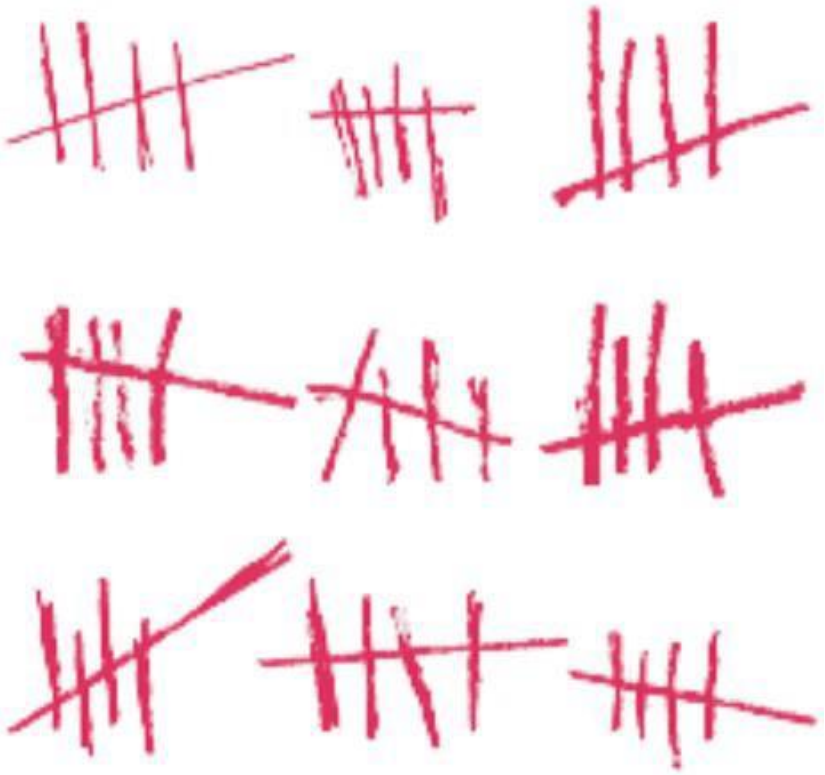
An Epidemic of Inequities:

Structural Racism and COVID-19 in the Black Community



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EXECUTIVE SUMMARY

According to the Centers for Disease Control and Prevention, about 30% of confirmed cases of COVID-19 in the United States have occurred among Black people, despite the fact that Blacks comprise just 13% of the national population. Blacks also make up about 33% of hospitalized COVID-19 patients, and those patients tend to be younger overall than White patients and more likely to die from the disease.

The national picture is indicative of what is occurring in major cities and states that track racial data on the pandemic. In Chicago, Blacks are 30% of the population but 60% of COVID-19 deaths, with the highest mortality rate of any racial or ethnic group (45 per 100,000). Across Illinois, Blacks are 15% of the population but account for 25% of COVID-19 cases, slightly more than White residents, who account for 24% of cases but 77% of the state's population.

Simply put: Black people are overrepresented in COVID-19 cases and deaths. Blacks die disproportionately from COVID-19 as compared to their share of the total population in 19 of the 24 states race data is available for deaths. The worst disparities in death rates occurred in states with the most segregated cities in the nation.

- In many Midwestern states, such as Illinois, Michigan, Indiana and Missouri, mortality rates among Blacks were more than double their population share.
- In Wisconsin, 39% of deaths were among Blacks, who are just 6% of the population.
- In Illinois currently, Blacks are more than 2.5 times more likely to die from the disease relative to their share of the population.
- Blacks in Illinois make up the majority of deaths at every age except those age 80 or older. Blacks make up 51% of deaths among those younger than 50, 45% of deaths among those in their 50s and 60s, and 41% of those in their 70s.

Using early preliminary data, this report aims to build a model that explains why Black people across the country are more likely to get infected with COVID-19 and why they are more likely to die from it. This model points to key risk factors stemming from longstanding structural racism and inequities that lead to collective community risk. This report uses Chicago and the state of Illinois as a case study.

EXPOSURE RISKS: WHY BLACK PEOPLE ARE MORE LIKELY TO GET INFECTED

Much of the nation remains hyper-segregated, especially in cities in the industrial Midwest and in the South. Segregation, as a mechanism of structural racism, determines much of our lives, particularly for Blacks, limiting what jobs people work, where people live and under what conditions. Segregation and structural racism drive infection risk.

Infection Risk 1: Employment and Occupational Conditions

Blacks have less access to benefits allowing for work from home and sick pay. About one-third of Americans have the types of jobs that allow them to work from home, compared to less than one-fifth of Blacks. Roughly one-quarter (24%) of US workers lack access to any form of sick pay, but among Blacks nearly half lacked sick pay (44%).

Blacks make up 13% of the workforce but are overrepresented in a number of service sector occupations that increase their risk of exposure to COVID-19. For example:

- *The travel industry*. Nearly one out of four TSA employees are Black (21%) and more than one out of four reservation/ticketing clerks are Black (26%).

- *Healthcare support occupations.* 26.7% of healthcare support workers are Black.
- *Food service and production industries*. Blacks comprise 18% of all food-processing workers and make up 20% of fast food workers.
- *Postal service*. 35% of postal service clerks and 42% of mail service sorters and processors are Black.
- *Transportation sectors.* 27% of bus drivers and 25% of industrial truck operators are Black.

Infection Risk 2: Housing

Where and how one lives can have a significant impact on infection spread throughout the household or place of residence. For example:

- *Shelters.* Nationally, 42% of those who live in shelters and 55% of homeless families living in shelters are Black. In Chicago, Blacks comprise about 30% of the population, yet are 80% of the sheltered population.
- *Lack of room to isolate an exposed or sick family member*. About 13% of Black families do not have the required bedrooms to meet existing household needs, and 42% of Black households have only one bathroom in their unit.
- *Intergenerational living.* Nearly 25% of Black households are intergenerational.
- *Living in overcrowded conditions.* In Chicago, of those who lived in doubled up conditions, more than half were Black.
- *Nursing home residents.* Blacks comprise 15.5% of nursing home residents nationally and 20% of the Illinois nursing home population.

Infection Risk 3: Barriers to Social Distancing

There are many barriers to social distancing for Blacks as compared to the general population. For example:

- *Car access and public transportation usage*. Approximately 20% of Black households lack access to a car, compared to 6.5% of White households. In major urban areas, nearly 35% of Blacks report using some form of public transit on a daily basis.
- *Lack of internet access.* 66% of Blacks had broadband access at home, compared to 80% of Whites.
- *Lack of access to telemedicine*. Blacks received just 10% of all telemedicine services under Medicare, compared to 80% of Whites.
- *Access to credit cards/banking*. Nearly 15% of Blacks are unbanked and more than 30% of Blacks do not have any credit cards, making it difficult to shop for essential items online or via delivery.
- *Homelessness*. Blacks make up 34% of the nation's homeless population, a rate *3.65 times* greater than their share of the total population. In Chicago, Blacks are 74% of the unsheltered population.
- *Wearing a mask*. Black men, in particular, may hesitate to wear masks out of legitimate fear of an increase in racial profiling by law enforcement.

Infection Risk 4: Mass Incarceration

The spread of infection is highly likely in jails and prisons, which have a steady influx of people into and out of the facilities. They are often overcrowded, with dormitory-style housing that requires people to sleep double or triple-bunked.

- *Employment in adult jails and prisons.* More than one-quarter of correctional treatment specialists were and more than one-third of correctional officers are Black.

- *Detention or imprisonment.* Blacks are disproportionately incarcerated and many of the areas in Chicago with high reentry rates overlap with areas where COVID-19 infections (and deaths) are disproportionately high. Nationally, the incarceration rate for Blacks was nearly six times the rate of Whites (1,549 per 100,000 vs. 272 per 100,000). In Cook County Jail, about 75% of the individuals are Black.

MORTALITY RISKS: WHY BLACK PEOPLE ARE MORE LIKELY TO DIE FROM COVID-19

Racial health disparities, such as what we are witnessing with the COVID-19 pandemic, occur because of broad, systemic conditions that deeply affect health and wellbeing but are outside of a person's individual control. These social determinants of health – education, poverty, social isolation, segregation, racism – work in multiple ways to harm individual and community health.

Mortality Risk 1: Hyper-segregation

It has been more than 40 years since residential segregation was identified as the structural foundation of race relations in the United States. Rising concentrations of poverty in Black neighborhoods perpetuate disadvantage among Blacks, isolating them from jobs, and maintaining poverty within segregated Black communities. Hyper-segregation refers not to where one lives by choice, but to how broader inequity is shaped, from housing to education to employment and so on. Roughly, one-third of all Black metropolitan residents lived in a hyper-segregated location.

- U.S. cities with the highest rates of segregation, such as Milwaukee (50% Black deaths vs 27% of population); Chicago (54% Black deaths vs. 30% of population); St. Louis (72% Black deaths vs. 46% of population); Washington DC (79% Black deaths vs. 60% of population); and New Orleans (76% Black deaths vs. 46% of the population), experience disparate mortality rates when it comes to their share of the population. These cities demonstrate higher COVID-19 Black-to-White mortality disparities compared to cities like Seattle, where segregation rates are lower.
- In Chicago, COVID-19 deaths are concentrated in several predominantly Black community areas, including Austin, West Garfield Park, North Lawndale, Auburn Gresham, Englewood and South Shore – neighborhoods that are hyper-segregated with high poverty rates.

