**Data Analysis**

**Does generation/age-range accurately explain suicide rates?**

*See us\_vs\_world\_line.png (Total US suicides by year and age range)*

Within the United States, we can see higher suicide rates among people between 25 and 74 years old. Further, within this age group, those in the 25-54 year old range have shown increasing rates over the past 20 years. All other age ranges seem to have held to a relatively similar (flat) suicide rate over the past 30 years. The age group with the highest suicide rates in this 30 year study are the 35-54 year old group. We can assume that this age range may be starting to deal with new and high stress factors including balancing careers, family and finances.

**Are suicide rates in the United States similar to those across the world?**

*See us\_vs\_world\_line.png (US vs. World suicide rate)*

*See* [*internat\_suic\_sorted.png*](http://localhost:8888/view/Project1/Images/internat_suic_sorted.png) *(Suicide Rates by Country, 2014 (per 100,000 population)*

*See us\_suic\_rt\_2017.png (Suicide Rates by State, 2017 (per 100,000 population)*

Based on the same data source as above, we also see an overall trend in the United States suicide rate as increasing over the past 20 years. However, between 1985 and 2000, there appears to have been a decreasing trend. It’s interesting to note that the average suicide rate for the world (data only includes 101 countries) is somewhat reversed to that of the United States. The world average suicide rates seem to have been on a steady incline until 1995 at which point it has been declining year after year. Looking at the vast differences between the world and the US makes us wonder what type of factors in the United States could be affecting the increasing rate. We will look into accessibility and funding into mental health programs.

Further, we note in the bar charts that the US is in the top third of the countries (of the 38 Euro Centric shown on this chart) with the highest suicide rates. We actually expected that ranking to be higher. We also question what factors could be at play in different areas of the world regarding suicide rates. The breakdown of suicide rate by US States is also somewhat surprising. There is really not wide variances in rates between the states. With the expectation of West Virginia, most states fall below 10% and above 6%.

**Does access to mental health facilities correlate to suicide rates?**

*See mh\_facilities\_vs\_population.png (Number of Mental Health Facilities per US State vs. US Population)*

*See facility\_df.png, facility\_usonly.png, alaska\_facility.png, Hawaiian\_facility.png*

Upon looking at the amount of mental health facilities against the US population for each state, the first item noticed is that Texas is the only state with significantly higher bar for population vs facilities. In fact, the only other state at all with a higher population bar indicator than facility indicator is California. We can understand that this graph doesn’t represent a proportionate amount of facilities vs. population, but when noticing such a significant difference, we can ask why does a state with 28 million citizens have merely 300 mental health facilities. Is that enough? Texas does have one of the lower suicide rates in the US, but it’s not significantly lower than the average. Further investigation of this chart, shows that NY, OH, PA, CA and FL have the highest amount of facilities. Logically, these states also have the largest populations.

When we look at this with comparison to the Google Maps density chart, we can see that the mental health facilities are really, populated in urban areas. We see little to no facilities in the mid-west to western rural and mountainous areas. We can assume that the population is less in these areas and the perhaps, remote living with little access to mental health facilities correlates with suicide rates in these states. While many of these rural states have suicide rates in the top third, higher suicide rates don’t seem to be exclusively correlated with those states.

**Does government spending affect suicide rates at the state level?**

*See State\_Spending\_Affects\_On\_Mental\_Health.png (Spending on Mental Health vs. Suicide Rates (SR) in US states, 2004-2013*

We also plotted United States expenditures on mental health from 2003-2014. We see low funding in most states with a wide variation in suicide rates. The outlying states with higher funds also show a variance in suicide rate. There does not seem to be an association between suicide rates and government expenditures.