Does COVID-19 Disproportionately Kill Those of African Descent?

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by John Paul Beaudoin, Sr.

There have been many news reports that those of African descent are disproportionately killed by COVID-19 possibly due to lack of Vitamin-D.

Does the evidence support that assumption? When calculating statistics regarding COVID-19, statisticians and scientists should not use a base population of the United States, which is 3,000 miles wide with 327 million people.

Even an ordinary person without an advanced science degree knows that people in Idaho and Montana do not live and move about the same way that people in NYC, Chicago, and Detroit do.

This paper examines data from the largest COVID-19 outbreak locales in the United States in order to compare fatality percentage by race with population percentage by race.

The number of COVID-19 "cases" depends on the availability and distribution of test kits. Until a significant stratified random sample (a smaller group evenly representative of the population as a whole) can be tested, case data is not worth examining. The only useful statistic in this application is "fatalities" from COVID-19. Thus, fatalities, not cases, will be used in this analysis.

The expectation, per the news media and politicians, is that those of African descent will be a much higher percentage of total fatalities than they are as a percentage of population.

INTRODUCTION

In order to achieve a fair assessment, areas of significant outbreaks will be examined. The assumption, based on common knowledge and cursory inspection of outbreak maps, is that urban areas are more affected by COVID-19, similar to a map of influenza, or even rhinovirus.

An accurate assessment of demographic variables associated with a virus can only be derived from where a virus is, not where it isn't. Id est, it is not prudent to add South Dakota, Montana, Idaho, and many other non-urban, sparsely populated, low-outbreak states and counties to the examination population. Adding those types of areas will corrupt the dataset and mislead the examiner. Cursory studies mentioned in the news stating that those of African descent have fatality rates higher than their overall U.S. population percentage are flawed on their face for the reason of a corrupted pool of data containing people from where COVID-19 is not prevalent.

This paper uses five good representative sample areas including the 5 boroughs of New York City (NYC), the state of Massachusetts (MA), the state of Illinois versus Chicago's Cook County, and the more populous six counties of New Jersey nearest NYC.

NYC

In the table below are listed, by borough of NYC, the rates of COVID-19 fatalities that occur in those of African descent (**COV%AD**) compared to the rates of population of those of African descent (**POP%AD**). Total population of each borough is also listed (**POP**) to determine significance.

Borough	COV%AD	POP%AD	POP
Brooklyn	40.87%	36.40%	2.5M
Bronx	35.47%	35.60%	1.4M
Manhattan	24.48%	17.40%	1.6M
Queens	21.49%	20.00%	2.3M
Staten Island	12.86%	9.70%	476K

Brooklyn's African descent fatality rate is slightly higher than their population rate. Bronx's rates are nearly equal. Manhattan's African descent

fatality rate is 41% higher than their population rate. Queens' rates are nearly equal. And Staten Island's African descent fatality rate is 33% more than its population rate.

At only 476K residents, the Staten Island data is of low significance. Of the other four boroughs, two are nearly equal and one is nominally higher, leaving only Manhattan to fit the news story that those of African descent are disproportionately affected. Taken as a whole, Manhattan's higher fatality rate is washed away by the three other large boroughs.

The study of the five boroughs of NYC, therefore, is inconclusive regarding darker skin and Vitamin-D deficiency as a link to greater fatality rate. The greater fatality rate has simply not been proven by this data.

MASSACHUSETTS

As of June 4, 2020, Wikipedia lists those of African descent to be 8.8% of the population of Massachusetts. CDC data shows those of African descent comprise 8.52% of the COVID-19 fatalities in Massachusetts. Massachusetts has a significant population of 6.9 million in a relatively small area compared to other states.

The study of Massachusetts, therefore, discredits the notion that the fatality rate of those of African descent is disproportionately higher than that of other races.

CHICAGO & COOK COUNTY

To illustrate how data and statistics can be deceiving with regard to causality, this examination will compare the whole of Illinois to Cook County, Illinois, which is the most populous county.

Those of African descent comprise 14.2% of Illinois' total population, but comprise 28.43% of the state's COVID-19 fatalities. This is double the population rate. Based on this data, one would certainly believe that those of African descent are disproportionately affected by COVID-19.

However, Illinois is a large state with rural and suburban areas far from the northeast corner of Illinois, which includes U.S.'s third most populous city, Chicago, part of Cook County. Cook County has more than 5 million residents.

Cook County comprises 66.7% of all Illinois' COVID-19 fatalities. The percentage of Cook County, Illinois who are of African descent is 23.9%, which is much closer to the overall African descent fatality rate of 28.43% in the state.

The examination of data and statistics where COVID-19 is prevalent in Illinois yields a weak conclusion that those of African descent may be slightly higher in fatality rate than other races, but no where near the double rate that the news media purports.

6 NEW JERSEY COUNTIES

As of June 4, 2020, 62.9% of the COVID-19 fatalities in New Jersey are in the 6 large counties that are closest to NYC. They are Hudson, Bergen, Essex, Passaic, Middlesex, and Union counties.

CDC data shows that 17.35% of the COVID-19 fatalities in New Jersey are people of African descent, while only 13.7% of the population of New Jersey are of African descent.

Interestingly, 17.2% of the top six New Jersey counties are people of African descent.

Again, if you look at where COVID-19 is rather than where it is not, the African descent fatality rate (17.35%) is very closely aligned with the percentage of population who are of African descent (17.2%).

Thus, the NJ examination also discredits the notion that the fatality rate of those of African descent is disproportionately higher than that of other races.

CONCLUSION

It is easy to understand how a cursory test would tell a story that those of African descent are disproportionately killed by COVID-19; and from

that cursory evaluation an hypothesis can be made that Vitamin-D deficiency is a potential cause.

However, that is more conjecture than science. In order to make such a determination, it is important to examine an area where COVID-19 has ripped through a large portion of society. The hotspots, or outbreaks, are useful datasets in order to examine the predicate that there even is such disproportionality by race. If proof is lacking in the predicate, then the hypothesis regarding Vitamin-D deficiency is moot.

Examination of the 5 boroughs, Massachusetts, Cook County, and New Jersey lead to an inconclusive finding. When each hotspot, significant in population between 1 and 7 million, is examined, the population rates and fatality rates of those of African descent are nearly equal except but in one case, that is Manhattan.

CLOSING REMARKS

I wrote this paper out of frustration for all the false stories, poor science, and errant messaging from the CDC, WHO, and NAIAD. News media, politicians, and government organizations are not focusing on the true transmission vector and effective mitigation methods.

Millions of dollars will be spent studying the purported Vitamin-D and COVID-19 link. Will they ever examine the real transmission vectors, which I believe to be public transportation and other common public hand contact surfaces?

Cities hit hardest use subways and commuter rails en masse (Madrid, Brussels, London, Stockholm, NYC, CT, NJ, MA, Chicago). Another study may prove that low outbreak cities commute mainly by personal automobiles or as pedestrians.

CDC and NAIAD should focus studies on producing pragmatic mitigation measures. Government organizations have been focusing on orders to prevent the 1% transmission vector, breathing aerosols, rather than the 99% transmission vector, common surface contact (handles) to hands to face. In the meantime, we are all walking around with useless masks on and stepping away from each other as if we fear an invisible demon. This fear is leading to civil unrest, depression, death, and mayhem, while the better mitigation measures are lost in the noise of ineffective government orders.

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