

Case Study: Exploring the relationship between COVID-19 Cases and Flu Vaccination Rates in Virginia

Step into the role of a data scientist tasked with investigating how the COVID-19 pandemic shaped public health behavior in Virginia. Using real-world data on influenza vaccination rates and COVID-19 cases, you will uncover trends and create a predictive model to answer an important question:

How did the onset of COVID-19 influence flu vaccination rates?

Context & Motivation

Throughout the United States, the influenza vaccine is one of the most common preventative measures that people take on a routine basis. However, the onset of the COVID-19 pandemic marked a profound shift in how society responds to viral outbreaks. Although strict lockdown measures were initially implemented to curb the spread of COVID-19, they inadvertently led to a dramatic decrease in flu activity between 2021 and 2022. The percentage of people vaccinated for influenza in a given region offers a tangible measure of this preventative mindset. By analyzing changes in these vaccination rates alongside documented COVID-19 case counts, this case study aims to uncover correlations between the pandemic and influenza vaccine uptake in Virginia. Your findings could reveal how the pandemic influenced public health behaviors and offer actionable insights for future vaccination campaigns.

Your Deliverable

- Develop an ARIMA model to explore the relationship between COVID-19 case trends and influenza vaccination rates.
- Share findings through a compelling visual report that highlights significant trends and potential implications for public health.

Why This Matters

Your work goes beyond just data modeling. It connects data science with meaningful real-world applications. By predicting vaccination trends, you'll contribute to strategies that ensure communities are better prepared for future health crises.

GitHub Repository Link: https://github.com/michellehkim280/DS4002_CaseStudy