Team 10

DS310 Fall 2023

Report

Our team looked for the most effective policies to address Covid in Caladan. We were assigned two policies: public transportation (no restrictions) and testing policy (have symptoms and meet minimal criteria). In addition to those policies, we would also suggest Caladan to implement policies such as stay-at-home requirements and restrictions on gatherings.

To maintain an organized architecture to ensure the quality of our data, we performed ELT on our data using ADF and its resources; Microsoft Azure allowed us to connect our data to Power BI and create a snowflake schema for analysis. We centered everything around policies as our fact table as we have deemed it important for analysis. Since every table contained values related to geography and date tables, we connected policies, cases, deaths, and recoveries to them. We also added a population table to effectively compare metrics while taking into consideration their population.

While analyzing data from various countries, we focused on Japan and Canada for their differing population densities and cultural aspects. Japan, densely populated and isolated, contrasts with Canada's expansive, dispersed population. Data revealed that no public transportation restrictions typically lead to increased Covid cases. Both countries initially adopted lenient testing policies and were forced to increase stringency due to rising Covid cases as well. This pattern underscores the need for proactive measures in policy-making. We advise Caladan to be proactive in implementing policies to effectively curb COVID-19 spread, rather than lagging in response.

In addition to the group's required policies, we looked for policies that would improve Caladan's response to Covid. For this purpose, we used Python to calculate the average changes in cases per day for different policies. However, we realized that many confounding variables affected average changes, so we used it to filter for effective policies. With this, we looked into policies against different countries to observe its effectiveness.

Our analysis found the importance of restricting gatherings. In Japan, strict limits on public gatherings were enforced during case spikes to reduce cases and quicker recoveries. Canada initially imposed lighter restrictions, intensifying them during case surges to control the spread. We would also recommend stay-at-home policies. Japan's restrictive measures were in response to declining recovery rates, resulting in improved recoveries. Canada's moderate policy also led to increased recoveries, and as the pandemic intensified, their escalated response boosted recovery rates. For Caladan, we suggest mirroring Japan's and Canada's actions, but with a greater emphasis on being proactive. The impact that each policy had on Covid metrics are best seen through line graphs in our PowerBI report; our report also demonstrates that our recommended policies have a stronger effect on curbing cases/recoveries/deaths than our initial policies.

In essence, we recommend Caladon to approach Covid with a strict but adaptive system; holding strict on the testing policies while pushing for restrictions on gatherings and stay-at-home requirements. Moving forward, we will focus on minimizing influences of confounding variables while expanding analysis to test for combinations of effective different policies.