Mortality Risk 2: Racial Discrimination in Healthcare and Access to Care

Healthcare remains unequal in its accessibility and the quality of care that Blacks receive compared to Whites. Both situations lead to worse COVID-19 health outcomes and greater risk of death.

- *Implicit bias among healthcare providers.* Implicit bias results in shorter patient-provider interactions, fewer referrals to assessments or specialists, under or over-utilization of diagnostic testing, recommending treatment options based on assumptions of finances or treatment adherence, and fewer special privileges and greater inconveniences during the course of medical care. Research has shown that in times of stress, distraction, exhaustion or when under pressure, these biases activate more readily.
- *Lack of access to care or inability to afford care*. Among non-incarcerated populations, 11% of uninsured individuals are Black. Nearly 20% of Blacks could not see a doctor because of cost, compared to 13% of Whites.

Mortality Risk 3: Poverty, Income, and Wealth

Numerous research studies have strongly associated poverty with poor health outcomes. This is because poverty is both a cause and consequence of poor health.

- *Poverty*. In 2018, 22% of Blacks lived in poverty compared to 9% of Whites.
- *Income*. On average, Black households earn 70% less than White households.
- *Wealth*. The wealth of the average White family is 41 times greater than the wealth of the average Black family.

Mortality Risk 4: Environmental Contaminants and Pollution

Many communities of color are located in areas with disproportionately poor air and water quality. The higher the levels of environmental pollutants in an area, the more vulnerable residents are to stroke, heart disease, lung cancer, and chronic and acute respiratory illnesses.

- *Air quality (Particulate Matter or PM) and pollution burden*. Whites experience nearly 20% *less* air pollution exposure than is caused by their consumption patterns and Blacks experience 56% more exposure to these pollutants relative to the exposure caused by their consumption.
- *Particulate matter and COVID-19 mortality*. A very slight increase in air pollution (1 mg/m3 higher of PM) results in a 15% higher death rate for COVID-19 after controlling for population density, pre-existing health conditions and race.
- *Lead levels.* Nationally, Black children had the highest rate of lead levels among any racial or ethnic group.

Mortality Risk 5: Pre-Existing Health Conditions

When someone becomes seriously ill with a COVID-19 infection, it places increased demands on the cardiovascular, respiratory and circulatory systems, increasing the likelihood of death.

- *Asthma.* Asthma is 24% more prevalent among Blacks than Whites, and Black asthmatics are three times more likely to die from complications than White people with asthma.
- *Cardiovascular disease.* Rates of diagnosed hypertension for Blacks are 35% higher than for Whites, and rates of death from heart disease were 25% higher among Black as compared to Whites (208 vs. 169, respectively).
- *Diabetes*. In 2017, the rate of diabetes among Black individuals was higher than among White individuals (10.9% vs. 8.0% respectively) and Blacks were *twice* as likely to die from diabetes compared to Whites.
- *Trauma, PTSD and mental health*. Blacks are two times more likely to report psychological hardship yet only 1/3 of Blacks get the mental health care they need, including outpatient services and psychotropic medications.

POLICY RECOMMENDATIONS BASED ON OUR FINDINGS

Short-Term Policy Recommendations to Address the Immediate Health

1. COVID-19 case and mortality counts must include demographic data such as race and ethnicity.
2. Prioritize racial equity in the proposed Coronavirus Containment Corps.
3. Create Strategic Testing and Triage Centers for Vulnerable Groups.
4. Allow SNAP beneficiaries to buy groceries online.
5. Expand access to Medicaid for people that lost employer-based health insurance.

6. Promote COVID-19 isolation facilities.
7. Fund grassroots and community-based social service agencies to provide wellness checks.
8. Fund faith communities to provide grief counseling and trauma support.
9. Continue criminal justice reforms in response to COVID-19 to reduce populations, like eliminating cash bond and reducing people detained or incarcerated.
10. Protect Essential workers
    - Provide paid sick leave for all essential workers.
    - Hazard pay for all essential workers.
    - Personal protective equipment (PPE) for essential workers.

Long-Term Policy Recommendations to Address the Social Determinants of Health

1. Reinvest in Black communities.
2. Reinvest in public health infrastructure.
3. Healthcare for all.
4. Fight for environmental justice and an end to environmental racism.
5. End mass incarceration.
6. Eradicate the racial wealth gap.

Foreword

As a new virus at the heart of a global pandemic, we will still learn much about COVID-19 in the coming weeks, months and years. The virus was first identified in China in December 2019 and was officially named COVID-19[A] by the World Health Organization in February 2020. This conceptual brief is a preliminary attempt to examine how risk factors are not born equally across populations, and how the Black community faces overlapping pre-existing and current risks that increase their likelihood for severe illness and death. First, a few caveats.

In an effort to get this to print as quickly as possible, we recognize we might not have captured all of the factors that lead to greater exposure, illness and death. We may release an updated version of this brief should those factors become known through additional research and observation.

Further, it is beyond the scope of this research team to provide weighted, statistically derived risk profiles for Black youth, adults and seniors as compared to other groups. Our aim is to provide a conceptual framework, highlighting factors that we believe put Black people at greater risk of contracting and dying from COVID-19. We hope that researchers and academics will use the information contained in this brief to develop these types of analyses. We also request that researchers share findings from these analyses broadly so that medical facilities, nonprofits and community-based organizations can better advocate for the needs of their Black patients, clients and community members.

Finally, the framework that we are using to talk about the disparate risk to Blacks will be immediately familiar to anyone with this lived experience, or to those that have read decades of research implicating segregation and structural racism on poorer health outcomes for Blacks. None of what is unfolding in the Black community regarding the COVID-19 pandemic is a surprise. History has shown that the potent mix of racism, segregation and economic austerity measures leads to heartbreaking consequences. Our goal here is not to reinvent an already squeaky wheel, but rather to put into one document for ease of reference the things we know to be true when it comes to Black COVID-19 vulnerability and risk.

"We are not makers of history. We are made by history."
Dr. Martin Luther King, Jr.

[A] In COVID-19, 'CO' stands for 'corona,' 'VI' for 'virus,' and 'D' for disease. The 19 refers to the year of identification. Formerly, this disease was referred to as "2019 novel coronavirus" or "2019-nCoV". (CDC, 2020).

Introduction

The COVID-19 pandemic is currently infecting thousands of people daily, and thousands will die from this illness before it is over (*See Appendix A for an overview of the COVID-19 virus*). Added to the human losses will be millions of jobs, businesses, and educational opportunities lost to the disruptions faced by social distancing measures designed to curb the spread of this virus.

The strategies used to contain a virus are based on public health principles of infection prevention and control. They rely heavily on governments, commerce, institutions and individuals to do their part to reduce the spread of COVID-19. Non-medical interventions, such as quarantine and isolation, prevent asymptomatic and ill people from spreading the virus in public, thus reducing exposure to the virus among well people.[1] They also seek to protect our frontline workers in medicine, emergency services, retail and service, transportation and distribution – essential jobs that cannot be stopped even during a health crisis. These approaches only work when people have the resources and ability to keep separate from one another, stay out of public places, and keep themselves in their homes as much as possible. (*See Appendix B for a list of these strategies*).

And here lies the problem. From a purely public health perspective, quarantine, isolation and personal preventative measures, like handwashing, are reasonable responses to a contagious, community-spreading virus. The problem is not in the approach, but in its limitations. **A proactive response to an emerging health crisis, no matter how assertive, cannot undo the decades of racism, discrimination and segregation that have harmed Black families and communities. People living in economically and racially segregated neighborhoods were at risk of this disease before it even had a name.** While it may never show up on an official list of risk factors, being Black in America is its own unique risk factor for infection and mortality from COVID-19.

This is because inequality is baked into every facet of the COVID-19 experience. The social and structural determinants of health and opportunity – racism, segregation, poverty, trauma – make people more vulnerable to bad things happening to them. These factors make it more difficult to live a life that minimizes economic, health and social risks. They create conditions that affect physical and mental wellness, which in turn leads to greater risk of chronic illness and death. They make it harder to adopt the very practices that others can adopt to keep people safe from illness and disease. Even if a person wanted to stay home, where they live, how they live, and how they earn an income will greatly determine whether they can engage in protective measures to reduce their risk of exposure.

It is our belief that Black families and communities will be disproportionately harmed by the short-term outcomes of illness and death and the long-term impacts on jobs, education and income. COVID-19, a profound, highly disruptive emergent health event, will not only shed light on existing racial injustices and inequities, it will exacerbate them greatly.

Where We Are Now: COVID-19 in the Black Community

As of this writing, we have reached over 1,000,000 cases of COVID-19, and more than 65,000 deaths across the United States.[B] Researchers are still learning about the new virus, including the short and long-term damage it may inflict upon people's bodies. Scientists and epidemiologists will be studying this disease, its transmission, prevalence and mortality far into the future. As with all emergent health threats, it is easier to identify patterns of infection and disease AFTER the crisis has peaked, not before. The truth is we will not know the full impact of this virus for many, many months.

