

How COVID-19 Highlighted Health Inequities in Virginia

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Background

Social Vulnerability Index: Social vulnerability is a number of factors which “weaken a community’s ability to prevent human suffering and financial loss in a disaster.” These factors include (but are not limited to) poverty, crowded housing, and disability. **The higher an area’s vulnerability, the weaker its ability to recover is.**

Paxlovid: “Paxlovid (nirmatrelvir/PF-07321332 and ritonavir) is an oral antiviral drug ... authorized for the treatment of mild to moderate COVID-19 in adult and pediatric patients age 12 years and older ... who are at high risk for progressing to severe COVID-19, including hospitalization or death.”

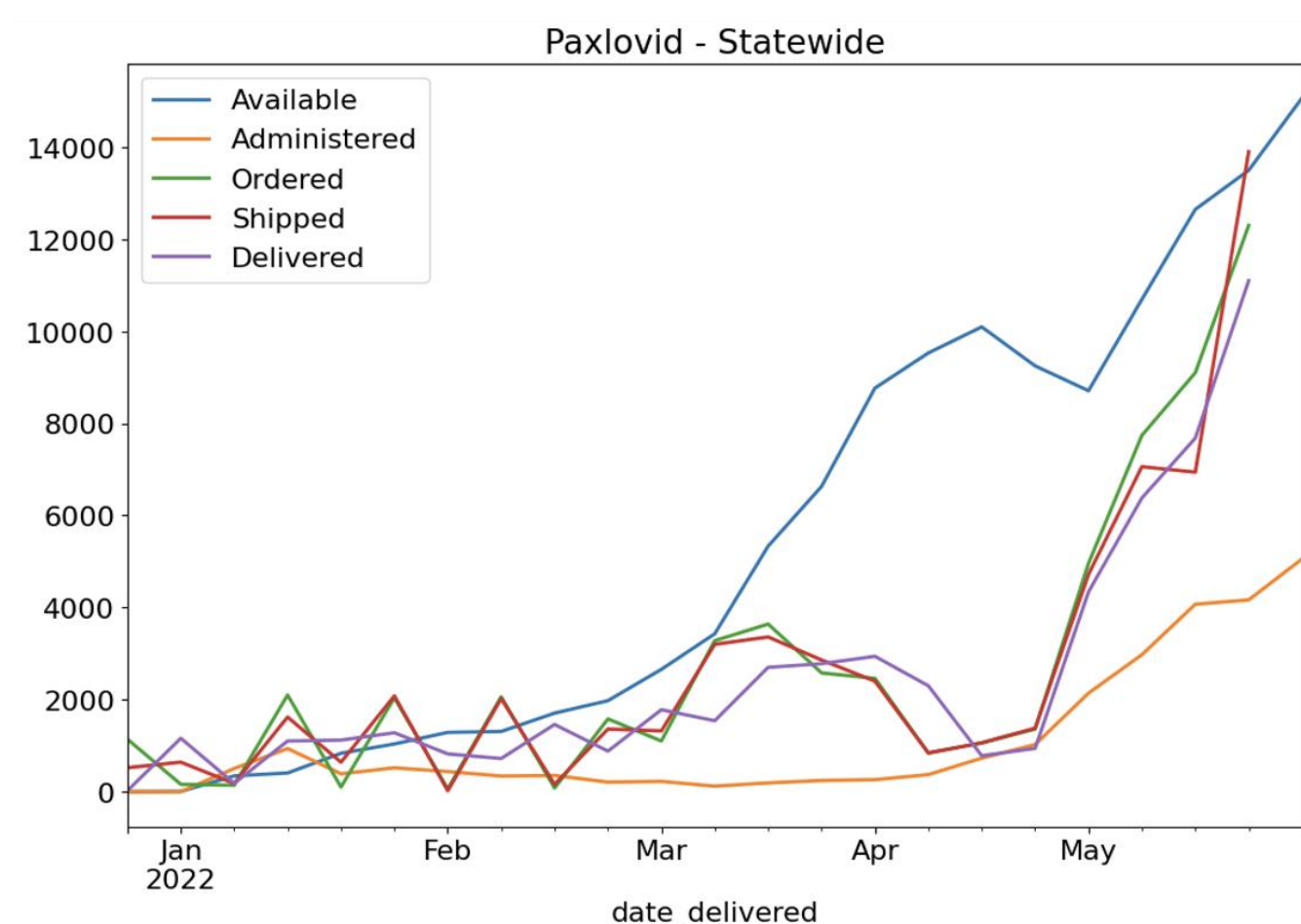


Figure #1: Paxlovid Use Statewide

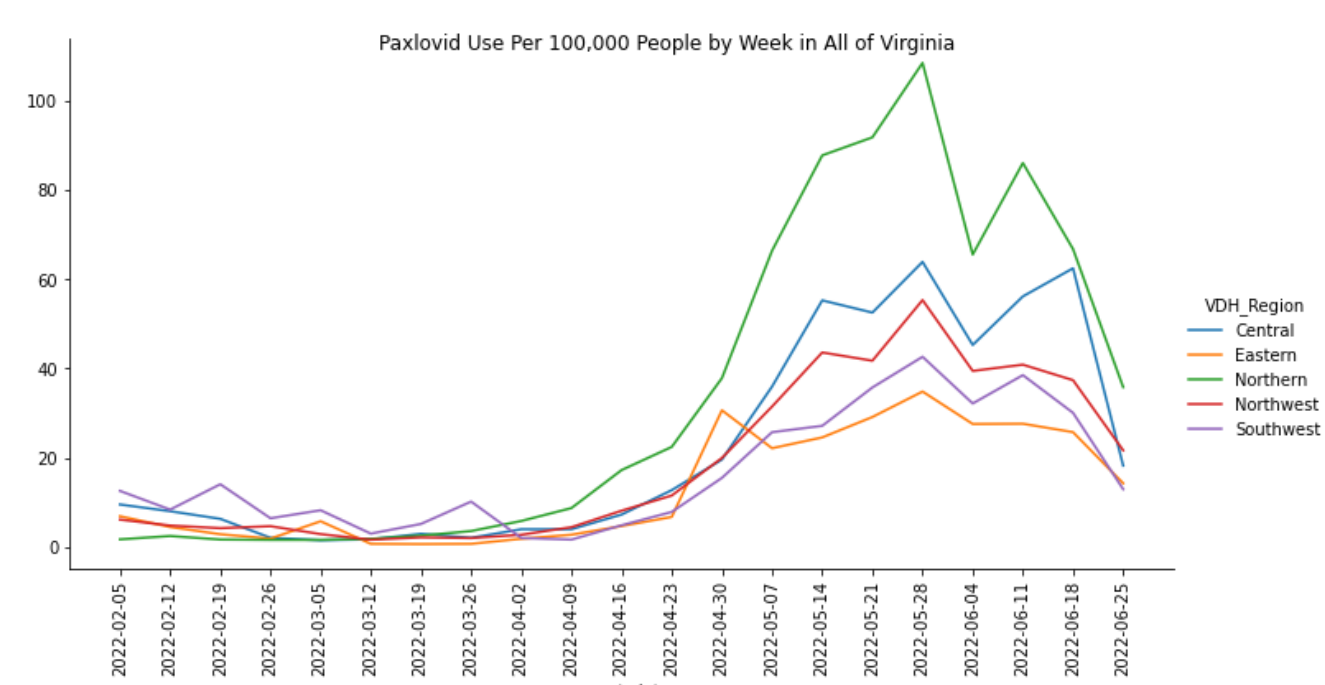


Figure #2: Paxlovid Use per 100k People by Week, Statewide

Current Work

Currently, the focus is on the medication Paxlovid and how it is affecting case data in each of Virginia’s five main regions. At first, there was no sign of any correlation between Paxlovid use and case-to-hospitalization, case-to-death, or hospitalization-to-death ratios across the pandemic. However, when looking at a two-week delay, there is a slight negative correlation between case-to-death ratios and Paxlovid use.

