

## Race as a Social Determinant of Health:

### Lessons from the Coronavirus Pandemic in Delaware

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As the coronavirus spread across the United States early in 2020, a trend seemed to emerge: Black Americans were getting sick, and were dying, in disproportionate numbers. In early April, Michigan and Wisconsin reported infection rates among Black Americans over twice as high as their proportion of the population.<sup>1</sup> By mid-April, *The Lancet* was reporting that deaths due to COVID were disproportionately high among Black Americans across the country.<sup>2</sup> On April 23, Congress, as part of the Paycheck Protection Program and Health Care Enhancement Act, required the federal government to include race and ethnicity among other demographic data in its COVID analyses, and while the data subsequently reported by the Centers for Diseases Control and Prevention (CDC) was limited, it clearly confirmed the trend: the pandemic was having an especially lethal impact on Black Americans. Delaware began reporting racial and ethnic breakdowns on April 24, and the first numbers were consistent with the national trend: among lab-confirmed positive cases for which race was reported, more were Black than white, even though there were three times as many white Delawareans.<sup>3</sup>

The trend was, on the surface, incommensurate with our understanding of viruses, which, after all, do not select their victims, on account of race or otherwise. But of course, it is completely consistent with our understanding of health conditions—and of health risks—in Delaware, and in the nation: they are riddled with inequalities, and the inequalities have a distinct racial cast.

### The COVID-19 Data

At this writing, the CDC reports that of the confirmed cases for which racial data were available, 34.9% are white, roughly half that demographic's proportion of the U.S. population, while 22.0% are Black, roughly double that demographic's proportion of the population, yielding an incident rate roughly four times as high.<sup>4</sup>

Delaware is one of 47 states that now reports racial data for confirmed cases; one of 43 states that reports that data for deaths; and one of just four states that reports racial data for testing. The State reports both raw data and, for tests and cases, rates per 10,000. At this writing, Delaware reports a testing rate (per 10,000) of 797.0 for Black residents and 470.8 for white residents, a 1.7:1 ratio; it also reports a positive case rate of 128.9 for Black residents and 45.1 for white residents, a 2.9:1 ratio. Of the 414 total deaths, 61% were white, and 27% were Black; the State reports that 69.1% of its population is white, and 21.9% of its population is Black.<sup>5</sup>

We believe two fundamental lessons emerge from the data. First, the unequal suffering depicted by the data reflects unequal vulnerabilities: Black Delawareans are more likely to be exposed to the coronavirus, and are more likely to be disadvantaged by factors that increase their risks of morbidity and mortality. Second, those inequalities reveal the critical role that race plays as a determinant of health: COVID disparities in Delaware, that is to say, are the predictable results of the lived experience of race, of segregation, disproportionate poverty, and racial injustice.

## COVID Risks and Disparate Vulnerabilities

The racial disparities in COVID cases and COVID mortality reflect racial disparities in vulnerability: Black Delawareans are at greater risk of exposure and infection, and are more likely to be disadvantaged by the comorbidities and other risk factors that portend poor outcomes in COVID cases.

### Infection Risk

Multiple modes of transmission for the novel coronavirus are possible, including fomite and other mediated modes of transmission, but the dominant mode of transmission is thought to be through direct person-to-person contact.<sup>6,7</sup> Absent immunity to infection, then, the persons most at risk of infection are those most likely to be exposed to other people. Race is a key determinant of that risk, and Black Delawareans are at special risk.

Residential population density is likely to mediate person-to-person contact, especially during periods of lockdown, and this density varies according to race. The CDC measures density in its “Social Vulnerability Index” (SVI) partly by reference to the presence of multiple unit residential structures, i.e., structures with ten or more units, and at least one study of residential tracts confirms the expected positive correlation between COVID incidence and the percentage of such structures.<sup>8</sup> Our own examination of 2018 SVI data for Delaware reveals a positive correlation between the percentage of multiple unit structures and the percentage of minority residents (see Table 1). Data from the 2010 census is consistent with this finding: 6.5% white households and 19.3% of Black households were in structures with ten or more units. Meanwhile, 68.2% of white households, but just 35.7% of Black households, were in single unit detached structures.<sup>9</sup>