However, it is still important in the interim for epidemiologists to create preliminary projections on the course and severity of this illness on population health. While there are some caveats in interpreting the findings because researchers don't have the data they need to create more precise calculations, these projections are the best tools we have to anticipating the impact of COVID-19 on the community. Responses to the health crisis must be grounded in evidence, and speculations that are based on science only risks further population harms to the community. As such this section will review the status of COVID-19 infections and deaths, but first will explain why it is so challenging to do so.

MORTALITY DATA CHALLENGES

Understanding Data Collection during a Health Pandemic

It is very difficult, in the midst of a pandemic, to accurately identify each individual that is exposed to the virus and then becomes ill and dies as a result. At this very moment, health care facilities and emergency departments nationwide are being inundated with very ill patients, resulting in an enormous strain on our already overburdened health care system and workforce. Even as our public health practitioners and medical experts work hard to identify cases, conduct contact tracing, and record and share useful data, the novelty of this virus means that we are building the road as we are driving down it. It just takes time to develop standardized data collection processes, tools and protocols that can help providers and researchers better understand, identify and track the impact of this disease.

Lack of Testing Creates Data Gaps and Can Result in the Underestimate of Infections and Deaths

In many communities, COVID-19 tests are in short supply. Testing sites that open at 9am have cars lined up at 4am, so that people can ensure their place in line. By 10am, sometimes there are no more tests.[2] . This will likely remain the case for many more months, as the lack of reagents and swabs means that scaling up testing, for now, is not currently possible.[3] Unavailability of tests presents a problem for anxious patients, but it is also a serious problem for epidemiologic research. Testing data allows researchers to more accurately estimate the number of people infected in a given area, and allow medical staff to attribute cause of death to COVID-19 infection. Testing data also enables better prediction of mortality by providing us with evidence of the number of COVID-19 deaths relative to the total population of people infected by the disease.

The lack of tests, and testing data, means that many epidemiologists are flying blind in their estimates. The first reported death from COVID-19 occurred in Washington state on February 28, 2020.[4] The patient, a man in his 50s, had a presumptive case of COVID-19, meaning that he had symptoms of COVID-19 but did not have a test to confirm diagnosis.[5] However, data from California indicates that the

[B] As of May 2, 2020.

first death from COVID-19 actually occurred weeks earlier. Autopsy results revealed that on February 7, 2020 a woman died from COVID-19 in Santa Clara County, CA.[6] County officials have since concluded that COVID-19 was likely circulating in the surrounding community as early as January, approximately 2-3 weeks prior to this death. As such, some deaths currently associated with pneumonia or other respiratory illnesses are likely to be re-coded as COVID-19 deaths in the future, adding to an already steep toll.[7]

COVID-19 MORTALITY IN THE UNITED STATES

Race and Infection Rates

According the Centers for Disease Control and Prevention, about 30% of confirmed cases have occurred among Black people, despite the fact that Blacks comprise just 13% of the population.[8] These findings must be interpreted with some caution because in about 58% of the cases, no race data was collected on patients.[9] Still these early estimates do suggest a disproportionate impact of COVID-19 on Black communities.

Race and Hospitalizations

CDC's report on the characteristics of people hospitalized in 14 states from March 1-31st for COVID-19 indicated that Blacks were overrepresented among patients. Among these states, 59% of the population is White, 18% is Black and 14% are Latinx. COVID-19 has a disproportionate impact on Black individuals throughout these states.[10]

- Blacks made up 33% of hospitalized patients, a percentage nearly double that of their rate in the population in the sample area;[11]
- Hospitalized Black patients were younger overall than White patients, comprising 34% of patients aged 18 to 49 and 36% of patients aged 50 to 64.[12]

Race and Mortality

The Kaiser Family Foundation collected data from the 33 states that provided the race of people that died and found significant racial disparities among COVID-19 deaths. Blacks die disproportionately from COVID-19 as compared to their share of the total population in 19 of the 24 states where race data is available for deaths.[13]

The worst disparities in deaths occurred in states with the most segregated cities in the nation.[14]

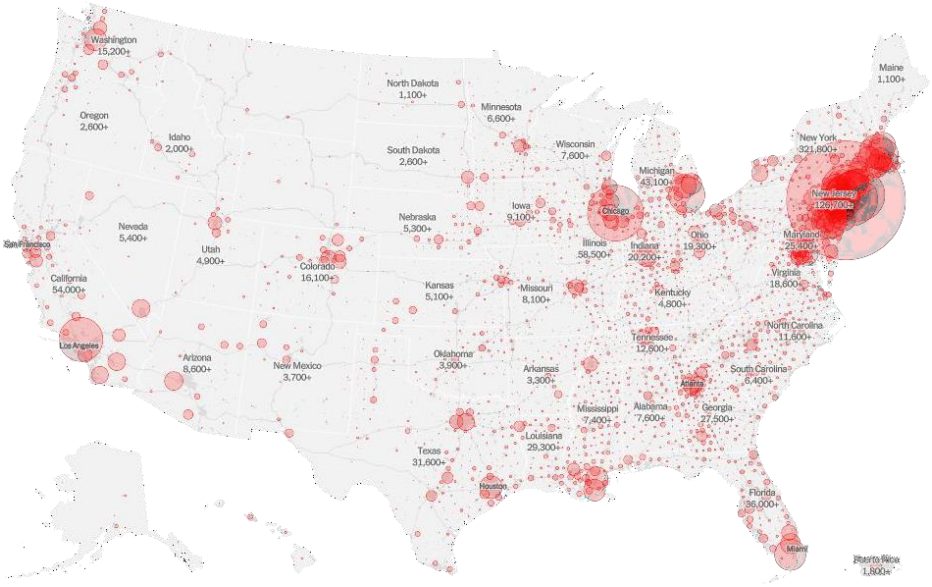
- In Wisconsin, 39% of deaths were among Blacks, despite comprising just 6% of the population, making the death rate more than 6 times higher than their population share;[15]
- In many Midwestern states like Illinois, Michigan, Indiana and Missouri, the percentage of deaths affecting Blacks were more than double their population share.[16],[17]

States and regions with large Black populations also experience major racial disparities in deaths stemming from COVID-19.

- In Washington DC, which is approximately 50% Black, 75% of deaths from COVID-19 are among Blacks.[18]

- In Mississippi, 66% of deaths were among Blacks, though they make up 48% of the population.[19]
- In Louisiana, Black individuals make up 59% of people dying from COVID-19, but are less than one-third of the population.[20]
- In Georgia, 51% of COVID-19 deaths were among Blacks, while they comprise less than 32% of Georgia's population.[21]

Figure 1: COVID-19 Cases Nationally: All Races (Dated 5-3-20)[22]



COVID-19 IN ILLNOIS

Currently, Illinois has the fourth highest number of cases in the nation, following New York, New Jersey, and Massachusetts.[23] Additionally, recent estimates of US counties with the highest number of COVID-19 cases rank Cook County 7th nationally, one of only 3 counties in the top ten outside New York State.[C] Likewise, Cook County also found its way into the top ten, ranking 7th in deaths resulting from COVID-19.

Top Counties by Number of Cases, US[24],[25]

Rank	Number	County	State
1	43,824	Queens	NY
2	37,564	Kings	NY
3	32,124	Nassau	NY
4	31,911	Bronx	NY

[C] Los Angeles County in California and Wayne County in Michigan are the other two major counties not located in New York.

5	29,567	Suffolk	NY
6	25,959	Westchester	NY
7	**25,811**	**Cook**	**IL**
8	17,803	New York	NY
9	17,537	Los Angeles	CA
10	14,994	Wayne	MI

Top Counties by Number of Deaths[26]

Rank	Deaths	County	State
1	3,114	Queens	NY
2	3,040	Kings	NY
3	2,272	Bronx	NY
4	1,471	Nassau	NY
5	1,396	Wayne	MI
6	1,359	New York	NY
7	**1,142**	**Cook**	**IL**
8	959	Suffolk	NY
9	932	Essex	NJ
10	907	Bergen	NJ

COVID-19 Hotspots in Illinois

Geographic Hotspots

Illinois is not impacted equally by the spread of COVID-19. Within Illinois, Cook County has the highest number of confirmed cases as well as the highest number of deaths. As indicated in the table below, the county's mortality rate is similarly staggering. Although the rate of increase in new cases has slowed throughout most counties in Illinois, some counties continue to show rapid, exponential growth including Jasper, Warren, Knox and Jefferson.[27]

Rank	County	Cases	Case Rate per 100K	Deaths	Death Rate per 100K
1	Cook	27,616	529	1,220	23
2	Lake	2,717	386	107	15
3	Will	2,009	292	125	18
4	Kankakee	297	267	26	23
5	DuPage	2,219	238	125	13
6	Rock Island	270	186	6	4
7	Kane	962	181	39	7
8	McHenry	459	149	27	9
9	St. Clair	350	133	19	7
10	Winnebago	279	97	12	4
NA	Illinois	39,658	313	1,806	14[28]

High Risk Occupational Hotspots

Multiple sectors within Illinois have been hit hard by the pandemic, including healthcare, law enforcement, and corrections. Statewide, 2,500 health care workers have contracted COVID-19 and 8 have died, and although IDPH believes this to be an undercount, these are already alarming figures that will likely grow as more data becomes available.[29] Nursing homes have also been significantly impacted – where in Illinois more than one third of deaths throughout the state have occurred among nursing home residents and employees.[30] Similar trends have been observed within the state's correctional and detention facilities where people restricted to close quarters face a constant risk of infection and illness far greater than that of the public. Located on Chicago's West side, Cook County Jail has already reported more than 800 cases among both detainees and employees, leading to seven deaths.[31] Across the Illinois Department of Corrections, every single correctional facility has announced COVID-19 infections among employees (225 cases) and prisoners (228), of whom 10 have died. Among Chicago's Law Enforcement, more than 365 police officers have been infected with at least two dead.[32],[33]

Illinois Infection Rate by Race

Infection rates must be read with the understanding that the current level of inadequate testing prevent an accurate count of the number of people infected by COVID-19. While Illinois is collecting race and ethnicity data, these fields are not always completed (coded as "left blank" in the datasets), so the true degree of disproportionality cannot be known at this time.[34] As more tests become available and as more people are tested, these numbers will change. Despite these limitations, current data pertaining to infection rates suggest significant racial and ethnic disparities.