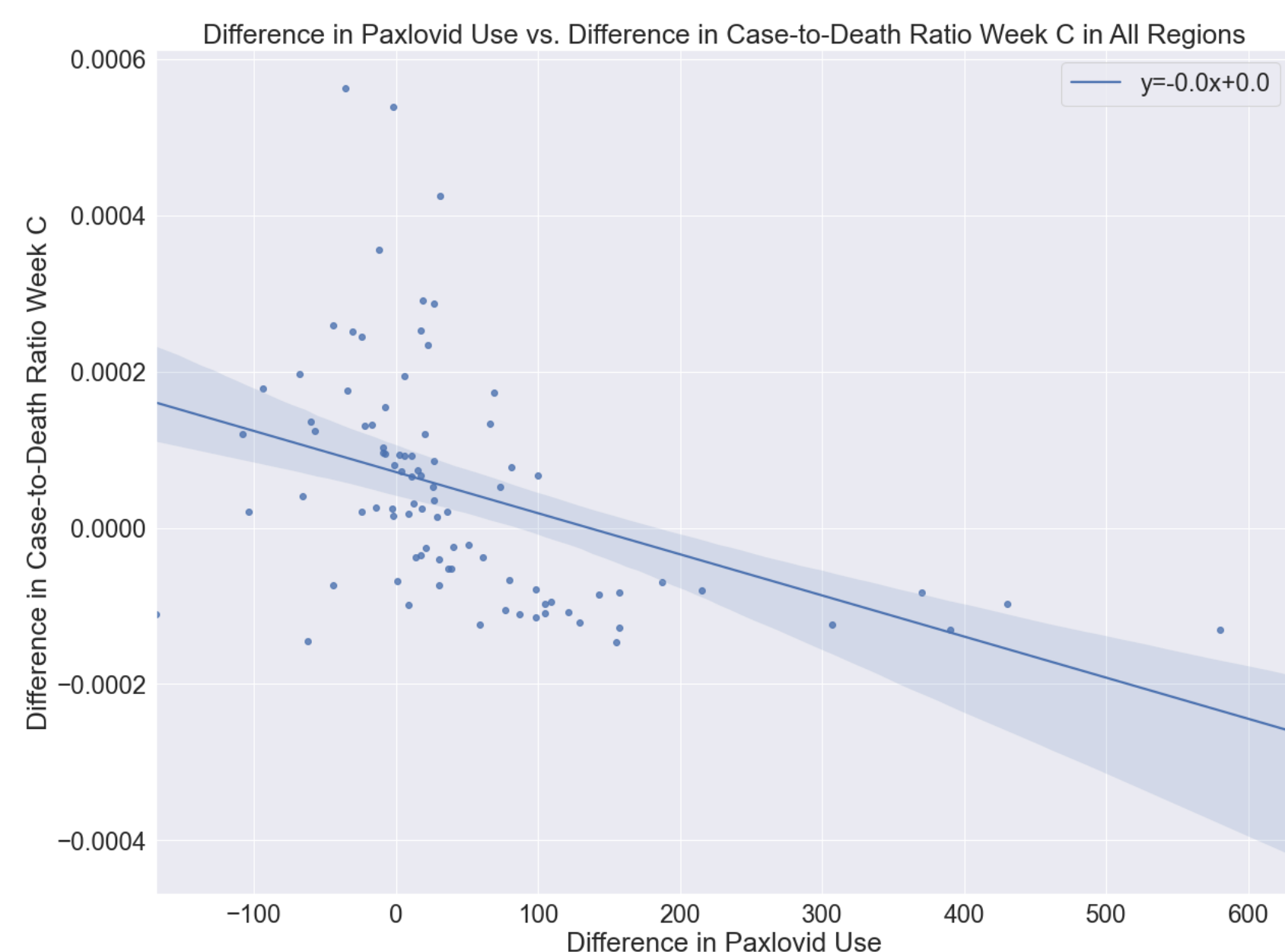


Figure #5: Difference in Paxlovid Use in Week A vs. Difference in Case-to-Death Ratio in Week C in all Virginia Regions

Project Goal

The goal of this project is to show how COVID-19 has highlighted health inequities in various parts of Virginia.

The method employed to do this is through the use of graphs and maps which clearly showcase the unequal effects COVID-19 has had on the various counties, districts, and regions of Virginia.

Future Work

In the future, it would be useful to refine plots and maps using county data, as opposed to district or regional data. For example, expanding analysis of Paxlovid use to districts and counties as opposed to just regions, and map that use on top of case data.

