Wellness Warriors: Investigating Suicide Rates, Mental Health, and Poverty Rates in the U.S.
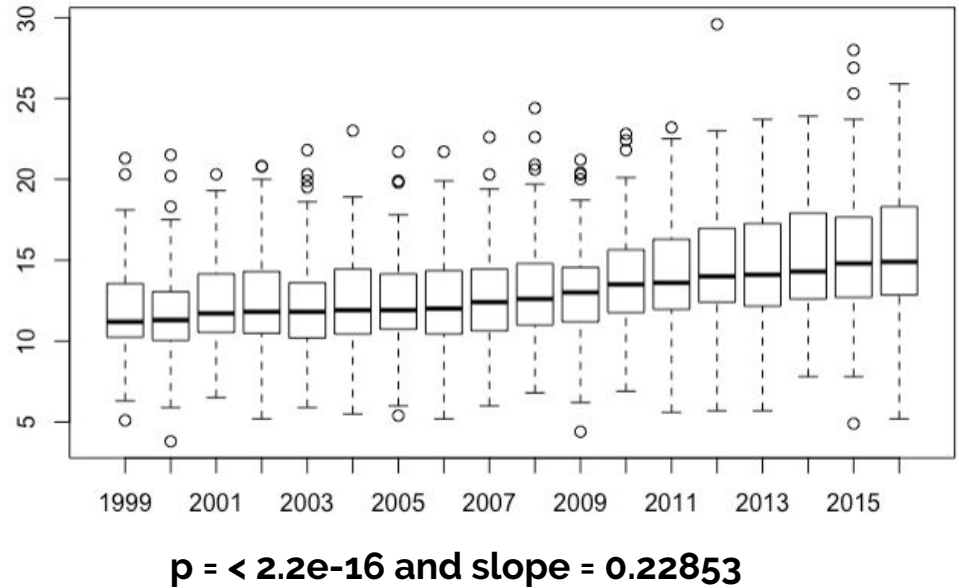
Anam Navied, Lahari Revuri, Erin Lyons, and Svapnil Ankolkar

Check out our visualization for yourself on GitHub @cdc-data-challenge!
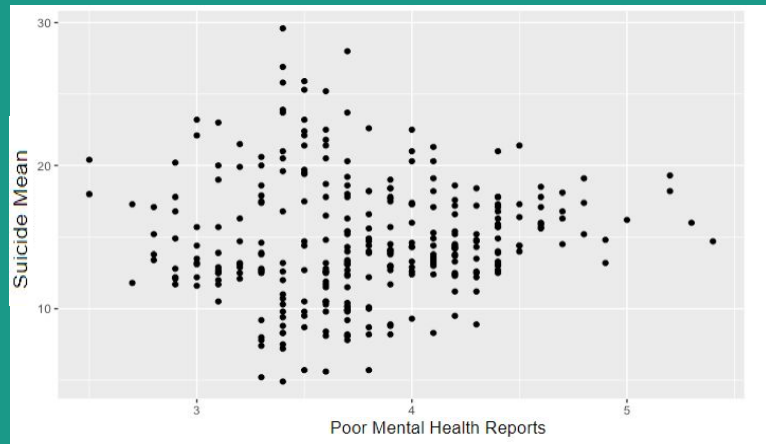
Suicide Rates in the U.S. Over Time

The following graphic shows a steady increase in the number of suicides per 100,000 people between the years 1999 – 2016. Each point represents the suicide rate of one U.S. state.

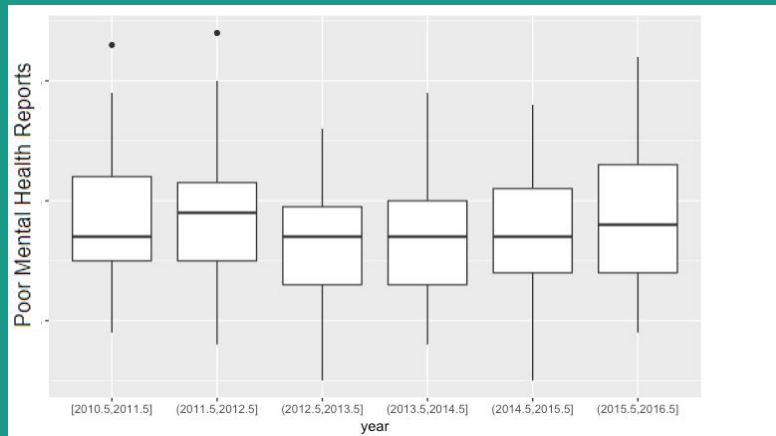We have evidence of a positive linear relationship.