- Black residents s are overrepresented in COVID-19 cases, making up only 15% of the Illinois population but 25% of cases.[35]
- Whites are underrepresented in COVID-19 cases, making up 63% of the population but less than one-quarter of cases.[36]
- Hispanic/Latinx people are also overrepresented in COVID-19 cases.[37]

Illinois Cases by Number, Race, and Under and Overrepresentation within Group[D38]

Race	Number	% Cases	% Population	Over/Under[E]
Hispanic	7,704	19%	17%	1.18
Asian	1,407	4%	5%	0.71
Other	1,729	4%	2%	2.18
Left Blank	9,909	25%	NA	NA
Black	9,321	24%	15%	1.62
White	9,558	24%	63%	0.38

Illinois Mortality by Race

Different groups are dying at significantly different rates in Illinois, and Black peoples appear disproportionately more likely to die from COVID-19 infections.[F] Epidemiologists caution that there is likely an undercount of deaths among all populations, and that the numbers will be statistically adjusted in the future to account for this limitation.[39],[40]

- Blacks are more than 2.5 times more likely to die from COVID-19 as compared to their share of the total population.[41]
- Hispanic/Latinx people are to-date underrepresented in COVID-19 deaths, comprising 17% of the population but only 12% of the deaths.[42]
- Forty-one percent of COVID-19 deaths occurred among Whites, but as they make up 63% of Illinois population, they are underrepresented in COVID-19 mortality.[43]

Illinois Deaths by Number, Race, and Under and Overrepresentation within Group[G],[44]

Race/Ethnicity	Number	% Deaths	% Population	Over/Under [H]
Hispanic	214	12%	17%	0.72
Asian	73	4%	5%	0.81
Other	23	1%	2%	0.64
Left Blank	86	5%	NA	NA
Black	663	37%	15%	2.55
White	736	41%	63%	0.65

[D] Cases as of 4/24/20

[E] Over/Under within group representation. Less than 1 is underrepresentation, over 1, is overrepresentation.

[F] Cases can be miscoded with the wrong race/ethnicity. For example, someone who is Latinx/Hispanic being coded as White.

[G] Cases as of 4/24/20

[H] Over/Under within group representation. Less than 1 is underrepresentation, over 1, is overrepresentation

Illinois Mortality: Age by Race

Knowing that Blacks on average have shorter life expectancy when compared to other groups, we wanted to know if there were also differences in COVID-19 mortality by both race and age.[45] Analysis of COVID-19 deaths by race and age indicates that there are significant age disparities, especially among those who are younger than 80. Black and Hispanic/Latinx individuals are overrepresented among people who have died of COVID-19 at younger ages, with Blacks representing the highest percentages in all age groups under 80 years old.

- For those under age 50, Blacks comprised 51% of deaths, Hispanic/Latinx[I] people made up nearly one third of deaths, and Whites comprised just 6% of deaths.[46]
- Among those aged 50-69, Blacks comprised 45% of deaths, Whites made up 30% of COVID-19 deaths and Hispanic/Latinx[J] made up 16%.[47]
- Among those in their 70s, Blackss made up 41% of deaths, while Whites comprised 39% and Hispanic/Latinx[K] made up just 10% of deaths.[48]
- The oldest decedents – those aged 80 and up – were majority white (54%), with Blacks comprising 28% of this age group, and Latinx[L] individuals comprising 8% of cases. This makes sense considering the average shorter life expectancy of Black individuals.[49]

Illinois Deaths by Race and Age in Percent and Total Number[M50]

Race	Under 50	50-69	70-79	80+
Hispanic	30%	16%	10%	8%
Asian	2%	3%	5%	5%
Other	0%	2%	1%	1%
Left Blank	11%	5%	4%	5%
Black	51%	45%	41%	28%
White	6%	30%	39%	54%
Number	47	467	480	742

COVID-19 IN CHICAGO

Testing has ramped up in Chicago and the demographics of confirmed cases has shifted dramatically over a short period. As with national and Illinois numbers, caution is urged in reviewing the case and mortality counts because of the limited availability of widespread testing. However, current counts suggest that Black people in Chicago are being disproportionately impacted by COVID-19.

- Blacks make up 30% of Chicago's population, but have the highest rates of COVID-19 infection (629 per 100,000) and COVID-19 mortality (45 per 100,000).[51]

[I] If cases coded as "Left Blank" are Latinx, these rates will be much higher ~ 41% of the deaths under age 50.
[J] If cases coded as "Left Blank" are Latinx, these rates will be much higher ~ 21% of the deaths in this age group.
[K] If cases coded as "Left Blank" are Latinx, these rates will be much higher ~ 14% of the deaths in this age group.
[L] If cases coded as "Left Blank" are Latinx, these rates will be much higher ~ 13% of the deaths in this age group.
[M] Cases as of 4/24/20

- COVID-19 deaths are concentrated in several predominantly Black community areas in Chicago, including Austin, West Garfield Park, North Lawndale, Englewood and South Shore.[52]

Chicago Department of Public Health Covid-19 Confirmed Cases, by Number, Percent and Rate[53]

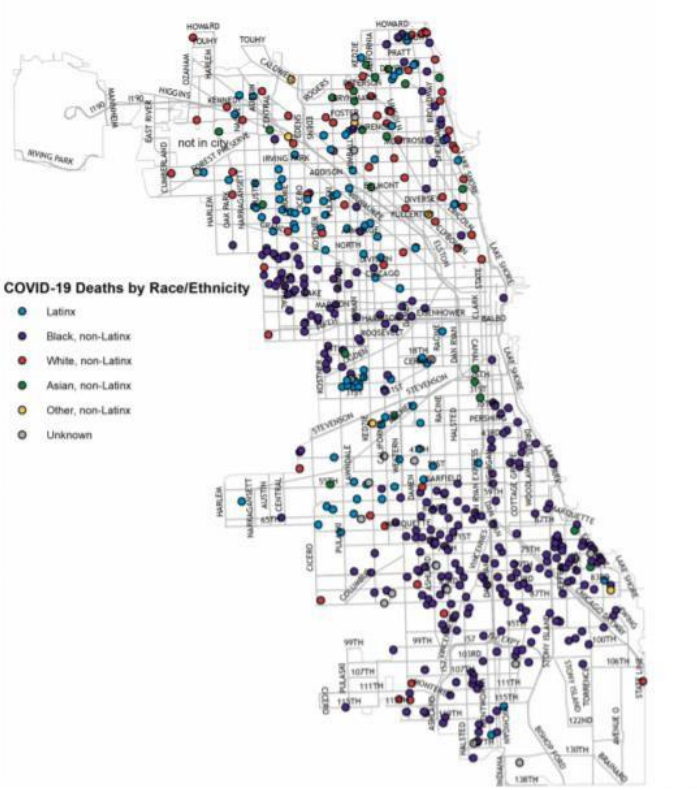
Race/Ethnicity[N]	#	%	% Pop	Rate
Latinx	3,068	27.3%	29.0%	358.3
Black	4,932	43.9%	30.1%	628.9
White	2,210	19.7%	32.8%	245.6
Asian	423	3.8%	6.4%	221.9
Other	596	5.3%	3.0%	498.9
Under investigation	4,170	27.1%	NA	NA

Chicago Department of Public Health Covid-19 Confirmed Deaths by Number, Percent and Rate[54]

Race/Ethnicity[O]	#	%	% Pop	Rate
Latinx	126	19.9%	29.0%	16.2
Black	354	56.0%	30.1%	45.1
White	112	17.7%	32.8%	12.4
Asian	33	5.2%	6.4%	18.3
Other	7	1.2%	3.0%	5.9
Under investigation	29	4.4%	NA	NA

[N] Race/Ethnicity is recorded by medical provider
[O] Race/Ethnicity is recorded by medical provider

Figure x: Deaths in Chicago by Race and Geography[55],[P]



[P] These are for mortality data up to April 21,2020. Includes 590 of 593 confirmed cases does not include cases under investigation. Providers reporting to CDPH through the Illinois' National Electronic Disease Surveillance System (I-NEDSS).

