CS3 Hook Document DS 4002
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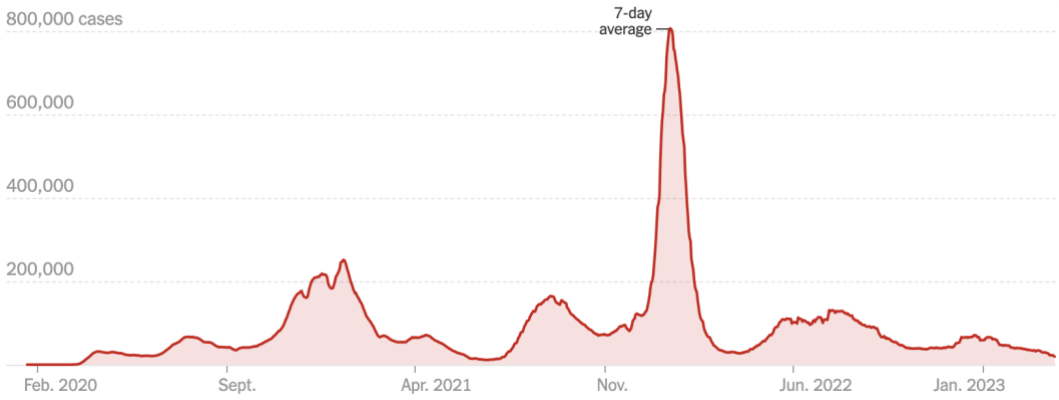
Using Modelling Techniques to Analyze a Correlation between COVID-19 Case Counts and Influenza Vaccination Rates



Source: New York Times

Following the onset of the COVID-19 pandemic, there was a large shift in both the lifestyles and perspectives of people around the world around the topic of health and disease prevention. While drug manufacturers around the world raced to produce a COVID-19 vaccination, the topic of yearly vaccinations of every type of drug became a highly debated topic for the general population. Different practices in disease prevention were also placed on a greater stage, causing a greater emphasis on mindfulness of how different practices can affect both individuals and communities.

To provide evidence for this sort of behavior change, different forms of numerical data can be analyzed and lead to insights in an overall shift in health practices. One example of this indicative data is the vaccination rate of the influenza virus. As one of the most common viruses, drug companies work on an annual basis to predict and provide a vaccination for the influenza strain during each flu season. Contrasting COVID-19, influenza, or the "flu," is a virus that has been well known for a large amount of time and has consistent vaccination rates year over year. Any difference in the rate of vaccination of the flu could indicate a greater behavioral change of a population following the onset of the pandemic.

In this case study, your job is to analyze the year over year influenza data in the state of Virginia to identify any changes in overall vaccination rates. Additionally, you must compare this data over time with COVID-19 cases in the US over time. This will give a clear indication of whether or not drastic changes can be observed and whether or not there is any correlation between an increase in influenza vaccination rates and COVID-19 case counts.

The next step in your analysis will be to determine predicted future vaccination rates using data before and after 2020. A comparison of these predicted rates will provide insight into whether or not the pandemic could have made a lasting impact on influenza vaccination rate in future years and whether or not Virginia communities have placed a permanent emphasis on healthy practices.

GitHub Repo: https://github.com/amalieharrison/CS3-2024