**1.1. Problem Statement and Research Motivation(100 words)**

Public health around the world, particularly in Malaysia, has been significantly impacted by COVID-19. Improving pandemic management tactics requires an understanding of the relationship between vaccination rates and health outcomes, such as mortality rates. Furthermore, disparities in recorded fatalities, such as brought-in-dead (BID) incidents, draw attention to deficiencies in immunization and healthcare access. We want to find trends that might direct public health initiatives by examining vaccination data in conjunction with death statistics. Research has demonstrated that vaccination lowers the severity and mortality of COVID-19; however, associations with BID fatalities are still poorly understood.

**1.2. The Dataset (75 words)**

The study makes use of a large dataset with 910 rows of COVID-19 data from Malaysia. Daily vaccination rates, post-immunization adverse events, new fatalities, and BID fatalities are all included in this dataset. It offers a chance to investigate the connection between immunization campaigns and mortality results. Important variables that allow for robust statistical analysis are "new\_deaths" (independent) and "bid\_deaths" (dependent), both of which are assessed on an interval scale.

**1.3. Research Question (50 words)**

Is there a correlation between the number of new deaths and BID deaths due to COVID-19 in Malaysia? Understanding this relationship is crucial to assessing the pandemic's impact on public health and identifying potential areas for intervention. The analysis will provide insights into whether vaccination rates or healthcare accessibility influence mortality trends.

To answer this research question, we will conduct statistical correlation analysis, focusing on interval data for "new\_deaths" and "bid\_deaths." The Pearson correlation coefficient will quantify the relationship, while visualizations such as scatter plots and trend graphs will offer a clearer picture of the data. This approach ensures robust and actionable findings.

**1.4. Null Hypothesis and Alternative Hypothesis (100 words)**

* **H₀ (Null Hypothesis):** There is no correlation between new deaths and BID deaths due to COVID-19 in Malaysia.
* **H₁ (Alternative Hypothesis):** There is a correlation between new deaths and BID deaths due to COVID-19 in Malaysia.

Interval data on new deaths and BID deaths will be used to test this notion. In order to confirm the efficacy of immunization programs and address any inequities in healthcare access, the analysis will investigate if vaccination rates have an impact on mortality outcomes, particularly BID deaths.