Conceptual Framework: Explaining the Increased COVID-19 Risk among Blacks

COVID-19 is a novel virus, but the path that it will tear through the Black community is by no means novel. When researchers want to study how key economic, health and social outcomes are affecting residents in a given area, they often overlay this data onto maps or neighborhoods or cities. Almost without fail, the worst economic, health and social outcomes are clearly mapped over predominantly Black community areas. We have decades of research findings from health, education, employment and income studies that show the damaging impact of racism, segregation, poverty, community disinvestment and mass incarceration on Black families and communities. All available evidence points to COVID-19 not being an exception.

Genetics and personal health behaviors play an important role in illness and disease, but more important are all of the economic, environmental and social factors that affect health and wellbeing. In public health, these factors are known as the social determinants of health.[56] Things such as a neighborhood's housing stock and transportation options, access to healthy foods and health care, social connection and social isolation all play a role in individual and community health. This is no less the case for an emerging health crisis like COVID-19.

This virus will affect different groups in the United States in dissimilar ways. Different groups will experience different conditions and situations that will either increase or decrease their risk of infection and serious illness. Because of the longstanding legacy of hyper-segregation and structural racism, Black people entered this pandemic at a disadvantage, before the virus started circulating widely. The characteristics of this novel virus, particularly how it is spread, conspires to keep Black individuals at a high risk of infection, illness and death because of household, social and work experiences.

Of course, Blacks will not be the only group significantly harmed by this disease: families living in poverty, families with one or more essential workers, families with undocumented loved ones, families with medically vulnerable members will all bear the weight of risk and illness more severely. Our concern, especially in a major urban city like Chicago, is that Blacks are also represented in many other groups at higher risk of illness. **Remember, people are not at risk because they are Black; they are at risk because being Black in the United States exposes them to a legacy of segregation, racism and stressors that negatively impacts their health and wellbeing**.

The intent of this research paper is to provide a risk framework and comprehensive overview of all of the factors that we believe are relevant to increasing both risk of infection and death among Blacks. For the purposes of this paper, we are accepting as a given that there will be disparate health and social impacts of COVID-19 for Blacks that result, in part, from known social determinants of health.

The proposed framework is made up of two parts: (1) *exposure risk factors* that identify conditions that increase the likelihood that Blacks will be exposed to the COVID-19 virus, and (2) *mortality risk factors* that identify conditions that increase the likelihood that Blacks will die from a COVID-19 infection. We theorize that when added together, the total impact of these factors creates a risk profile for Blacks that will be significantly higher than for other groups. Further, we believe the risk to individuals increases the lower the household socioeconomic status is and the more concentrated the racial and economic segregation of a given community area are.

EXPOSURE RISKS: WHY BLACKS ARE MORE LIKELY TO GET INFECTED BY COVID-19

Infection with the COVID-19 virus requires exposure to the virus, which is why the government response is so singularly focused on quarantine, isolation and physical distancing as critical tools for reducing the spread of illness. Questions remain regarding transmissibility, but there is general agreement that close contact is a risk factor for exposure.[57] While many people think this means spending considerable time with a person with test-confirmed COVID-19, close contact is also defined as being within 6 feet of an infected person for a period of 10 minutes or longer – whether or not that person is showing symptoms.[58]

This is why it is so critically important to understand all the possible exposure points that people might face in a day. Exposure points are those moments in which people interact with others, either in their home, in their workplace or in public. Not all exposure points are created equal – encountering someone on the street at a distance of 20 feet is very different from sitting 6 feet away from someone on a closed bus, or 3 feet away from the customer paying for groceries in a check-out line. Everyone is potentially at risk of infection, but some people are considerably more so. Any person that has routine contact with the public because of their job, their need for public transportation, their living environment or other barriers to staying home are at increased risk of exposure and infection. This section will examine those factors in detail.

Infection Risk 1: Employment and Occupational Conditions

Employers have had varying responses to the COVID-19 pandemic, ranging from complete closure, to virtual/remote working to operations as usual. Most states have put shelter-in-place orders in effect, but these orders generally exempt essential businesses and services from closure. Essential businesses include the following: healthcare, human services, infrastructure, public safety, critical trades, grocery and pharmacy stores, mail and delivery, transportation. Many of these essential businesses cannot transition to remote/off-site work, putting workers at risk of exposure.

Future research will help pinpoint when the virus began circulating in the community, but we can assume that it was circulating in some hot spot areas in the United States before the shelter-in-place orders were issued. Many individuals, especially those whose jobs required personal contact with large numbers of people, were likely to have been exposed to COVID-19 prior to the United States enacting state-based shutdowns. Some of these jobs went on to be classified as essential roles amidst shelter-in-place orders, so many people are continuing to work in public despite increased risk of exposure. Blacks s comprise only 13% of the general population, but as the following information shows, they are overrepresented in many occupations with high risk of public exposure.[59]

Employment in Occupations with a High Risk of Exposure

Travel and Hospitality

Across the nation, travel is curtailed and the airports are relatively empty.[Q] This has resulted in fewer workers in the airports and in the air, as the need for TSA agents, customer service representatives, baggage handlers and flight attendants has greatly decreased. However, this large pool of workers was at increased risk prior to widespread acceptance of the threat of COVID-19 and continue to remain at an

[Q] As of late April, 2020.

increased risk. Air travel is an efficient and effective means of transporting large volumes of people, many of whom congregate in busy airports. These are fertile environments for viral transmission. People who had asymptomatic or mild forms of illness, prior to the travel industry slowing down, may have helped "seed" the virus in Black communities, spreading infection without knowing it.[R] While business has slowed, many sectors within tourism, travel and hospitality industries are continuing to operate during this time, which means airline and hotel workers are still at risk.

Black individuals are overrepresented in travel and hospitality industries:

- One in six flight attendants are Black;[60]
- Nearly one out of four TSA employees are Black;[61]
- More than one out of four reservation/ticketing clerks are Black;[62]
- More than one out of five hotel/motel and resort desk clerks are Black;[63] and
- More than one in four baggage handlers are Black.[64]

Healthcare Practitioners and Health Care Support Roles

As with workers in the travel and hospitality industries, many people working in the healthcare industry were likely exposed to COVID-19 prior to the shelter-in-place orders. These workers, in particular, remain at high risk of exposure due to their consistent proximity to patients infected with the virus. Health care workers employed in hospitals, nursing homes, mental health facilities and community-based clinics are working critically essential jobs that, by their very nature, require close, physical contact with other people. Not included in the statistics below, but no less important, include the housekeeping and facilities staff, medical records specialists and other non-medical personnel that ensure health care staff can successfully perform their jobs.

Blacks are overrepresented in a number of healthcare professions and support occupations:

- More than one-quarter of healthcare support workers are Black (26.7%);[65]
- Approximately 23% of respiratory therapists are Black;[66]
- Blacks make up 27% of licensed vocational nurses;[67]
- More than one-quarter of workers who prepare medical equipment are Black;
- About 38% of nursing, psychiatric and home health aides are Black;[68] and
- 24% of phlebotomists are Black.[69]

Community, Social Services and Personal Care

Social service agencies and community-based nonprofit organizations are another setting in which workers may have been at greater risk prior to the shelter-in-place orders because of their direct service delivery with some of the most vulnerable community members. Occupations within this field, including social work, have been identified as essential and commonly require in-person interaction and travel to

[R] Prior to laboratory confirmation of COVID-19, asymptomatic people can unknowingly become transmitters in the community. These people can act as the seeds of community spread – their interactions with others on the train, in workplaces, in public spaces and even in their homes can lead to local outbreaks and infection clusters that then spread more broadly across the community. A CDC report of a Chicago man that served as one of these "super spreaders" shows how a cluster outbreak can grow and expand in the community: https://www.cdc.gov/mmwr/volumes/69/wr/mm6915e1.htm?s_cid=mm6915e1_w

and from hospitals, homes, or other group quarters. While some nonprofit operations have been able to transition to virtual or remote client services, many that help clients with basic human needs (food, shelter, housing, and disability services) must continue to provide in-person services, putting those workers at continued risk of exposure.

Black people are overrepresented in community social services and personal care occupations:

- 25% of social service assistants are Black;[70]
- 18% of childcare workers are Black;[71]
- Nearly one in four eligibility interviewers for government benefits are Black;[72] and
- More than 25% of personal care aides are Black.[73]

Security and Protective Services

Protective services remain essential during shelter-in-place orders. These workers are important for surveillance and protection, both to monitor operating businesses and to watch over businesses and buildings that have temporarily closed.

Black people are overrepresented in security and protective services occupations:

- Security guards and security officers are disproportionately African American, comprising nearly one out of three employees.[74]

Food Service and Food Production

Food production and food service are essential businesses. Food production comprises a range of occupations, including meat processing and packaging and preparing baked, canned and bagged goods for consumer and business sales. Workers in these industries tend to work in large facilities with a large workforce, and in some facilities, maintaining the appropriate social distancing guidelines can be difficult.[75] And while restaurants in a majority of states have closed their dining rooms to patrons, they are still allowed to prepare and deliver food. Although the risk of exposure is lowered because of these restrictions, restaurant work is still done on-site and with colleagues. Further, food service workers still encounter the public through drive-thrus, curbside pick-up and independent food delivery services.

