**Report for COVID-19 Cases in Kenya**

**Hypothesis:**

As the UK has a greater population than Kenya, the number of confirmed cases will be significantly higher.

There will be a positive correlation between daily new cases and daily deaths.

Daily vaccinations will have a rapid incline during the earlier stages of the pandemic but will drop and the rate will decrease.

**What is the most common vaccine in Kenya?**

The most common vaccine in Kenya is Oxford/AstraZeneca, Sputnik V.

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*Fig.1*

From the dataset provided, the UK population was 68.39 million in comparison to Kenya’s 55.45 million. The UK has a greater population with a percentage difference of 20.9% between the two countries. Due to this, it is possible that the UK will have more confirmed cases. As COVID-19 is a viral disease, it is transmitted between people through respiratory particles. Therefore, if the population of the UK is greater and Kenya is 2.4 times bigger than the UK, that would mean more people are in close proximity within the UK in comparison to Kenya. Ultimately, the probability of catching COVID in the UK is greater.

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*Fig.2 Fig.3*

**Which country was affected the most during the pandemic?**

Kenya had 0.46% total confirmed cases out of the population, with only 0.01% of those caused fatalities. The total recovery out of those with confirmed cases concluded to be 97.28%. This shows that during the initial stages of the outbreak, Kenya was not affected as much. Whereas for the UK, the total number of confirmed cases was 15.18% of the population. This is significantly greater than that of Kenya thus showing that the UK was affected more by the pandemic. Although the total number of confirmed cases is high, the total number of those that recovered out of the confirmed cases turned out to be 88.21%. The number of active cases in the UK was 1.58% compared to Kenya’s 0.003%. These findings support the hypothesis. These calculations can be interpreted as Kenya having more control of the coronavirus than the UK. However, the population difference may suggest that because the UK has a greater population than Kenya, the spread of COVID will be amplified.

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*Fig.4 Fig.5*

Fig.2 displays a timeline of daily new COVID-19 cases in Kenya from March 2020 to November 2021. The line graph shows 4 significant peaks where the number of new COVID cases were at their highest; the highest being on 1st April 2021 which had recorded 984 new cases in the country. The lowest number of daily cases recorded was on 27 November 2021 with a value of 36 new cases. The non-monotonic pattern of the daily new cases across the timeline may be due to extraneous variables such as the number of different strains that were discovered during the pandemic. In addition, travel, social distancing and implemented measures such as lockdown and curfews were different across the globe. This may have influenced the results obtained.

The highest number of daily new deaths was 20 on 1 May 2021 and the lowest being on 27November 2021 where there were 0 deaths recorded in the country. In relation to the daily new cases, both graphs had the least number of cases and deaths towards the backend of 2021. This may be due to the increased number of people taking vaccinations, flight restrictions for travellers that enter the country to prevent further spread as well as regulations within the country. Regarding the highest peaks in both figures, it could be deduced that out of the 984 new cases on 1st April 2021, 2.03% of those that tested positive could have led to fatality.

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*Fig.6*

The linear regression for daily cases against daily deaths in Kenya has a correlation coefficient of 0.63, resulting in its positive correlation. As the number of daily new cases increases, there is a moderate increase in the number of daily new deaths. Logically, this would make sense because the more people with confirmed cases there are, the more likely the number of deaths increase. However, the correlation between the two variables is not strong enough as there are other factors that may contribute to the death of an individual such as their age and weight.

Chart

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*Fig.7*

**Is there a correlation between number of COVID cases and number of daily vaccinations?**

As for the relationship between daily new cases and daily vaccinations, the correlation coefficient concluded to be 0.20, thus displaying no/weak correlation.

Graphical user interface

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**What was the vaccination progress within Kenya over time?**

In the first instance, the number of vaccinations stayed low until 8 June 2021, where the daily vaccination increased from 4972 vaccinations to 8390 the following day. Up to the 15th of June, the daily vaccinations had increased at a rapid rate until 19034 vaccinations within a week. As expected, the number of daily vaccinations decreased at a slow rate to 10031 vaccinations on 20June 2021.