Stage I:

*Research Questions:* How does life expectancy differ between countries, continents, and regions. Do developed countries have a higher life expectancy than developing countries? Which countries are currently experiencing the greatest fluctuations in life expectancy from 2000 to 2015, and what might be driving this volatility? Are Western countries generally experiencing the largest increase in obesity? What variables are the best predictors of life expectancy? Which single variable should a country address first to improve average life expectancy. What are the best model parameters to explain variation in life expectancy? Are there countries with higher life expectancies than those who are putting more financial resources into health? If there are, why might these countries have a higher life expectancy than those with more financial investment in health?

*Reason of Interest:* Life expectancy is a common statistic used to describe differences between countries in quality of life. We are interested in examining the general conception that a country's level of development, wealth, and education systems are a good predictor of the average citizens quality of life and prosperity. Obesity within populations is an increasingly relevant topic as its prevalence in countries continues to increase. We would like to assess how impactful obesity is on a countries average level of health.

*Variable Rationale:* Each country will be an observed unit associated with the year the summary statistics were collected.

*Trends:* Life expectancy increasing but at a continuously slower rate. Generally longer life-expectancy with higher expenditure expenditure.