Measles & Vaccination Analysis

When starting this project, the team hypothesized that the number of vaccination rates has increased over the last few years. So we have looked at the MMR vaccination rates in the United States over the last few years and the incidence of measles outbreaks over the last few years. The team has pulled different data sources including World Health Organization, World Bank and US Centers for Disease Control and Prevention. Using this data, we created different graphs to visually conceptualize the answers to the questions that we posed.

Although we predicted that the vaccination rates are going up, the rate did not increase at a rate that we have expected. We have also found that the measles cases are on the rise starting in 2018. As the United States is interconnected to various countries around the world, we decided to look at the measles epidemic that is growing on the global scale. The global data was analyzed on a regional or continental level and on wealth level. The data shows that the countries categorized as “lower upper income,” as defined by the World Bank, have the greatest number of measles cases out of all the wealth categories. It was expected that the “lowest income” group had one of the lowest measles cases compared to the “lower middle income” level. After looking at the data, much of the data was left blank – either because the data was not reported or that may not have any cases after all – and hence been replaced with zeros. Also what we had learned was that the measles cases seem to be lower in the Americas. Also, we can see that the measles cases peaked for all regions for the year 2018.

While 2018 has been a year where the measles cases increased, it is important to look at the current trends of 2019. In the beginning of 2019, we hear many stories on the news about more individuals in the United States becoming ill of measles. When comparing the number of measles cases in the United States in “WHO Monthly Measles Cases By Country By Month” data set we can see that the measles cases for 2019 have already surpassed the total of measles cases for the entire year of 2018 (although the total number of measles cases have all been recorded under December 2018). In order to be able to predict the measles cases for the rest of 2019, we would have to perform a regression analysis.