It would also be interesting to explore inequities in COVID-19 vaccinations rates – are cases worse in areas with less vaccinations? Is there a correlation between Paxlovid use and vaccination rate?

Similarly to vaccinations, it would also be helpful to plot other COVID-19 antivirals and track their use, such as Evusheld.

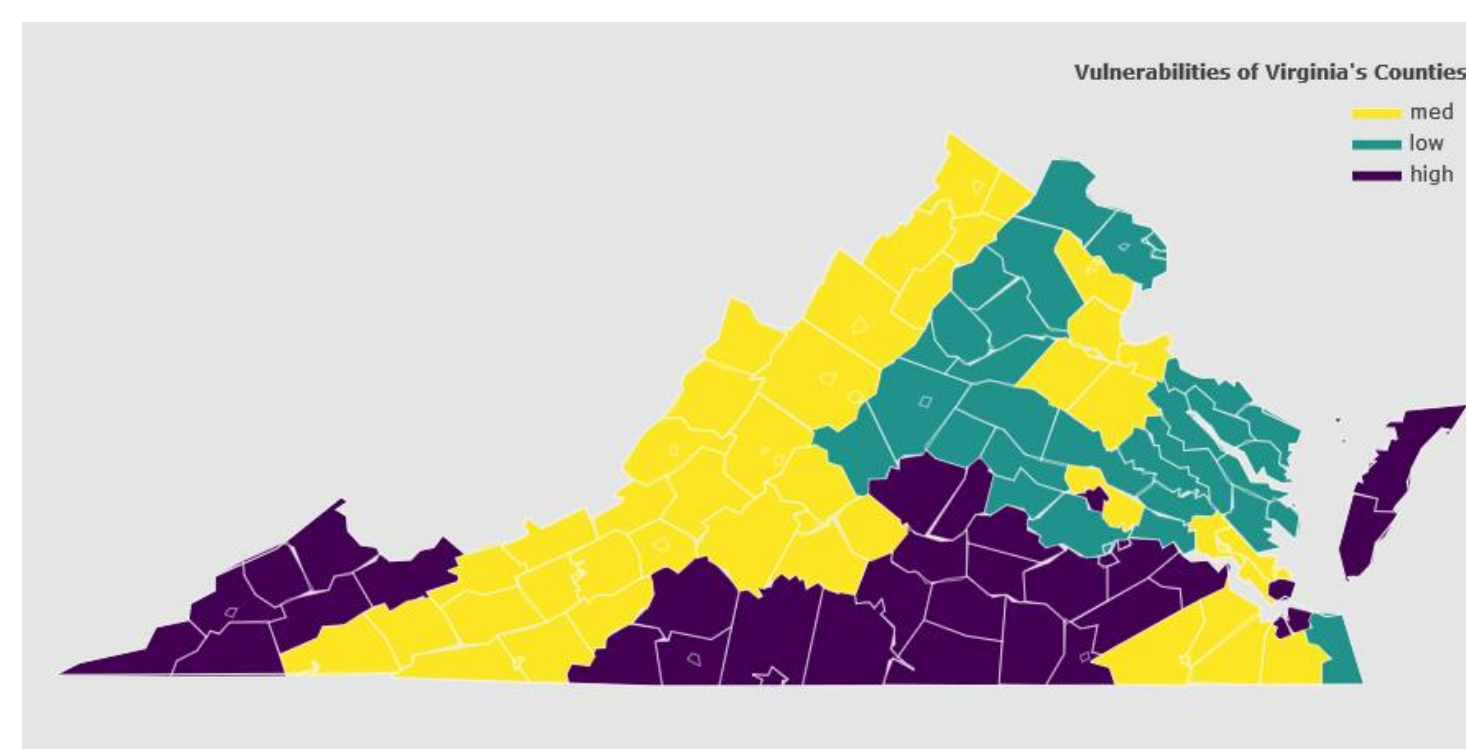