Table 1. COVID-19 Risk Factors: Delaware Disparities by Census Tract, Data from 2018 CDC Social Vulnerability Index

	<b>Majority-Minority</b> (50 Tracts w/ Largest Minority %)	<b>Predominately White</b> (50 Tracts w/ Smallest Minority %)
<b>Minority % (Tract Range)</b>	51.7 - 98.2	2.2 - 17.8
<b>Minority % (Tract Average)</b>	70.5	10.3
<b>Poverty % (Tract Range)</b>	1.9 - 50.2	.4 - 15.9
<b>Poverty % (Tract Average)</b>	21.3	6.1
<b>Per Capita Income (Tract Range)</b>	\$9181 - \$44,665	\$23,284 - \$193,461

<b>Per Capita Income</b> (Tract Average)	\$25,637	\$49,978
<b>Multiple Units %</b> (Tract Range)	0 - 53.8	0 - 29.9
<b>Multiple Units %</b> (Tract Average)	15.3	5.4

Different occupations also present different risks of transmission, either because they involve more interpersonal contact, or because they are deemed “essential” and are thus exempted from stay-at-home mandates. Here too there are significant racial disparities. According to the federal Bureau of Labor Statistics, in 2017-2018, 29.9% of white workers had jobs that allowed them to work at home, and 25.6% did; by contrast, just 19.7% of Black workers could work at home, and 17.6% did.<sup>10</sup> This disparity has been compounded by racial disparities in jobs deemed “essential” either by the federal Cybersecurity and Infrastructure Security Agency or by the State of Delaware (see Table 2). Significantly, a study of COVID incidence across New York City neighborhoods suggested that occupational disparities like these in fact accounted for much of the racial disparity in COVID cases.<sup>11</sup>

Table 2. COVID-19 Risk Factors: Racial Disparities in Selected “Essential” Jobs, Data from BLS Report “Labor force characteristics by race and ethnicity 2018”

	Total (Thousands)	Black %	White %
Total Labor Force	155,761	12.3	78.0
Counselors	895	22.2	70.0
Social workers	835	23.6	68.9
Probation officers	104	27.0	69.3
Home health aides	3,629	26.2	64.3
Occupational therapy aides	2,035	35.8	55.8
Personal care aides	1,354	24.6	62.3
Postal service clerks	120	40.9	46.5
Postal service mail carriers	302	23.6	64.8
Taxi drivers and chauffeurs	777	27.9	52.5
Bus drivers	599	29.4	64.8

Finally, Black workers are also more likely to use public transportation: although Black Delawareans are 21.3% of the commuting population, according to the 2018 American Community Survey (ACS), they are 54.5% of those using public transportation to get to work.<sup>12</sup>

## Morbidity and Mortality Risk

Some biological risk factors for COVID morbidity and mortality are now fairly well-established. These include age (older persons are at greater risk), sex (men are at greater risk), and a variety of comorbidities. Among comorbidities, diabetes,<sup>13-16</sup> kidney disease,<sup>17,18</sup> hypertension,<sup>14,16,18</sup> cardiovascular disease,<sup>15,16,18</sup> obesity,<sup>16</sup> and pulmonary disease<sup>18</sup> are most consistently found to be associated with COVID morbidity and mortality. Most of these unequally burden Black Delawareans.

