FEARING THE NEEDLE

A VISUAL ANALYSIS OF NORTH AND SOUTH AMERICA
MEASLES VACCINATION RATES AND MORTALITY
FROM 1991 TO 2022

CONTENTS

INTRODUCTION

Vaccine skepticism has risen since before the SARS-CoV-2 pandemic, putting at risk a significant portion of the population with preexisting conditions or comorbidities that prevent them from getting vaccinated.

We aim to observe both small- and large-scale effects of this recent trends

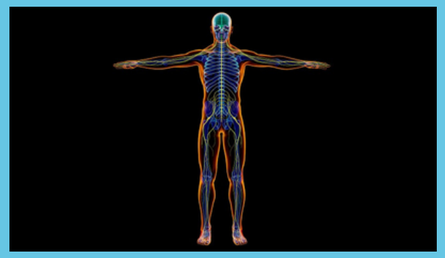
CONCEPTUAL FRAMEWORK

MEASLES

A highly contagious viral infection that causes a fever, cough, runny nose, and a red rash. It can be serious, and even fatal.

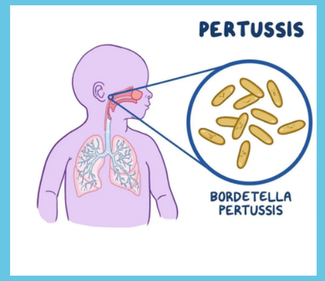
DIPHTHERIA

A bacterial infection that produces a toxin that damages the body's tissues and organs. It's a serious disease that can be prevented.



TETANUS

A serious bacterial infection that causes muscle spasms, especially in the jaw. It's a vaccine-preventable disease.

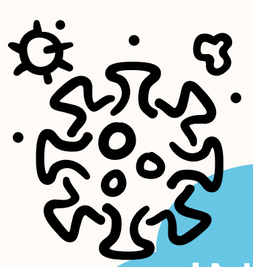


PERTUSSIS

A highly contagious bacterial infection that affects the respiratory tract. It's most dangerous for infants and can be fatal.

METHODOLOGY: API AND SELECTED DATA

WHO Immunization Data Portal



INCIDENCE RATES

VACCINATION RATES

WHO Mortality Database

MORTALITY RATES

Athena API

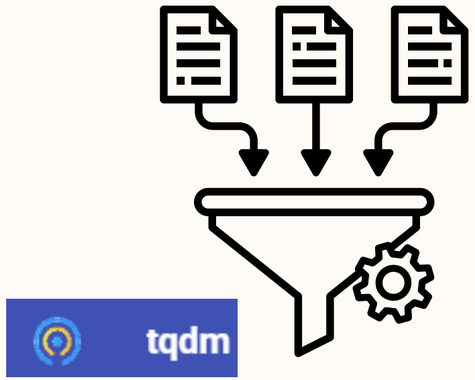
The Athena web service provides a simple query interface to the World Health Organization's data and statistics content. This document describes...

who.int

METHODOLOGY: PROJECT STRUCTURE

DATA EXTRACTION

Using the aforementioned API, the tema extracted the RAW data in CSV files. After a certain procesing, the raw data was build in JSON files and left with relevant variables.

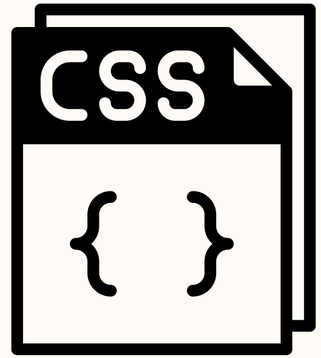


JAVASCRIPT APP

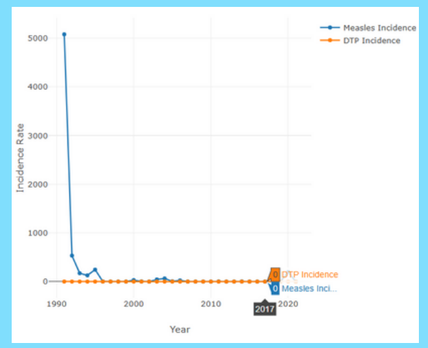
The app.js file contain the load of data in json, the merge of GeoJSON polygons data, and the visualizations of the rates.

HTML AND CSS

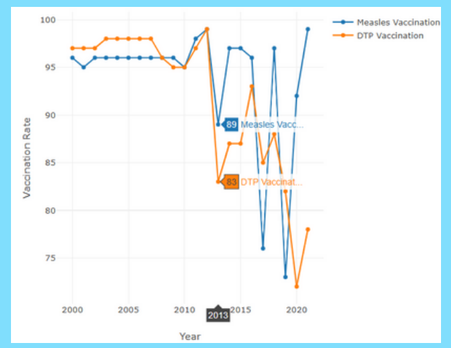
To give structure, the html base code was prepared, and a CSS file was created to give style (colors and fonts).