Blacks are disproportionately represented in the food service and production industries:

- Blacks are 18% of all food processing workers;[76]
- 17% of Blacks are meat poultry and fish processing workers;[77]
- Blacks make up 1 out of five fast food workers;[78]
- 18% of Blacks are employed as cooks;[79]
- One out of five non-restaurant food service workers are Black (e.g. food service in institutional settings);[80] and
- 18% of cashiers are Black.[81]

Postal Service

Postal service must continue in spite of the COVID-19 pandemic. Mail carriers, postal service clerks and postal service mail sorters all continue working in large facilities and in the community, as required by

their jobs. These workers not only have the potential to interact with many people throughout their workday, but they are also handling packages and products repeatedly. Concerns about surface transmission of the virus makes this an additional exposure risk for these workers.

Many postal service workers are disproportionately Black:

- 35% of postal service clerks are Black;[82]
- 42% of mail service sorters and processors are Black;[83] and
- One out of five mail carriers is Black.[84]

Transportation and Delivery Drivers

Essential businesses and services rely on workers to maintain workplaces, and to produce and transport goods, services and essential workers. Some of these occupational roles are very public facing, while others have large workforces, creating a situation in which workers can encounter a large number of people each day.

Blacks are overrepresented within these occupations:

- 27% of bus drivers are Black;[85]
- Nearly 30% of taxi drivers are Black;[86]
- One out of four industrial truck operators are Black;[87] and
- Nearly one quarter of railroad conductors are Black.[88]

The Gig Economy

The gig economy is the term used to describe a variety of freelance, independent contractor or non-traditional labor arrangements between the worker and the individual or company that pays them.

- Approximately 20-36% of workers participate in the gig economy in a given month, and 10% of workers rely on gig employment as their sole source of income.[89],[90]
- Data on Black participation in the gig economy varies considerably by research report, ranging from 8-27% of all gig workers.[91],[92],[93]
- One study, notes that 55% of Black individuals rely on income earned from the gig economy as their primary source of income.[94]

Gig economy jobs such as personal shopping, ride sharing, contract delivery and other services pose significant exposure risks. In fact, the risk may be increased under these conditions:

- The gig worker is often unable to access personal protective equipment or other preventative measures that may be available in a traditional workplace;
- Lack of insurance and sick pay for some workers means that they may continue to work when sick and may themselves become a source of exposure risk to both their families and clients.

Reductions in Unionized Employment

Unions are decreasing, and with them, the protections associated with union membership. These institutions serve as a bridge to the middle class and provide a critical safety net for their members.[95] Unions increase socioeconomic mobility for people of color while also securing access to key public health benefits like sick pay or hazard pay, improve working conditions, and protect worker rights.[96] In one report, Black workers that were in a union received wages that were 27% higher than their non-union peers and had higher access to health insurance coverage and retirement benefits.[97],[98]

While Black workers are more likely than other racial or ethnic groups to be unionized, union jobs have been declining for decades, with only 14.2% of Black workers having union representation in 2015 compared to 31.7% in 1983.[99] Non-union workers of color are particularly vulnerable in the era of COVID-19, as concerns of workplace safety and job security are increasingly front of mind during this time.[100]

Employment in Jobs Lacking Remote Work Options

One of the earliest CDC and government recommendations to limit the risk of virus spread and exposure was to encourage businesses to create or expand remote working arrangements. Essential jobs, by nature of their characteristics, are not ones that can easily accommodate these kinds of arrangements. Few of the occupations listed in the previous section aligns well with teleworking.

- Nearly one out of three Americans have the types of jobs that would allow them to work from home but less than 20% of Blacks are employed in jobs that provide these options.[101]
- About 25% of American workers work from home, compared to only 17% of Blacks that do so, creating greater risk as compared to the general population.[102]

Employment in Companies Not Providing Sick Pay

Government and public health officials alike have implored residents who have been exposed to the virus and those exhibiting symptoms to stay home to prevent community spread of COVID-19. However, not all workers are realistically able to do so. The need to maintain income when working jobs without sick pay policies can be the deciding factor in whether a person is able to self-isolate.

- Roughly 24% of US civilian workers lack access to any form of sick pay, nearly 34 million people.[103]
- One in-depth study examined access to sick pay among Black workers (regardless of occupation) and found that only 56% had access to paid sick leave and 44% had access to paid leave to care for a sick family member.[104]

Employment in Jobs Lacking Personal Protective Equipment (PPE)

While Black people continue occupying roles that hold our economy together during the current crisis, a variety of the occupations they more commonly maintain may hinder the ability of workers to engage in personal protective practices. Cashiers and grocery store workers helping multiple customers in quick succession depend on the availability of PPE particularly in the absence of hand sanitizer and surface disinfectants. Being that Blacks are more likely to occupy roles in supermarkets across the country, particularly in urban areas, implementing protective measures in grocery settings can have an outsized

impact on Black populations.[105] Even the mere act of washing one's hands regularly – the seemingly simplest recommendation of all provided during this crisis – becomes difficult for the distribution center worker, the cashier, or the delivery driver that cannot easily abandon their post to find a sink and some soap. The sheer volume of people that a grocery or distribution worker could encounter daily, as well as the pace and demands of their work, make PPE a necessity to reduce their exposure risk.

Infection Risk 2: Housing

For many of us, our home seems like a sanctuary and a safe place in the world. The shelter-in-place orders recognize that a controlled environment away from the public is one of the best ways to minimize exposure risk. Therefore, it can be upsetting to learn that there are housing factors that increase risk exposure, such as crowded living spaces for those who are housed, and shared living spaces for those who are unhoused. While exposure risks can be contained through careful cleaning and disinfecting, not all of the prevention recommendations are possible for all families and housing situations.

Household Exposure Risks

Lack of Isolation Space

One of the recommendations for reducing exposure to the virus is to isolate any individuals with COVID-19 symptoms, providing them with their own bedroom and bathroom if possible. This proves very challenging for families that do not live in housing units large enough for this kind of isolation, and is even more difficult for families living in crowded units.

Black individuals s more commonly live in housing that makes it hard to isolate:

- Approximately 13% of Black families do not have the required bedrooms to meet existing household needs, let alone additional space needed for isolation;[S] and
- Two out of five Black households (42%) only have one bathroom in their unit.[106]

Intergenerational Households and Doubling Up

The CDC has recognized that individuals aged 60 and older are at higher risk of serious complications from COVID-19 infection. To date, 8 of the 10 deaths associated with COVID-19 in the United States have occurred among individuals aged 65 and older.[107] Adults and older children leaving the home to work or run errands for the family run the risk of public exposure to the virus, which in turn creates a transmission risk for any elderly people in the home, even if they themselves are not going in public. While younger children are now engaging in at-home learning following school closures, should the schools reopen again, they also pose risk to older family members in the home.

Black families have a long history of intergenerational living arrangements, and are most likely to live in an intergenerational household when compared to other groups:

- Nearly 25% of Black households are intergenerational;[108],[109]

[S] A number of different indicators, including persons-per-room (PPR), persons-per-bedroom (PPB) and unit-square footage per person (USFPP) measures crowded housing. Standards for occupied household units are as follows: 1.01 PPR is considered crowded; 2.01 PPB is considered crowded; less than 200 square feet per person is considered crowded https://www.census.gov/content/dam/Census/programs-surveys/ahs/publications/Measuring_Overcrowding_in_Hsg.pdf

- Black children are more likely than other children to be raised by their grandparents;[110]
- Over half of Black children who receive care from a grandparent also have at least one parent living in the home;[111] and
- N Chicago, of those who lived in doubled up conditions, more than half were Black, which in 2019 was more than 35,000[112].

Group Quarters Exposure Risks

Group quarters, such as nursing homes and shelters, have unique characteristics that make them more prone to outbreaks of infectious disease.[113] An ongoing rotation of staff, volunteers, visitors and clients regularly cycle in and out of these facilities, and this movement of people helps circulate viruses and other infectious diseases. Closed and contained spaces, particularly those with limited or poor ventilation, are efficient for spreading a virus through a building, as are multi-person sleeping arrangements in large rooms or buildings. Finally, many of the people who are housed in these facilities are more likely to have health conditions (or predispositions to health conditions) that can make them more susceptible to infection and serious illness.

Living in Nursing Homes

Early in the COVID-19 pandemic, some of the largest and most deadly outbreaks of COVID-19 infection occurred in nursing homes and other long-term care facilities.[114] Many factors led to these initial cluster outbreaks, including a higher percentage of medically vulnerable residents, resident gatherings in shared day rooms and dining rooms, shared bedrooms, physical space requirements that made it difficult to isolate patients showing symptoms, and a lack of personal protective equipment for staff moving from patient to patient to provide care.[115] While the CDC and the Central Management System (CMS) issued guidance, and changes have been occurring, nursing home residences still carry a more considerable risk of virus exposure.

