Challenge 4:

Covid Policies

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Guiding Question:

What are the most **unrestrictive policies** Caladan can implement to keep the **growth rate of deaths below 1%** and the **growth rate of new cases below 3%** on a 30-day rolling average?

Our Solution

In order to maintain a ***case growth rate of below 3%*** and a ***death growth rate of below 1%***, Caladan should implement a mix of long-term and short-term restrictions. Long-term, Caladan should require face coverings and consistent testing, and provide protection for the elderly. In the short term, they should promote hybrid work environments and restrict international travel.

Long-Term Restrictions

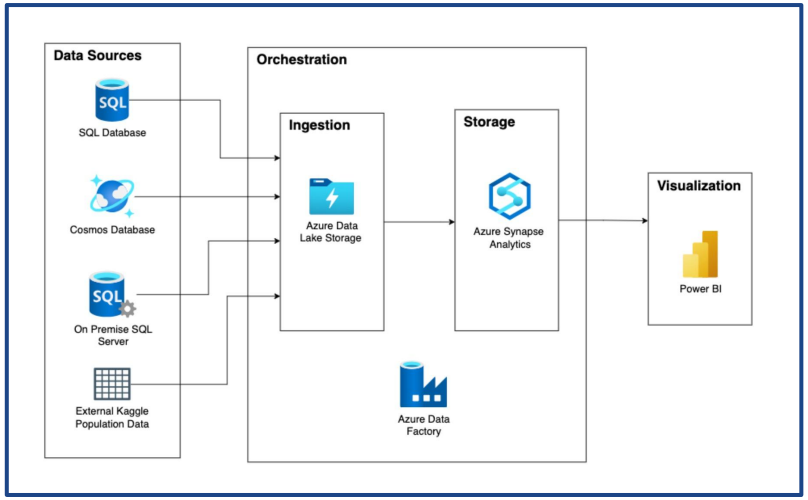
- **Face Coverings: 3**
  - Mandatory Coverings Inside
- **Testing Requirements: 2**
  - Testing for those with symptoms
- **Protection of Elders: 3**
  - High Prioritization of Elderly

Short-Term Restrictions

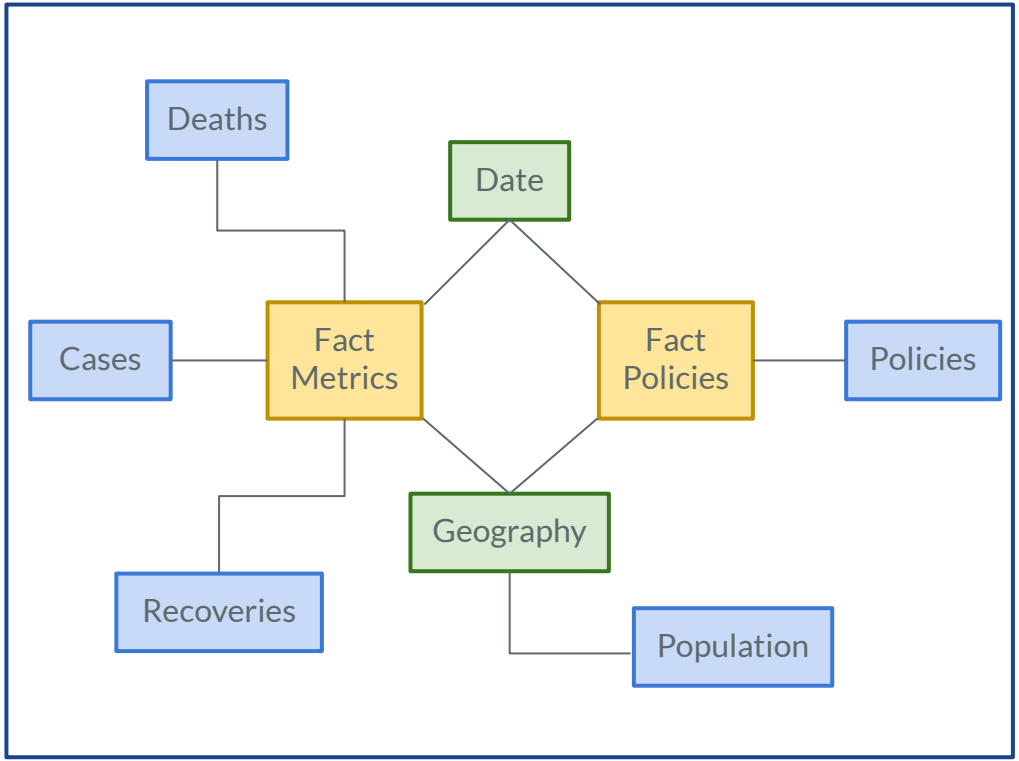
- **Workplace Closures: 3 → 1**
  - Enforce workplace closures, then only recommend
- **Travel Restrictions: 3 → 2**
  - Ban most arrivals, then allow only quarantine arrivals

Data Process

Data Flow



Simplified Data Model



Key Statistics

Rolling average - A 30 day rolling average calculated for both cases and deaths

Growth rate - The day to day growth rate of the 30 day rolling average

Correlation coefficient - The correlation between policy levels and growth rate

Threshold rate - The percentage of days that a country's growth rates were within our goals

Policy Intensity Investigation

Step 1: Identify whether the policy selected should be a short-term or long-term policy

- Graph the policy intensity over time and observe if the correlation coefficient is positive or negative

Step 2: Compare two countries with different policy intensities

- Select two countries who have different intensities for the same policy and compare their average growth rate and threshold percentage.

Step 3: Identify recommended policy intensity

- Based on the impact in growth rate with the policy at different levels, select the intensity option that fits in our growth rate constraints without being too restrictive.

Continued on PowerBI…

Conclusion

Through the use of **statistical** and **graphical** analysis, and by incorporating a mix of both **long-term** and **short-term** restrictions, we are able to select the **least restrictive** policies while meeting our goal.

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