**SI 544 Group Project: Executive Summary**

**Group Members:**Manu Gupta, David Williams, Daniel DiNicola

**Title:** *Analyzing Life Expectancy over time in Sub-Saharan Africa*

**Potential Countries:**Sierra Leone(P), Liberia(A), Guinea(A), and others as time allows

**Method:** General Regression (with potential to highlight specific countries).

**Regression Model (for 1 country):**Life Expectancy ~ Health Expenditure + Community Health Workers per 1000 people + Overweight + Percentage of Population Undernourished + Sanitation + Water + Education

**Abstract:** Given recent health challenges and subsequent media focus on health care in Sub-Saharan Africa, we’ve decided to look at life expectancy in Sierra Leone (and potentially other countries) in order to determine which social and health factors most affect life expectancy.

**Data Source:** We will leverage data from quandl.com, an online academic database with a long-term mission “to make all numerical data on the internet easy to find and easy to use. Quandl’s datasets pertaining to this topic span more than 25 years, allowing us to look at changes over time, considering year as a dependent variable.

**Programming Software:** We will use R to plot and analyze the data we derive.

Plots: Percent of Population undernourished over time in Sierra Leone (1991-2012) (<https://www.quandl.com/WORLDBANK/SLE_SN_ITK_DEFC_ZS-Sierra-Leone-Prevalence-of-undernourishment-of-population>)



Plot: Access to improved sanitation facilities over time in Sierra Leone (1991-2012)( <https://www.quandl.com/WORLDBANK/SLE_SH_STA_ACSN-Sierra-Leone-Improved-sanitation-facilities-of-population-with-access>)



Plot: Access to improved water sources over time (1991 – 2012): (<https://www.quandl.com/WORLDBANK/SLE_SH_H2O_SAFE_ZS-Sierra-Leone-Improved-water-source-of-population-with-access>)



Enrollment in lower secondary education over time in Sierra Leone (2001-2012) (<https://www.quandl.com/UN/UIS_LOWERSECONDARYEDUCATIONENROLMENTINALLPROGRAMMES__ALLGENDERS_SLE-Lower-Secondary-education-enrolment-in-all-programmes-All-genders-Sierra-Leone>)