Nationally, the prevalence of Type 2 diabetes among Black Americans is significantly higher than it is among white Americans<sup>19</sup>; based on self-reports through the 2018 Behavioral Risk Factor Surveillance System (BRFSS), it is also higher among Black Delawareans (see Table 3). Research indicates a three-fold greater incidence of end-stage kidney disease among Black Americans as compared to white Americans,<sup>20</sup> and it too is higher among Black Delawareans. Deaths attributable to hypertension occur at roughly three times the rate for Black Americans as compared to white Americans<sup>21</sup>; hypertension is more prevalent among Black Delawareans. Cardiovascular disease disproportionately impacts Black Americans: across “nearly every metric,” the American Heart Association reports, “African Americans have poorer overall cardiovascular health than non-Hispanic whites, and CVD mortality is higher in African Americans than whites.”<sup>22</sup> For Black Delawareans, diagnosed coronary heart disease is less prevalent than it is among white Delawareans, but stroke is more prevalent. Nationally, research shows a consistent racial disparity in obesity,<sup>23</sup> though that disparity is correlated with social factors, and may disappear when Black and white subjects are matched by social context and income.<sup>24</sup> Nonetheless, calculations of Body Mass Index based on the BRFSS suggest that obesity is more common among Black Delawareans.<sup>25</sup> Finally, self-reported COPD is estimated to be slightly lower among Black Americans, a trend that also holds in Delaware; research suggests, however, that COPD may be under-diagnosed, particularly among racial minorities.<sup>26</sup> Importantly, research confirms the intuitive proposition that multiple comorbidities are correlated with higher mortality rates: the more comorbidities a patient presents, the higher the risk of mortality.<sup>27</sup>

Table 3. COVID-19 Risk Factors: Delaware Disparities by Race and Income, Data from 2018 Behavioral Risk Factor Surveillance System (BRFSS) Delaware Core Variables Report

	<b>Black %</b>	<b>White %</b>	<b>&lt;\$15,000%</b>	<b>\$75,000+ %</b>
<b>Diabetes</b>	15.3	11.8	13.8	7.9
<b>Kidney Disease</b>	5.5	3.6	6.7	2.2
<b>Coronary Heart Disease</b>	2.6	5.3	5.9	3.2
<b>Stroke</b>	5.6	3.8	9.1	2.0
<b>Hypertension (2017)</b>	39.4	36.4	43.7	29.4
<b>COPD</b>	6.9	7.5	13.6	3.1
<b>Obesity</b>	41.0	32.4	-	-
<b>No Health Care Coverage</b>	9.7	6.4	19.1	3.8

<b>Exercise in Past Month</b>	68.4	75.4	58.7	86.9
<b>Optimal Sleep (7-9 hours)</b>	46.9	64.3	54.8	66.5

While some biological features increase vulnerability to COVID morbidity and mortality, others might afford protection: nutrition,<sup>28</sup> sleep,<sup>29</sup> and exercise<sup>30</sup> enhance general health and immunity, and it can be plausibly theorized that this might include some immunity from COVID. But the BRFSS suggests that sleep and exercise may be more problematic for Black Delawareans. So too is nutrition: according to the 2018 ACS, 8.1% of white Americans report some degree of food insecurity, but over twice that percentage—21.2%—of Black Americans report the same. Insecurity was greater for households with children, a special concern with schools closed during the pandemic.

Access to health care is the final COVID risk factor, and Black Delawareans are more likely to have no health insurance or health care coverage. They are also likely to be disproportionately harmed by COVID triage schemes that ration resources based on comorbidities.<sup>31</sup>

## **Race as a Determinant of Health: Race in Delaware**

The roots of these racial disparities—in housing, occupations, health and health care, and more—run deep and wide. What follows is a severely truncated effort to trace them, and to describe some small portions of their astounding breadth today: a short history of race in Delaware, and an overview of its living legacies—of segregation, disproportionate poverty, and racial injustice—as they bear on the question of Black Delawareans’ health.

### **A Short History of Race in Delaware**

Delaware was a slave state, and as such, bears all the scars that follow from that original sin. But it was a singular curiosity, a slave state with almost no slaves—by 1860, over 90% of “colored” Delawareans were free—and the result was that “race” assumed a political significance unattached to slavery. “White Supremacy” in Delaware would thus prove especially durable, and especially pernicious. A quick glance at the schools might be instructive.