Figure #3: SVI Level of Each Virginia District

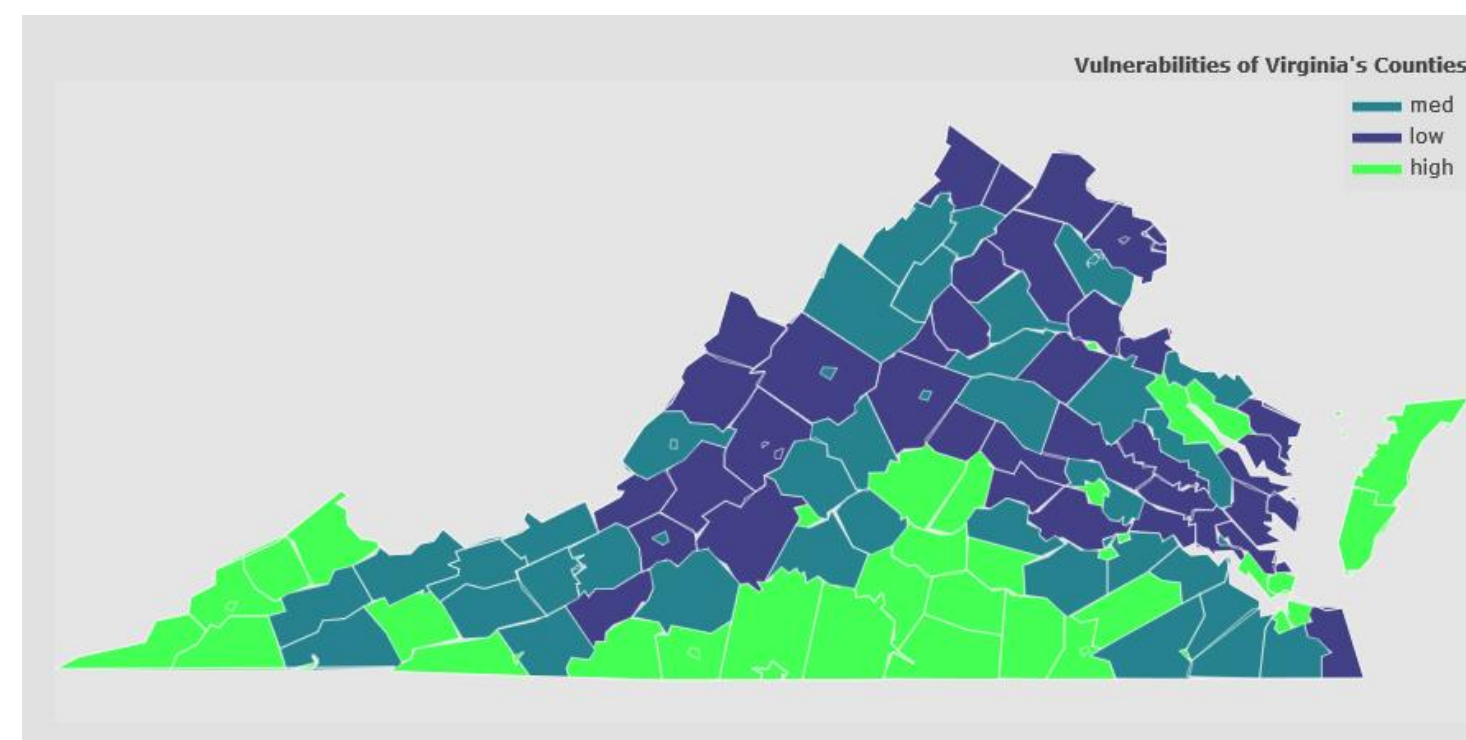


Figure #4: SVI Level of Each Virginia County

Current Work (continued)

Additionally, there is focus on the different levels of social vulnerability in each of Virginia’s counties, and the relationship between social vulnerability and case data across the pandemic.