Blacks are a large part of the nursing home population:

- Blacks as a whole make up less than 13% of the population, but make up 15.5% of nursing home residents;[116]
- Illinois's nursing home population is approximately 20% Black based on data from Medicaid and Medicare certified nursing homes;[117] and
- Blacks also comprise a small, but growing, percentage of other long-term services (based on most recent numbers).[118]

Staying in Homeless Shelters and Transitional Housing

Homelessness is a serious problem in the United States, and poses unique COVID-19 risks for people who are unhoused. Approximately 568,000 people were identified as homeless during the most recent 2019 point-in-time count (PIC), and of these homeless individuals, approximately 356,000 were sheltered in some way (homeless shelters, transitional housing, overnight housing facility, etc.).[119] Blacks make up a large share of this population.

People who are homeless risk exposure because most of the services, including meal programs, housing programs and medical assistance, are provided in group settings – a setting in which people congregate together in close proximity for an extended period of time. These are vital, needed services, so this is a

not a broad criticism of these programs, but instead draws attention to the factors that make virus exposure more likely.

Black individuals and families comprise a disproportionate percentage of the United States sheltered population:

- Across the nation, Blacks make up 34% of the homeless population, meaning that African Americans are disproportionately homeless at a rate of *3.65 times* their population rate;[120], [121]
- 42% of those who live in shelters are African Americans;[122]
- Among homeless families living in shelters, 55% are African Americans;[123] In Chicago, 80% of the sheltered population is Black, despite the fact that Blackss comprise less than 30% of Chicago's population.[124]

Infection Risk 3: Barriers to Social Distancing

The ability to fully shelter-in-place is dependent on whether or not a person has access to the resources they need to complete daily living activities from home, including work, shopping, and accessing medical care or other needed services and having a place in which to do so. There are financial, technological and transportation-related barriers that make it very difficult for some people to adopt social distancing recommendations, simply because they do not have the resources to do so.

Financial Barriers

Living Paycheck to Paycheck

The guidance to stay home when sick is reasonable, but becomes impractical when certain barriers stand in the way. While no one wishes to put others at risk of infection, the need to sustain household income in spite of possible COVID-19 symptoms may, by necessity, override a person's ability to self-isolate. Those without symptoms might also not be able to afford to quit, take time off or use vacation time to minimize their interactions in public. Many workers are living "paycheck-to-paycheck" and do not have emergency funds to cover them in the event of income and/or job losses. Estimates vary, but range from 70-78% of workers have identified that they would find it difficult to meet their financial obligations if they missed a paycheck or did not receive an expected amount of income.[125], [126]

Black people, particularly those with lower education and income levels, experience many financial hardships:

- Between 22-34% of Black individuals cannot fully pay their monthly bills in a typical month[127]; and
- If a household experienced a $400 increase in expenses (or decrease in income), between 28-58% of Blacks would not be able to pay monthly bills[128].

Less Access to Credit/Debit

Approximately 70% of people living in the United States have credit cards, and for many, they have become as important a source of household income as earned pay.[129] While credit card debt is a significant problem for some households, credit does provide a measure of financial safety and security in the event of unexpected financial hardship. Beyond serving as a financial safety net, credit cards – as well as bank-issued debit cards – are required for making online purchases of groceries and supplies.

This paper is not advocating for increased credit card use, particularly because credit card fees and rates are especially high for people with poor to moderate credit scores. However, we do acknowledge their importance as a tool for social distancing.

Black individuals are much more likely to be unbanked or underbanked when compared to other groups, and are more likely to be denied credit:

- Nearly 15% of Blacks are unbanked compared to just 3% of Whites;[130];[T]
- Over 1 in 3 Blacks is underbanked;[U131]
- More than 30% of Blacks do not have any credit cards;[132]
- Nearly 60% of Blacks making less than $40,000 have been denied credit;[133]
- Four out of ten Blacks earning $40,000-$100,000 have been denied credit[134].

Food Access Issues

Insufficient household income for necessary expenses such as food can be offset by government-issued food nutrition benefits, such as the Supplemental Nutrition Assistance Program (SNAP) or the Special Supplemental Nutrition Program for Women Infants and Children (WIC), or through receipt of donated groceries and supplies. The federal government has allowed states to provide the maximum allowable benefits and emergency allotments to SNAP recipients in an effort to minimize hardship.[135] Additionally, food banks, social service agencies and even school districts have stepped up, offering food and supplies to individuals and families in need.

These efforts are needed and commendable, so including them as a risk factor should not be perceived as negative, nor is it a commentary on their practices and procedures. Rather, it is mentioned here because it is a public exposure point for individuals and families who must rely on these beneficial services. SNAP and WIC recipients receive paper coupons or electronic payment cards that must be used on eligible foods at approved retail vendors or centers. Food banks and other social service grocery programs have delivery capacity for some special populations, but many people must travel to community sites to pick up their supplies.

Blacks are overrepresented among people living with food insecurity:

- 21% of Black people are food insecure;[136];[V]
- One in three recipients of groceries and goods from food programs are Black;[137] and
- About 25% of SNAP recipients in the US and Illinois are Black.[138]

[T] Someone who is unbanked does not have a checking, savings or money market account at a financial institution. They are most likely to rely on alternative financial services including money orders, check cashing services, payday and auto title loans.

[U] Someone who is underbanked have some form of bank account, but also uses alternative financial services for some to all of their financial transactions.

[V] Food insecurity is defined as the inability to consistently purchase an adequate amount of food for the individual or household due to insufficient household income or financial resources. People living with food insecurity often have multiple, overlapping issues including poverty, low wages, lack of affordable housing, and medical or other debts.

Technology Barriers

Internet Access

As states began to issue their shelter-in-place orders and limit public interaction, more and more of our daily activities transitioned to a virtual or remote operating system. Workplaces introduced more virtual meetings, schools and colleges switched to virtual learning platforms, doctors and mental health providers expanded telehealth services, and consumers increased their use of online shopping and food delivery services. All of these conveniences reduced the amount of time people needed to spend in public, but these resources are not available to everyone.

Internet connectivity and access to computers are critical to adopting these new virtual practices, but Black households are less likely to have internet access:

- About 80% of Whites have broadband access at home compared to just 66% of Blacks;[139] and
- Nearly one quarter of Blacks rely on their smartphones for Internet use (23%) compared to just 12% of Whites.[140]

Telemedicine Access and Uptake

As patients testing positive for COVID-19 inundate hospitals and clinics, people have been encouraged to use telemedicine options that allow clinicians to evaluate symptoms remotely.[141] Additionally, public health and government officials have been encouraging people to avoid medical clinics and hospitals whenever possible to reduce the flow of people into these facilities and to decrease the risk of virus exposure among people not yet infected with COVID-19.[142]

Individuals throughout the Black community may find these recommendations harder to follow for several reasons. Many states have developed free telemedicine options for COVID-19 screening and medical support, but these options are not available for other health conditions. Blacks that are uninsured lack access to telemedicine services and may still visit clinics and emergency departments for non-COVID-19 care. Even among insured Blacks, telemedicine use is uncommon.[143] Prior to COVID-19, Medicare, Medicaid, private insurance and federally qualified health center requirements limited telemedicine access.[144],[145],[146] As a result, providers and patients alike face a learning curve that must be overcome before the U.S. can effectively use telemedicine as a tool for social distancing.

Black people are more likely to be uninsured and their telemedicine uptake is lower:

- Nationally, 11% of Blacks aged 19-64 are uninsured, but this is as high as 18% in some states;[147]
- Approximately 10% of all telemedicine services were received by Black Medicare beneficiaries, compared to 80% of White beneficiaries;[148] and
- Medicaid telemedicine use rates were four per 10,000 Black beneficiaries, compared to 12 per 10,000 White beneficiaries.[149]

Transportation Barriers

If leaving home and going into public places cannot be avoided, one way to minimize risk of exposure is by using a personal, private vehicle to commute to these locations. While this does not lessen the risk of exposure in these buildings, it does lessen the transit exposure risk. In the case of a community-transmissible infectious disease, every interaction with a new set of people increases the risk of exposure. People that must wait at stops for a ride, or make multiple connections on their journey to get

from their home to their desired location will simply encounter more people than someone commuting the same lengthy distance in their own car.

Public Transportation

Spatial mismatch is the term used to describe the distance between where a person lives and where opportunity exists. In racially and economically segregated communities, there can be considerable distance between where people live and where people work or shop. Food and pharmacy deserts are one such example of this, but it is also seen in the lengthy commutes between residences and downtown/suburban job hubs.

People that are dependent on public transportation are especially vulnerable to COVID-19 exposure risk. Buses and commuter trains have minimal ventilation and seats are generally in close proximity to one another. Further, busy commute times can make physical distancing more difficult. Even as efforts are underway to disinfect trains and buses for public use, places where individuals congregate in large numbers remain hubs for the transmission of infectious diseases.

Blacks disproportionately use public transportation.