At the dawn of the twentieth century, “Black education” in Delaware was very nearly an oxymoron. Since 1821, the state had refused to fund schools for Black Delawareans, even while collecting taxes from the Black community; the education law of 1875 finally provided funding, but only through revenues raised by taxing the property of Black citizens. In 1897, segregated schools were made a state constitutional imperative, essentially memorializing the standing practice. Spurred by Pierre S. du Pont’s reform efforts, the education law of 1921 finally created a genuine public school system. But disparities persisted between Black and white schools, so thoroughly and so blatantly that in 1952, Chancellor Collins Seitz ordered the desegregation of two of Delaware’s public schools, finding the segregated schools too unequal to be maintained separately; that order was eventually affirmed by the U.S. Supreme Court as a part of *Brown v. Board of Education*. The schools affected by the order did in fact desegregate, and did so largely without incident. It was, however, merely the beginning, not the end, of the ongoing struggle to desegregate: the complete desegregation of the state’s schools would take another forty years. The state legislature heralded the end of desegregation with the Neighborhood Schools Act of 2000, and in its wake, the schools of New Castle County have now re-segregated, along both racial and economic lines.<sup>32</sup>

We have traveled a great distance, it seems, to get not very far.

### **Race and Segregation.**

Residential segregation is one legacy of Delaware’s history. In Delaware, as elsewhere, racially segregated neighborhoods have been created and perpetuated by a variety of public and private schemes: by federal mortgage insurance programs, which explicitly “redlined” Black and white neighborhoods; by racially restrictive covenants in deeds, enforced by state courts; by zoning policies that excluded affordable housing from some residential zones, while permitting industrial uses near others; by the racially discriminatory practices of realtors and mortgage lenders; by public works projects, including the construction of the interstate highway system, which fostered economic growth in some neighborhoods, while fragmenting or isolating others; by educational policies, which, through a variety of devices, created racially identifiable schools, to serve racially distinct neighborhoods; and more. The results are segregated neighborhoods with very different economic and employment opportunities; very different housing options; food options that differ both in quality and quantity; very different access to recreational spaces and very different exposures to environmental allergens, irritants, and hazards; and with neighborhood schools financed by very different tax bases.<sup>33</sup>

Our analysis of Delaware’s census tracts as described by the CDC’s 2018 Social Vulnerability Index confirms both the extent of segregation and some of these features. The fifty tracts with the smallest percentages of racial minorities are overwhelmingly white, and have a much lower average poverty rate, and much higher average per capita income; the fifty tracts with the largest percentages of racial minorities are in fact all majority-minority, and have a much higher average poverty rate and much lower per capita income. Significantly, an analysis of Colorado’s census tracts revealed a correlation between COVID incidence and per capita income: as income increased, the rate of incidence went down.<sup>8</sup>

There is also now increasing evidence of a link between COVID infection and air pollution.<sup>34</sup> A county-level analysis of COVID incidence determined that counties with higher proportions of Black residents have both higher rates of comorbidities and greater air pollution.<sup>35</sup> And Black Americans generally are disproportionately burdened by air pollution: while white Americans experience 17% less air pollution exposure than is caused by their consumption, Black Americans experience 56% more exposure than is caused by their consumption.<sup>36</sup>

### **Race and Disproportionate Poverty**

Poverty is significantly correlated with race in Delaware: according to the 2018 ACS, 9.1% of white Delawareans live in poverty, while for Black Delawareans, the rate more than doubles, to 20.2%. And wealth and poverty impact health in many ways.

COVID comorbidities are significantly correlated with poverty, and this alone could account for of many of the COVID racial disparities. Nationally, socio-economic status is strongly associated both with chronic kidney disease and with end stage renal disease progression<sup>37</sup>; with risk of diabetes<sup>38</sup>; with an increased risk of hypertension<sup>39</sup>; and with COPD.<sup>40</sup> The BRFSS confirms these trends for Delaware: each morbidity is much more prevalent among low-income Delawareans. Meanwhile, general health and immunity boosters—nutrition, rest, and exercise—are unequally distributed based on wealth. According to the 2018 ACS, just 5.4% of households with an income-to-poverty ratio of 1.85 or greater are food insecure, but for households with a ratio

under that, the percentage soars to 29.1%. And, according to the BRFSS, low-income Delawareans are less likely to get adequate sleep and exercise.

Timely access to quality health care also varies with poverty and wealth, as low-income Delawareans are much more likely to be without health insurance or other health care coverage. For this and other reasons, low socio-economic status is associated with delays in seeking medical care, and, as a consequence, with worse outcomes.<sup>41</sup>

Poverty also affects the quality and availability of housing, with obvious implications for health. Substandard housing is a direct and immediate threat to health; so too is homelessness.<sup>42</sup> The threat is particularly great during the pandemic: put simply, it is difficult to wash your hands regularly if you don't have running water or a sink.