p = < 2.2e-16 and slope = 0.22853
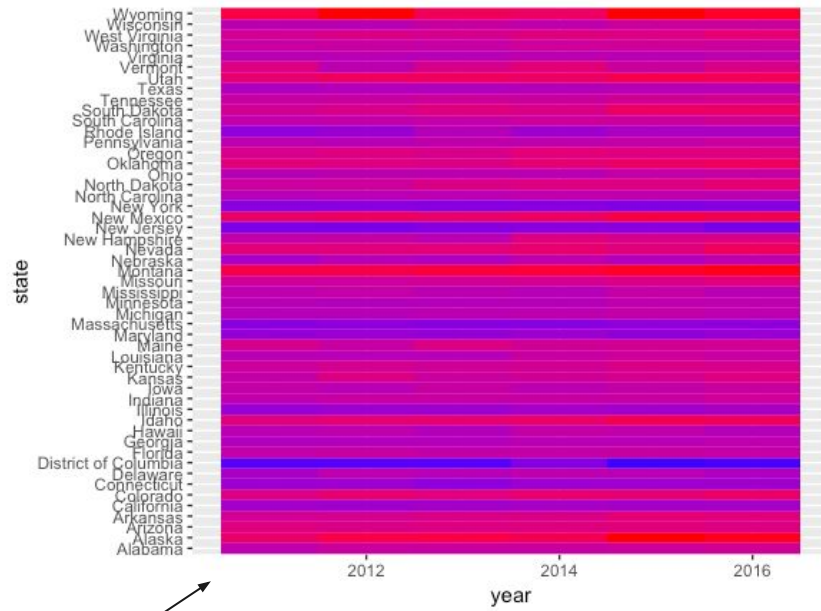
Mental Health Reports

➔ **We examine the average number of days per month that individuals reported having poor mental health in the years 2011 - 2016.**

➔ **We expect to see a strong correlation between mental health reports and suicide rates... but we do not have significant evidence (p = 0.388).**

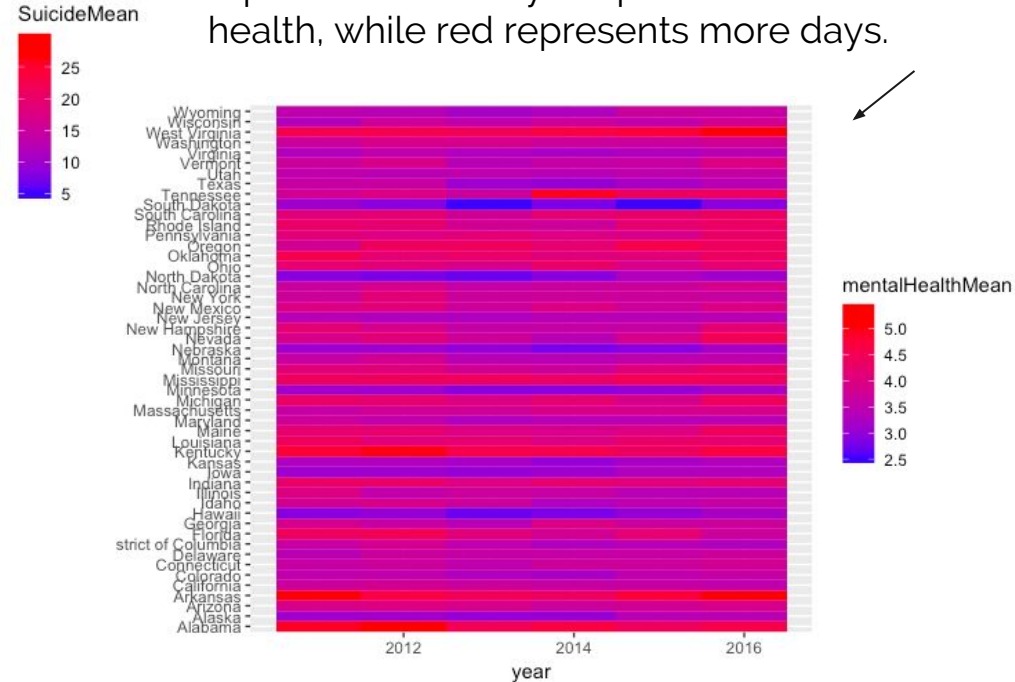Scatter plot of number of days with poor mental health against suicide rate for each U.S. state.