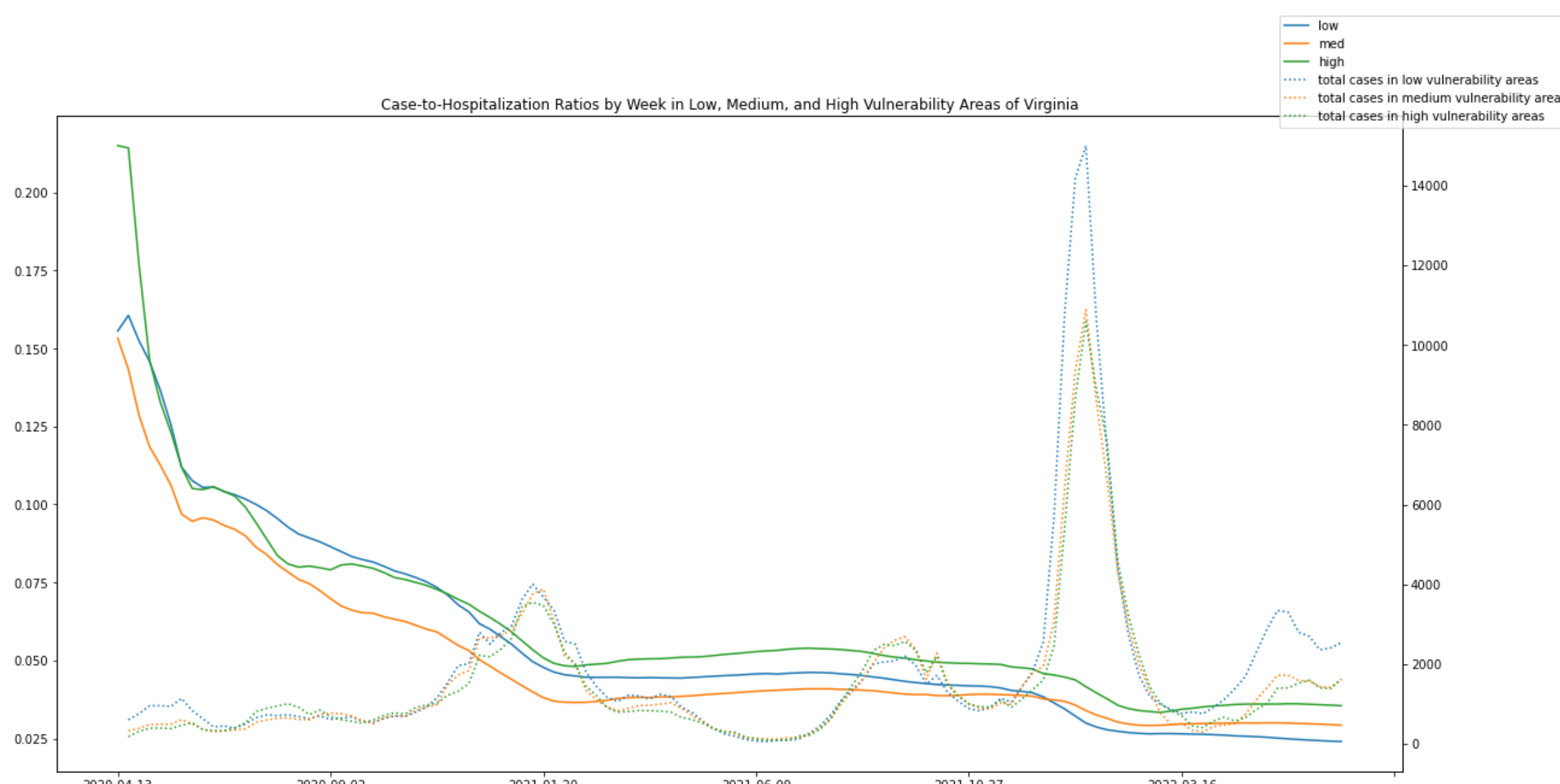


Figure #6: Case-to-Hospitalization Ratio by Week in Low, Medium, and High Vulnerability Areas of Virginia

References

Office of the Assistant Secretary for Preparedness and Response. (2022, April 14). Paxlovid. Paxlovid | HHS/ASPR. Retrieved June 15, 2022, from <https://aspr.hhs.gov/COVID-19/Therapeutics/Products/Paxlovid/Pages/default.aspx>
Centers for Disease Control and Prevention. (2021, August 30). CDC/ATSDR Svi Fact sheet. Centers for Disease Control and Prevention. Retrieved July 27, 2022, from https://www.atsdr.cdc.gov/placeandhealth/svi/fact_sheet/fact_sheet.html