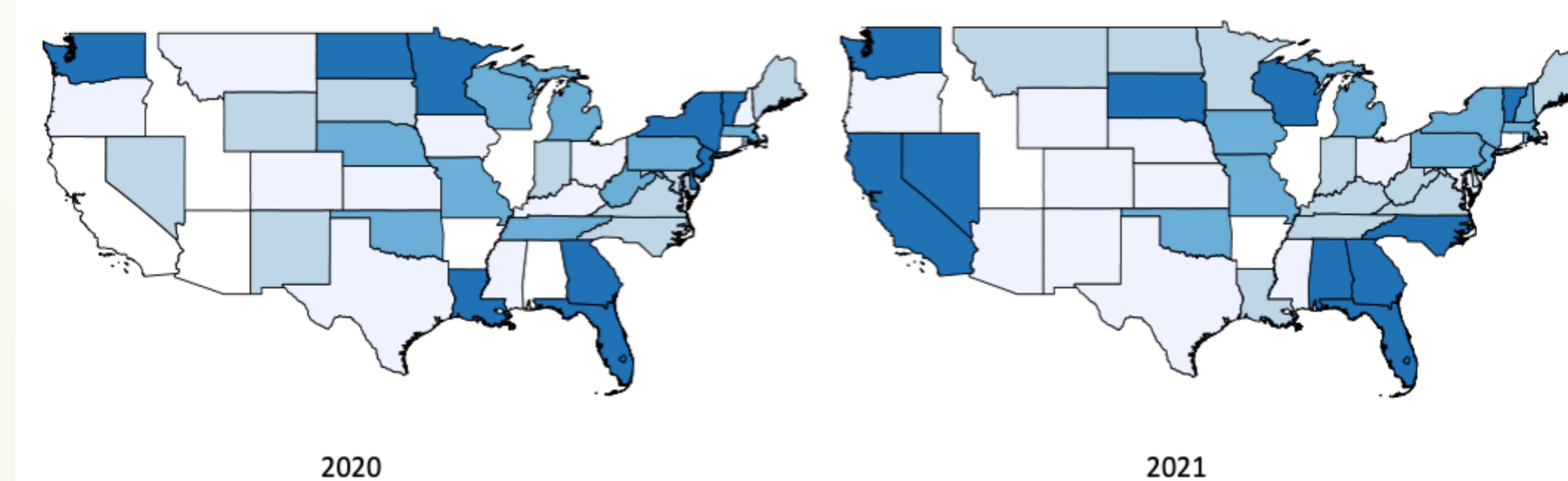
States categorized into four unemployment rate quartiles, with deeper colors indicating higher rates.

Figure 2. US Age and Population Adjusted Death Rate from All Drugs



States categorized into four death rate quartiles, with deeper colors indicating higher rates.
States with no data indicated by white.

Figure 3. US Violent Crime Rate per 1000 residents



States categorized into four crime rate quartiles, with deeper colors indicating higher rates.