Boxplot of mental health rates for each U.S. state by year. We expected it to be significantly linearly related like suicide was.
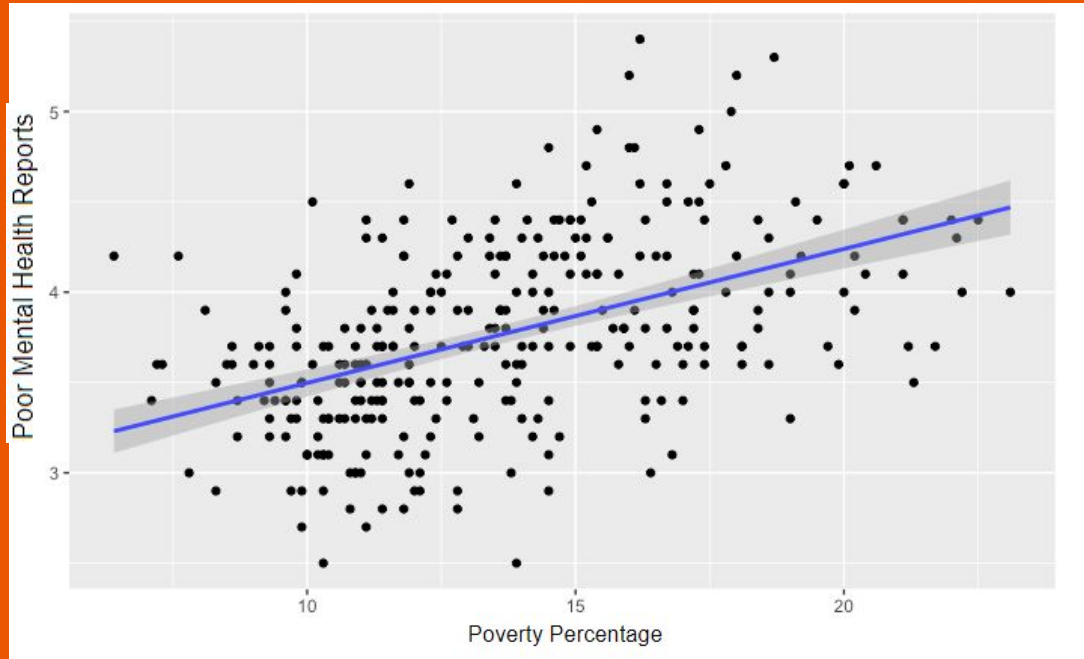
Shows mental health reports for each state across years 2011 - 2016. Blue represents less days of poor mental health, while red represents more days.

Shows the suicide rates for each state across years 2011 - 2016. Blue represents low suicide rates, while red represents high rates.

LET'S SEARCH FOR OTHER POTENTIAL PREDICTORS...
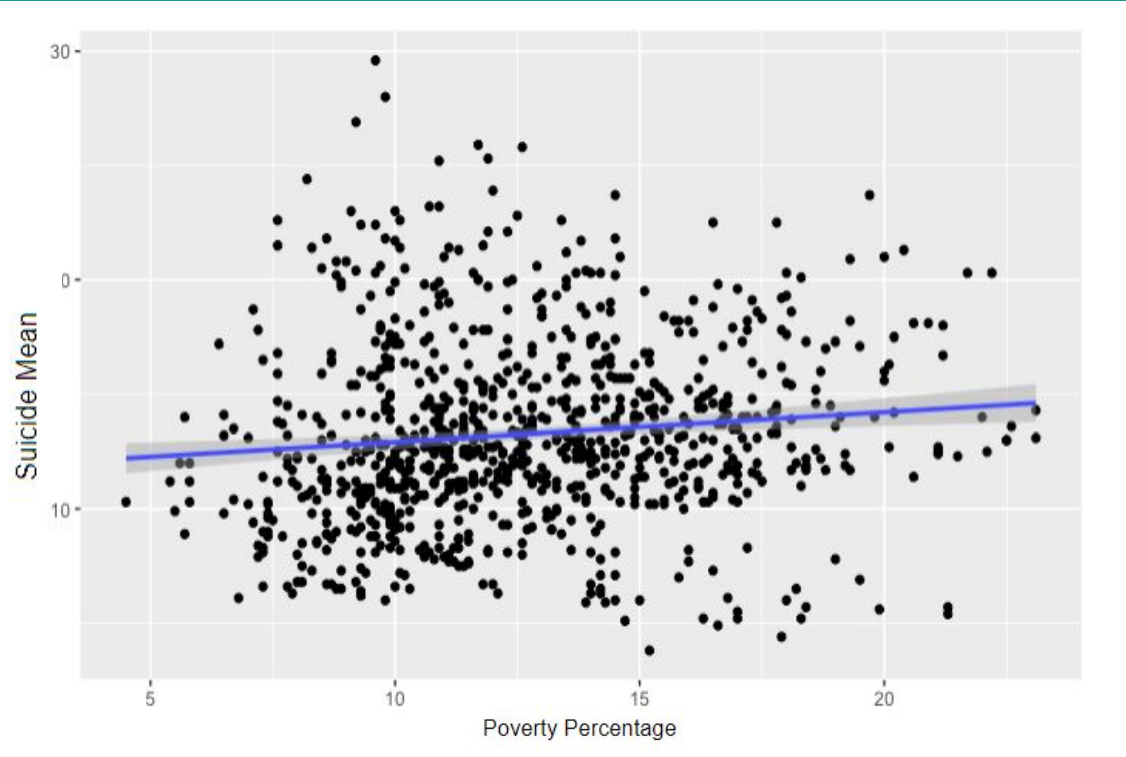
Poverty Data from the U.S. Census Bureau.

- We plot percentage of population in poverty against reports of poor mental health. Each point represents a U.S. state in a particular year from 2011 - 2016.

We find a positive linear relationship between poverty rates and reports of poor mental health, with a slope of 0.074171 and p < 2e-16.

- **We plot percentage of population in poverty against suicide deaths per 100,000 people. Each point represents a U.S. state in a particular year from 1999 to 2016.**

We find a positive linear relationship between poverty and suicide rates, with a slope of .1294 and p = 0.0007575.

The significant linear relationship between poverty and poor mental health reports reveals that economic insecurity may affect individuals beyond just the physical. The socioeconomic factors that stem from poverty are barriers to mental health in our communities.

Thank You!

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