Team 1 Presents

Strategic Policy Planning: Caladan's COVID-19 Response

Our Team

Naman Nagaria
Data Architect

Aidan Clark
Data/BI Analyst

Abigail Merage
Data Engineer

Emily Forman
Project Manager

Patrick Soong
Project Manager

Agenda

01 Situation Overview

02 Recommendation

03 Data Architecture

04 Methodology

05 Analysis

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01 Situation Overview

Objective

Develop a strategic plan to address the upcoming wave of COVID-19 in Caladan.

Our guiding question: Which minimally restrictive measures can Caladan adopt to ensure that the **death growth rate remains under 1%** and the **new case growth rate stays below 3%** over a 30-day moving average?

Situation Overview:

Commonwealth of Caladan

Current Scenario

Population: 3.2 million

Urban Centers: Duncan and Stillgard

COVID-19 Impact: Low, with concerns of a potential resurgence

Strategy

Examine the effectiveness of policies from ten representative countries in managing the growth rates of COVID-19 cases and deaths.

Our goal is to identify which measures have been the most successful in curbing the spread of the virus.

Recommendation 02

3 Most Effective Policies - Our Recommendation

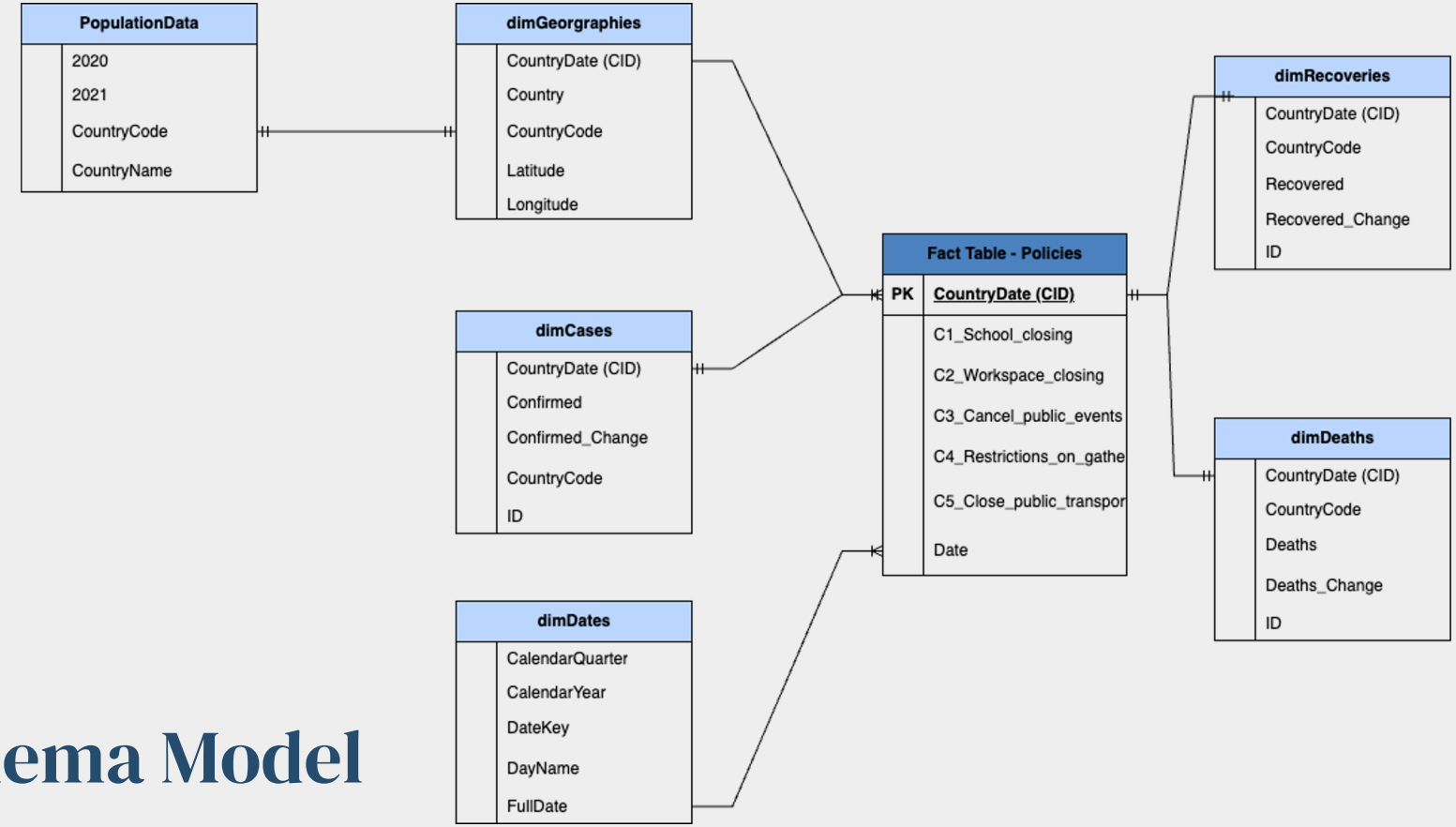
Internal Movement Regulation

Public Transport Regulations

School Closures

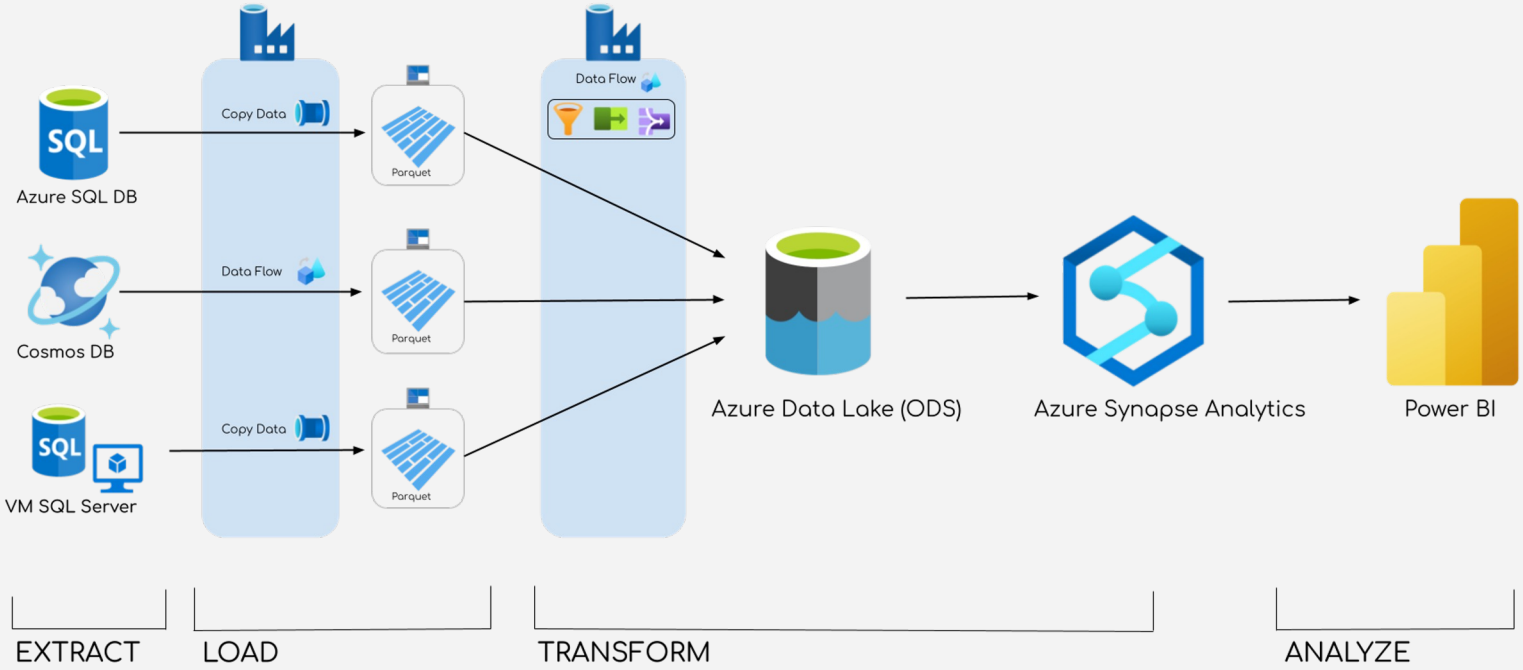
Data Architecture

03



Schema Model

Data Transformation Model



04 Methodology

Scale of Restriction

To begin our analysis, Team 1 created a scale of policy restrictiveness based on disruption to everyday life

Low Disruption Restrictions aim to mitigate health risks from cross-border movements while minimizing significant disruptions to daily life locally

Moderate Disruption Restrictions disrupt social activities but to a lesser degree than high-impact measures, aiming to enhance safety without severely altering daily life

High Disruption Restrictions significantly disrupt daily life, limiting mobility, social interactions, and access to essential services.