Poverty and wealth also differentially affect access to the justice systems which can address—individually or systematically—inequities among the social determinants of health.<sup>43</sup> Delaware's eviction moratorium put in place at the start of the pandemic might soon be lifted; the law will still protect against wrongful evictions, but the vast majority of people who are poor will not have attorneys to represent them.<sup>44</sup> The predictable result is a flood of evictions, and many more Delawareans will be homeless and unsafe.

## **Racial injustice**

In at least three ways, racial injustice also directly impairs the health of Black Delawareans.

Racial bias in health care treatment is one way. A recent review concluded that “across virtually every type of diagnostic and treatment intervention Blacks and other minorities receive fewer procedures and poorer-quality medical care than do whites.”<sup>45</sup> For older Delawareans, especially vulnerable during the pandemic, the bias may be compounded by well-chronicled racial disparities in the access to, and the quality of, long term services and supports.<sup>46</sup>

Racial bias in state-sanctioned violence is a second way. Mass incarceration is a social determinant of—a social detriment to—the health of Black Delawareans. So too is police violence.<sup>47</sup> And so too is official indifference to the suffering of Black Delawareans, whatever may be that suffering's source.

The stress of living with racial injustice is a third way. Exposure to racial injustice, and the persistent threat of exposure to racial injustice, are stressors with a variety of health impacts. The stress induced by racism-related vigilance, for example, is an important determinate of hypertension in Black Americans and of sleep difficulties.<sup>21,48</sup> Recent research suggests that the experience of racial discrimination may adversely affect the mental and physical health of children, and that the impacts may extend into adulthood.<sup>45</sup>

A final reminder seems in order, about racial injustice and more: outside the contours of controlled studies, the various impacts of racial injustice really cannot be disaggregated, nor can they be separated from the impacts of segregation, or of poverty, or from the risks that inhere in comorbidities. This may be the real lesson from the findings of the U.S. Centers for Medicare and Medicaid Services, that through mid-May 2020, Black Medicare recipients were twice as likely to be infected with COVID-19 as white recipients, and four times as likely to be hospitalized.<sup>49</sup> As with life, so too the virus: it takes us as it finds us, each one whole person, with all our aggregated vulnerabilities, accumulated over the years. And it is to our lasting shame—or for some of us, much worse—that we are burdened by all these so unequally.

## Recommendations and Conclusion

The pandemic is an illustrative microcosm, highlighting racial inequities that endanger the health and lives of Black Delawareans. Some specific, concrete measures can provide some redress, and we offer the following as examples:

- Guarantee health care for all Black Delawareans, because despite the Affordable Care Act and the Medicaid expansion, nearly one in ten Black Delawareans still does not have health care coverage.
- Expand health education and follow-up access to health care for all Delawareans, because every Delawarean should know that chronic diseases are preventable and even reversible with a healthy lifestyle.
- Eliminate food deserts through the redirection of food waste and the enhancement of nutritious food assistance, because nutrition is vital to health.
- Provide redress for the unequal harms caused by pollution through a system of taxes and rebates,<sup>50</sup> because it is necessary to compensate those people, disproportionately poor and minorities, whose health has been endangered by environmental injustice.
- Guarantee to all persons a right to an attorney in eviction cases, because shelter is vital to health, especially during a pandemic, and legal representation is vital to justice.
- Repeal the Neighborhood Schools Act, because schools segregated by race and class remain inherently unequal, and education remains the key to our future.

These reforms, we believe, are necessary, but they are also, we recognize, not sufficient, not quite enough to meet the moment. As the disparities driving health inequity are systemic and widespread, so too the responses must be systemic and widespread. Segregation results from deep and broad structural problems; discriminatory treatment results from conscious but also unconscious bias. True remedies must be structural; for some of us, they must be restorative; and for some of us, they must be rehabilitative. It was, after all, fully a century ago, that W.E.B. Du Bois posed the question, still in need of answering: “Ask your own soul what it would say, if the next census were to report that half of Black America was dead and the other half dying.”<sup>51</sup>

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