Abstract: Excess mortality—the difference between reported and predicted deaths based on previous years—can be a powerful and succinct indicator of the effectiveness of a country’s pandemic response. This research explores the impact of health and governance variables on excess mortality rates using COVID-19 response datasets provided directly by country governments. The study focuses on extracting the factors influencing excess mortality and building a predictive model to predict it. The objective is to help guide governments and policymakers by providing recommendations for both long- and short-term strategies to control excess mortalities during a pandemic.

Final Factors (Figure 1):
1. Vaccination Policies
2. Government Investment
3. General Health of the Population

Vaccination Policies Factor Variables:
- Vaccination Distribution: Vaccine delivery & distribution
- Vaccine Prioritization: Existence of a prioritized plan for vaccine rollout
- Vaccine Availability: Records which categories (age groups, risk levels, etc.) of people–regardless of their position in a prioritized rollout plan–are currently receiving vaccines
- Vaccine Financial Support: Vaccine funding for demographic categories above

Regression Findings (Figure 2):
- Vaccination Policies are the only significant factor when predicting excess mortality
- Besides vaccination policies, positive COVID-19 test rates and average life expectancy are the only other significant predictors of excess mortality, explaining roughly 40% of the variance in excess mortality ($R^2 = 0.403$)

Conclusion & Recommendations:
- Due to statistical insignificance of other variables and limited economic resources, policymakers should prioritize vaccination policies (distribution, prioritization, etc.) to raise average life expectancy & minimize excess mortalities
- Countries with limited financial resources still have options for lowering excess mortalities (i.e., establishing a vaccine rollout plan)