- International Travel Controls
- Restrictions on Internal Movements
- Cancel Public Events
- Close Public Transport
- Restrictions on Gatherings
- School Closing
- Workplace Closing
- Stay at home requirements

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Analysis

Analysis Process

Using rolling average of growth rate of deaths and cases, decide time period for top 3 countries with the most successful growth and death rates

Analyze when our growth rate rolling average falls below 3% for cases and 1% for death

Isolate specific policies based off the average policy score throughout the chosen time period

Overlay changes in policy restriction with rolling averages, seeking signs of implemented policy changes impacting the growth rate of cases/deaths

Confirm our exploratory analysis and ideas with the use of statistical findings

Utilizing a combination of a key influencer graph and a logistical regression, we can confirm our findings of what policies tend to reduce growth rates when compared to the overall averages

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Power BI

Logistic Regression

Cases Regression

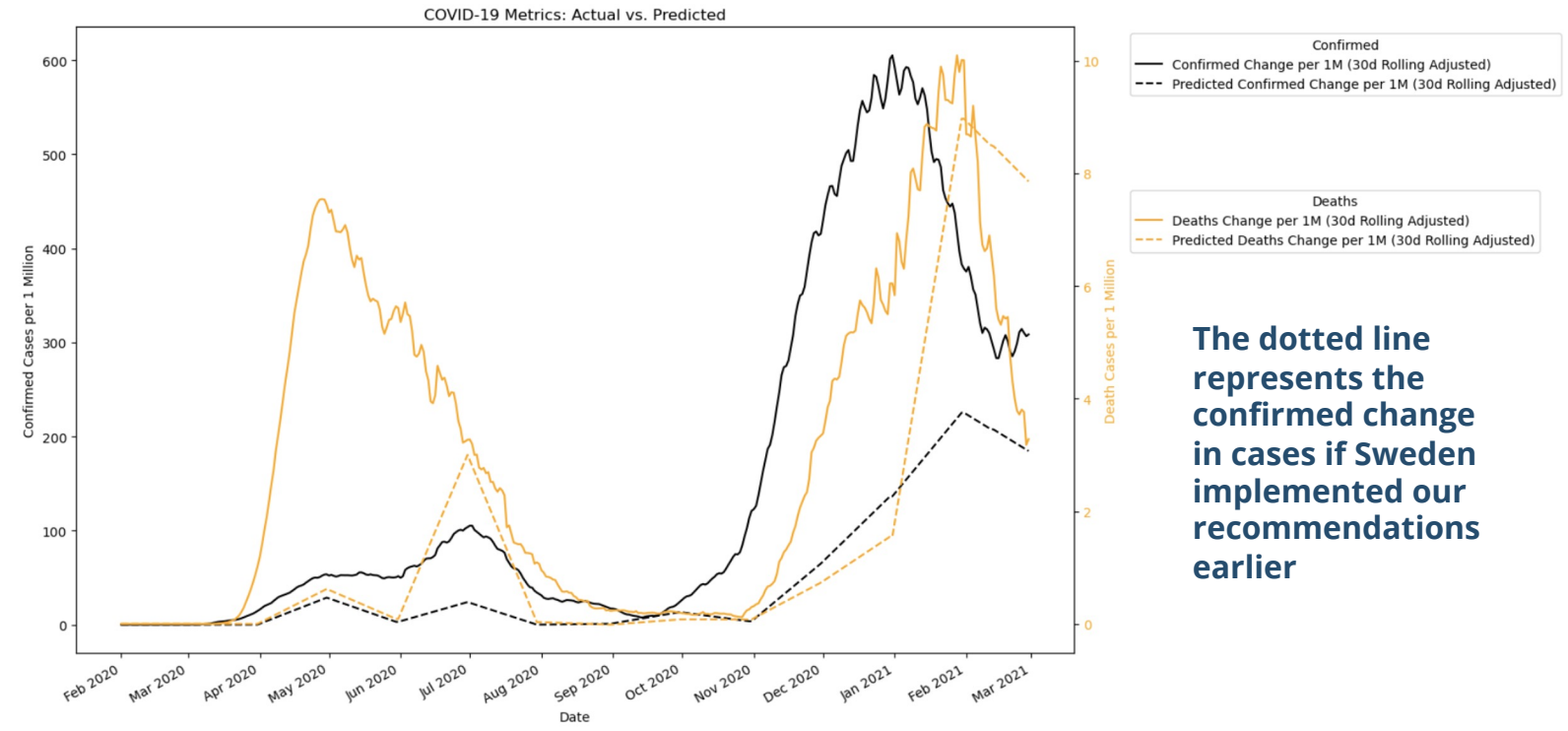
Predictor	Coefficient	Odds Ratio
Closing Public Transport	-3.188	.04
No Gatherings	-1.72	.18
School Closing	-1.57	.21
Controlling International Travel	-1.35	.26
No Internal Movements	-1.34	.26

Deaths Regression

Predictor	Coefficient	Odds Ratio
Closing Public Transport	-2.02	.13
No Internal Movements	-1.22	.29
No Gatherings	-1.10	.33
Closing Work	-.80	.45
Controlling International Travel	-.69	.50
Public Information Campaigns	-.65	.52
Government Response Index	-.56	.57
School Closing	-.45	.64


07
Machine
Learning

Machine Learning Modeling



The dotted line represents the confirmed change in cases if Sweden implemented our recommendations earlier


Thank
You!