Figure 4. Summary Data by Year

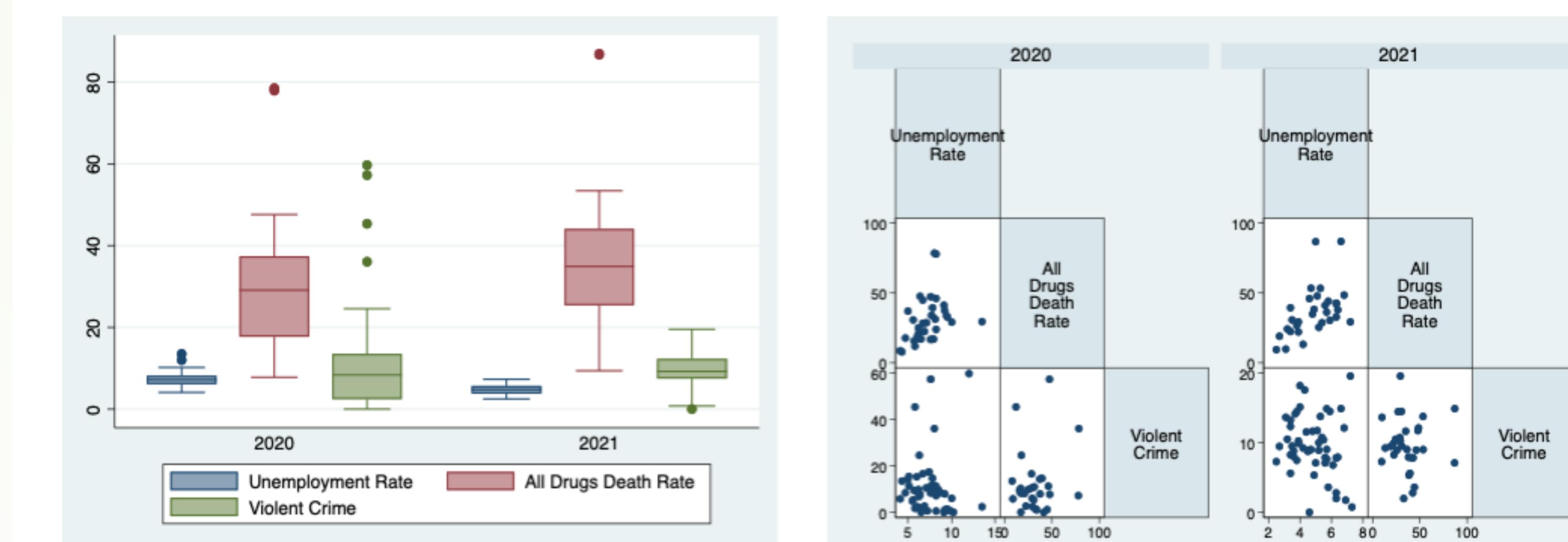
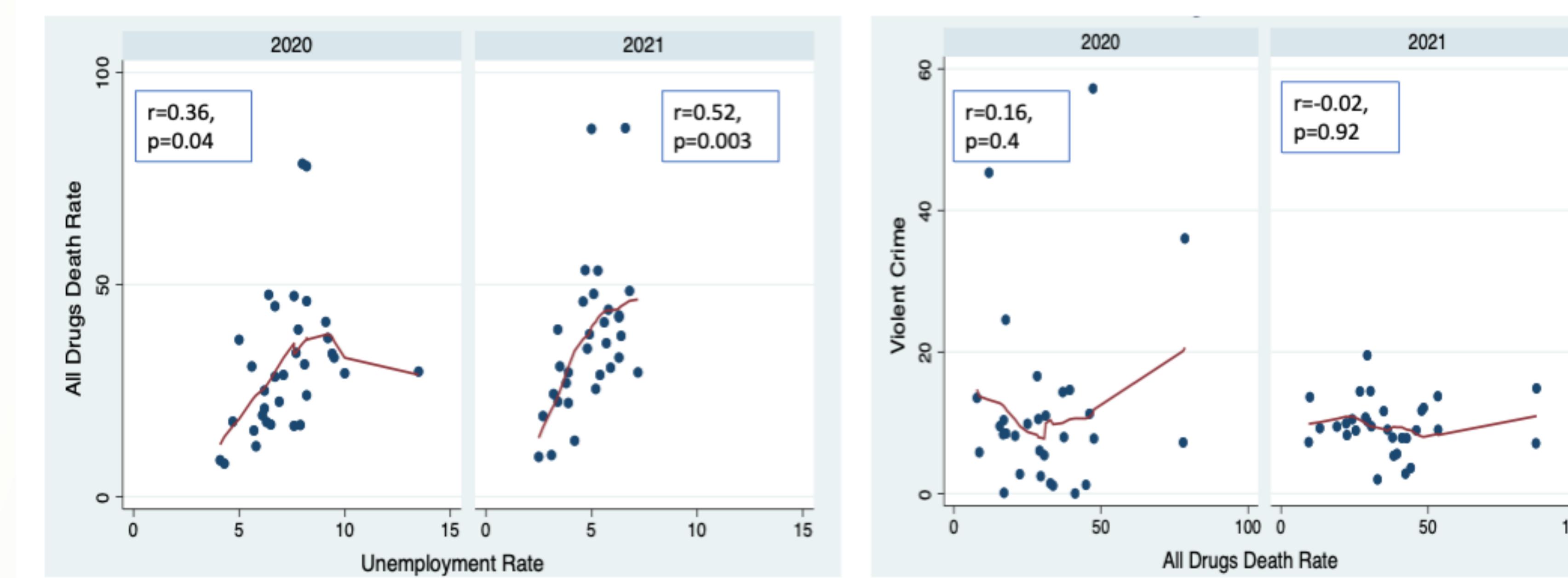


Figure 5. Associations by Year



Results and Conclusions

- Overall regional patterns of unemployment, drug related deaths and violent crime were similar between 2020 and 2021, though small shifts were present.
- There was a sizable and statistically significant correlation between unemployment and drug deaths.
- There was no association between drug deaths and violent crime.

Limitations

- Drug use deaths may not always be a good proxy for drug use.
- This analysis only included violent crime, while many drug related crimes may not be violent.