

Coronavirus Pandemic in the District of Columbia

Executive Summary

It is a well-known fact that the coronavirus pandemic has led to an unprecedented loss of human lives. Moreover, it has caused people to lose their jobs, made people struggle to keep a roof over their heads, to an extreme case led to even more food insecurity in certain areas, the list goes on. The world has almost withdrawn from the hustling and bustling social aspect, one could even compare it to us living like a hermit but not by choice.

The virus has presented unprecedented challenges to governments at all levels. But, at the same time is it imperative that governments that are responsible for the welfare of the people respond to this pandemic in a timely manner to control the damage. Since I've lived in the District of Columbia for the past year, I believe it'd be rather insightful to see measures taken by the government of the District and how they've panned out.

With the rise of the pandemic in March, unemployment shot up. Even though the unemployment rate is now declining, it is still not at the level it was for the past demi-decade. Most people who've suffered losses in jobs are majorly informal economy workers and daily-wage workers. Mayor Bowser of DC was at the forefront in combatting the COVID-19 pandemic here. She issued multiple mayor orders in order to prevent or to some extent reduce the spread of the virus which included "stay at home" orders.

Washington, D.C. is known for its gentrification which has led to economic segregation that has also led to racial segregation. Ward 8 in the District which is one of the poorest wards in DC is

also the one with the most deaths due to COVID-19. We see that other wards also follow the same pattern except with families in Wards 2 and 3 being economically privileged, so the latter has the least amount of cases and even deaths related to the virus. We also see that hospitals are well equipped and never was there a time where there were not enough ICU beds or ventilators to treat patients across hospitals in the District, in my opinion, there was an excess.

It is very well known that healthcare in America is the privilege of the rich. But, resources are available and I believe that it is the duty of the government to be at all times involved in protecting the life, liberty, security, and well-being of its subjects. Lack of resources to some in the area has led them to suffer. People do not receive good health-care is why they're dying. It's because they cannot afford it. If the government has enough resources, I believe better planning and diversion of these excess resources to the ones in need should be the way forward.

Links

Final Project: https://www.digvijayghotane.com/blog/ppol563_final_project_coronavirus_in_dc/

Replication Files: https://github.com/diggyg97/ppol563_project_fall2020

The Data

For the purpose of this project, I made use of 3 different datasets. The first one was the dataset by the Bureau of Labor Statistics (2020). It gives information on the unemployment rate per month for the District of Columbia. I used this dataset in order to plot the unemployment rate. The second dataset was the dataset from Open Data DC that has COVID-19 cases segregated by ward. It is called “DC COVID-19 Cases by Ward.” I had to clean this dataset by dropping the ones with “Unknown” ward entries alongside wrongly dated entries. Also, since this is a time-series dataset with each entry corresponding to a single day, I aggregated the data to a monthly level by ward to be able to plot the map of DC by ward for coronavirus related cases and deaths. The third dataset I used was also from Open Data DC called “DC COVID-19 Tested Overall.” I used this dataset in order to get numbers for the number of ICU beds and ventilators that were available in all hospitals across DC. I did not aggregate this data to a monthly level.

Platforms and Packages

For the purpose of creating the web-accessible document, I used the blog feature offered by Hugo and Blogdown by hosting a website on Github pages. I embedded my pictures there either as a JSON file or a “gif” file. I made all my visualizations in R and the corresponding file is called “project_ppol563_dhg32.Rmd”. I made use of the following packages:

- Tidyverse – This is a collection of multiple R packages used for Data Science, such as data cleaning, aggregation and even plotting. It is based on the Grammar of Graphics.
- Plotly – In order to make interactive graphs, I made use of the plotly library in R.
- DCmapR – a library that can be used to plot wards of Washington DC. (<https://github.com/BingoLaHaye/DCmapR>)
- gganimate – In order to make animated graphs, I made use of the gganimate library in R.

Key-Highlights

- Unemployment is declining after peaking during the months of March and April.
- Ward 8, the most underprivileged ward in DC has had the most cases and deaths related to COVID-19 as of December 20, 2020.
- Hospitals across DC have enough resources (ICU beds and ventilators) to aid the underprivileged who cannot afford to pay for healthcare.
- My suggestion: Better planning and diversion of excess resources to those in need.

References

Bureau of Labor Statistics. (2020). Local Area Unemployment Statistics - District of Columbia [2018-2020]. Retrieved from <https://beta.bls.gov/dataViewer/view/timeseries/LASST110000000000003>

DC COVID-19 Cases by Ward. (n.d.). Retrieved December 21, 2020, from <https://opendata.dc.gov/datasets/dc-covid-19-cases-by-ward>

DC COVID-19 Tested Overall. (n.d.). Retrieved December 21, 2020, from <https://opendata.dc.gov/datasets/dc-covid-19-tested-overall>