Summary of Major Findings

**Data Gathering**

In order to look at poverty rates, we made an API call to census.gov and gathered U.S. Census data for the years 2012 through 2017. We also gathered data from the EPA website (Environmental Protection Agency), specifically looking at data on the U.S. annual AQI (Air Quality Index) Once we retrieved both of these datasets, we cleaned the data by dropping a few invalid “states” (Country of Mexico and Virgin Islands) and removed any rows where “Total AQI Days” was less than 350. After cleaning the data, we performed an inner merge on “county” and “state” on the two files to create one large data frame from which we based our analysis

**Major Question: Is there a relationship between poverty and air pollution rates?**

Hypothesis: If there is a relationship between poverty and pollution rates, then an increase in air pollution will be associated with an increase in poverty rates

**How have air pollution and poverty changed over time?**

From our analysis, we discovered that between 2012 and 2017 there was a general decrease in both poverty rates and air pollution.

**What is the strength of the relationship between poverty and air pollution rates?**

We can describe the relationship between Percent of Days with Good AQI and All Ages in Poverty Percent with a multiple linear regression model.  Inspection of the plots suggest that the relationship is not linear. There is a very slight positive relationship between the two variables.