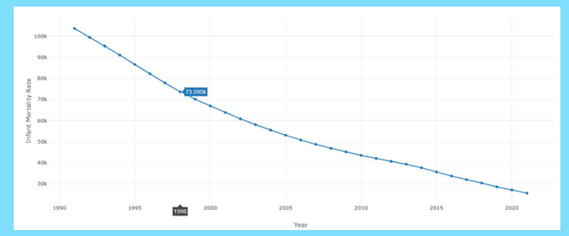
VISUAL ANALYSIS



Incidence Rates Line Plot



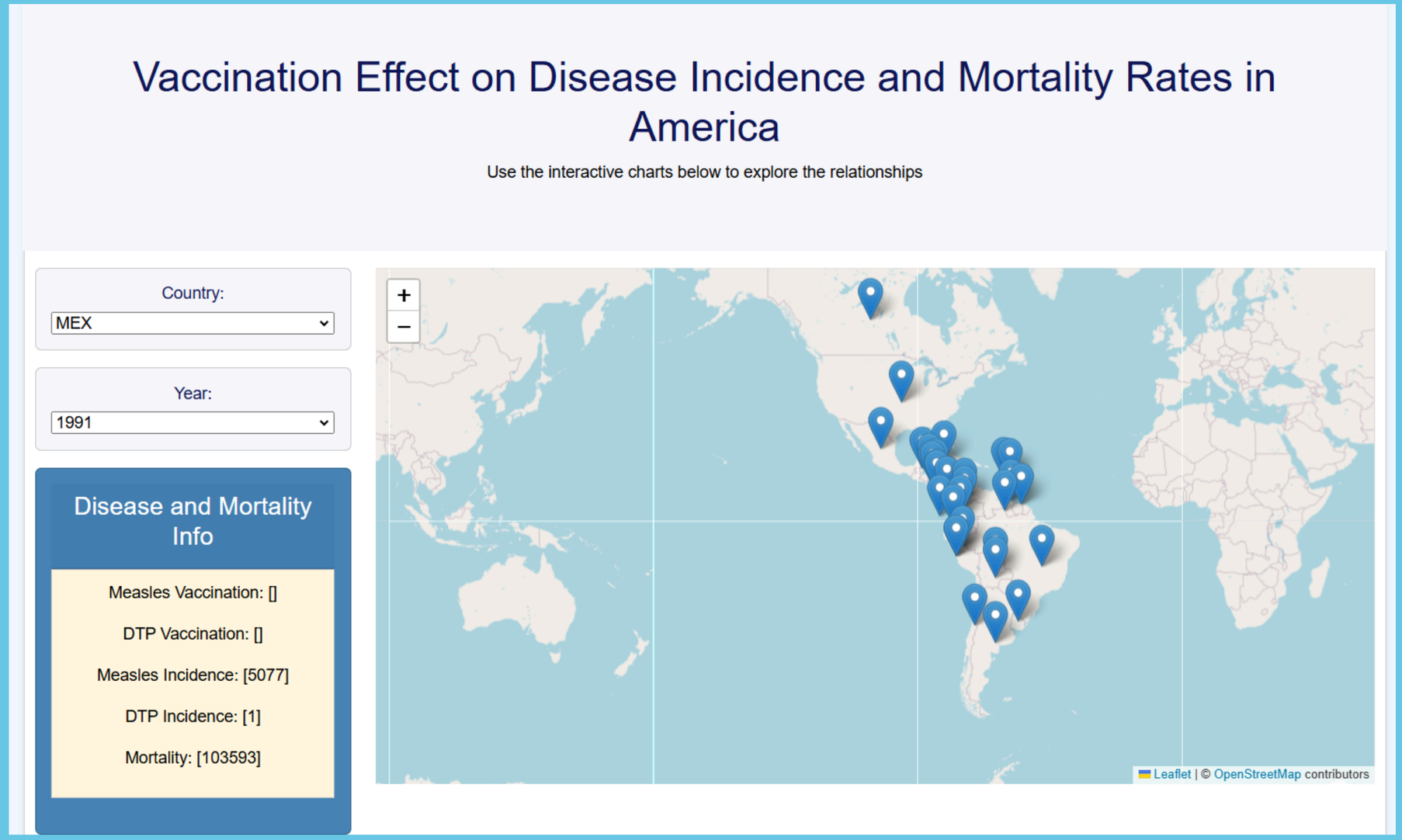
Vaccination Rates Line Plot



Infant Mortality Rates Line Plot

Line Plots are used to show how something changes over time.

VISUAL ANALYSIS



CONCLUSION

The data highlights the strong link between vaccination rates and public health outcomes. Over the years, higher vaccination coverage has helped control and even eliminate some preventable diseases. However, declining immunization rates due to misinformation, fear, and accessibility issues pose a risk for future outbreaks. Strengthening public health policies, improving education on vaccine safety, and increasing accessibility to immunization programs are essential steps to prevent the resurgence of these diseases.

THANKS.