- Approximately 20% of Black households do not have a car, three times the percentage of Whites that do not have a car (6.5%) and the highest of any racial or ethnic group.[150]
- Nationwide, nearly one in four workers who exclusively uses public transit identifies as Black despite comprising just 13% of workers.[151]
- In major urban areas, nearly 35% of Blacks report using some form of public transit on a daily basis.[152]

Staying on the Street

People that are unsheltered and living on the street are not typically characterized as living in a group quarters setting. This is because the standard “group quarters” definition has yet to recognize people that have made communities for themselves on the streets. People without homes that cannot or do not wish to reside in shelters have taken up residence in sanctioned and unsanctioned tent encampments across the nation.[153] These encampments can be home to dozens of individuals and families, and serve as congregating community spots for people that do not reside in them.[154]

Individuals who are homeless and living on the street or in encampments do not have access to any of the recommended measures to prevent infection. They are less able to isolate themselves from family or friends when ill and they often lack consistent access to running water and soap or needed medical supplies. They are also at risk of involvement in the criminal justice system, which carries its own set of exposure risks. Encampment sweeps can lead to arrest, and people that are homeless are disproportionately detained for minor offenses.[155] As with shelters, the inclusion of encampments on this list is not a broad criticism of this housing option, but again draws attention to the exposure risks.

Black people make up a disproportionate percentage of those who remain without shelter.

- Blacks comprise 27% of the unsheltered population, a rate twice as high as their rate within the general population.[156]
- More than 1 in 4 unsheltered families are Black (20.7%).[157]
- In Chicago, Blacks comprise three-quarters (74%) of the unsheltered population.[158]

Infection Risk 4: Mass Incarceration

Mass incarceration has resulted in a number of harmful consequences for Black families and communities, and this is no less the case during the COVID-19 pandemic. Mass incarceration destabilizes neighborhoods through coercive mobility, and has detrimental effects on the person.[W] Incarceration puts people at risk for chronic health conditions, or worsens existing conditions. It also has significant impacts on long-term physical and mental health, and limits opportunities for housing, employment and education post-release. If one were to take all of the social determinants of health and opportunity and then magnify those tenfold, that would be the impact of mass incarceration on families and communities. It makes an already hard life that much harder.

Detention in a jail or prison could have been listed in the group quarters risk section, but to do so would deny the troubling features of this experience. Because jails and prisons are not a voluntary living arrangement, they are a unique exposure risk for both the detainees and the employees. Jails and prisons have a steady influx of people into and out of the facilities. It is a daily, constant churn of new detainees, staff and volunteers, and contracted workers all entering into the facilities from the community. The buildings themselves are often overcrowded, or structured in such a way that people spend time double or triple-bunked, or sleeping in dormitory-style housing.[159],[160]

Jails and prisons also focus on security and not health care provision. While facilities are constitutionally mandated to provide health care to those incarcerated, this does not mean that facilities are fully staffed or resourced, nor does it mean that health concerns will take precedence over custodial concerns.[161] As a nation reluctant to enact sweeping decarceration reforms that would reduce the number of people held in correctional facilities, we will continue to build up the population of detainees and workers at risk of COVID-19 exposure.[X]

Employment in Adult Jails and Prisons

Correctional facility employees are both at-risk for COVID-19 exposure in the facility and are also a potential source of transmission for other workers and people detained in jails and prisons. Employees must be on-site daily to provide the needed security, medical, nutritional and housekeeping services required for proper custodial care. They will encounter a large number of colleagues and detainees during a shift, and will repeat these shifts multiple times a week. This creates a significant number of exposure points for correctional officers and correctional medical staff, in particular, though all facility workers are at risk.

Many of the employees within jails and prisons across the United States are Black:

- More than one out of four correctional treatment specialists were Black in 2019;[162]
- Among those working as correctional officers or “jailers,” more than one out of three workers were Black in 2019.[163]

[W] Coercive mobility is the term used to describe the process by which residents of predominantly lower income neighborhoods are removed for periods of detention or incarceration, and then returned to the same communities marked with the additional collateral consequences of incarceration. https://issues.org/the-effects-of-mass-incarceration-on-communities-of-color/

[X] Decarceration is the term used to define criminal justice reforms that reduce reliance on incarceration to address social issues and ills, such as alternative solutions and programs for drug possession and use, mental health crises, and people committing nonviolent crimes associated with poverty and lack of opportunity.

- Nearly all prisons in Illinois have reported cases among staff with a total of 252 persons infected.
- About 240 employees at Cook County Jail have tested positive and one has died.

Detention in Adult Jails and Prisons

Approximately 2.3 million people are confined in the federal and state prisons, local jails, juvenile detention centers, as well as other detention centers.[164] Since staying in a jail or prison is not voluntary, and since correctional workers tightly control routines, there is little that people who are detained can do to minimize their risk of exposure.

Blacks make up a disproportionate share of the correctional population.

- Blacks comprised more than 33% of prisoners in 2017, a rate nearly three times higher than their population rate;[165]
- In 2017, there were 1,549 Black prisoners for every 100,000 Black adults – nearly six times the imprisonment rate for whites (272 per 100,000) and nearly double the rate for Latinx people (823 per 100,000);[166]
- Despite releases in the Cook County Jail, more than 74% of detainees in the Cook County Jail were Black in February and March; and about 700 detainees have tested positive.[167]

MORTALITY RISKS: WHY BLACKS ARE MORE LIKELY TO DIE FROM COVID-19 ILLNESS

In the midst of a global health pandemic, the two most important questions everyone wants answered are: how many people are sick and how many people will die? The answers to both questions are very important to know because they help researchers calculate the case fatality rate of the illness. In other words, the number of people infected with the virus and the number that died as a result. Unfortunately, these will remain questions without answers for an indefinite period until such a time that widespread testing, contact tracing and epidemiological studies can uncover these numbers.[Y] Researchers can model mortality projections, but only time will determine how deadly this virus will be.

Researchers have also examined disease outcomes from other countries further ahead on the outbreak timeline, such as China and Italy, to examine patient factors associated with a greater likelihood of death. People that were aged 65 and older, had an underlying cardiovascular disease or hypertension, diabetes, chronic lung diseases were all more likely to die from COVID-19. However, to truly understand who is most at risk of death from COVID-19, we must take a few steps back and ask ourselves, *"But who is most at risk of the chronic conditions that make COVID-19 mortality that much more likely?"* Here is where a more complex picture emerges, one in which the economic, environmental, political and social conditions in which people live predict not only who gets sick, and when, but who dies. Research has shown that even when you control for every possible life factor – household income, level of education, occupation/profession – Blacks across the socioeconomic spectrum (from low income to high income) experience worse health outcomes and greater likelihood of death from illness than other groups.[168]

The conditions leading to greater COVID-19 mortality are centuries in the making for this novel virus. This section will first examine the social determinants of health that put people at greater risk of illness, leading to the pre-existing health conditions that then put people at greater risk of death.

Social Determinants of Health

Racial health inequities and disparities, such as what we are witnessing with the COVID-19 pandemic, occur because there are broad, systemic conditions outside of a person's individual control that deeply affect health and wellbeing. We can ask people to engage in individual preventative health behaviors to help decrease the spread of illness, such as wearing a face mask (recognizing, of course, that there are access barriers in even that request). We cannot, however, ask people to improve their health by liberating themselves from racial oppression through a concentrated flow of money, power, resources and investment into their community.

The social determinants of health – education, poverty, social isolation, segregation, racism – work in multiple ways to harm individual and community health. On their own, they expose people to harmful conditions that can cause illness – living in less expensive housing near manufacturing facilities or major expressways, for example. These life experiences can also shape individual health behaviors, particularly if limited money, health care access, health literacy or other barriers stand in the way of a person's

[Y] COVID-19 testing comes in two forms: diagnostic testing to determine if someone currently has COVID-19 and antibody testing to determine if there are antibodies in the blood that suggest the person had been infected by COVID-19. This gives researchers a better sense of infection rates. Contact tracing involves contacting and monitoring all persons that had close contact with the patient during the timeframe while they may have been infectious.

ability to seek care. They also work in more malignant ways. Research has shown that the cumulative impact of the social determinants of health include greater risk of illness and death among Blacks for the following health conditions: cardiovascular disease, cancer, diabetes, chronic obstructive pulmonary disease, HIV/AIDS, and hypertension.[169] Known as the allostatic load, this chronic exposure to economic, environmental and social stressors essentially strains all the body's systems and wears them down over time.[170] Any new health threat, such as COVID-19, is a shock to a system that is already overtaxed.

Mortality Risk 1: Hyper-segregation

It has been more than 40 years since residential segregation was identified as the structural linchpin of race relations in the United States. Rising concentrations of poverty in black neighborhoods perpetuate disadvantage among Blacks, isolating them from jobs, and maintaining and concentrating poverty within segregated Black communities. Hyper-segregation refers not only to where one lives but also to how broader inequity is shaped, from housing to education to employment and so on.

Most of the places that have disproportionate rate of deaths as compared to their share of the population are places that have historic and current patterns of hyper-segregation. These include places like New Orleans in the South, to Baltimore and Washington DC in the East, to cities in the Midwest like Chicago, St. Louis, Detroit and Milwaukee.

- For example, in St. Louis, Black individuals made up 72%[171] of deaths and just 46% of the population[172], making their death rate nearly 60% higher than their population share;
- In Milwaukee, Blacks accounted for half of Covid-19 deaths[173], but made up slightly more than one-quarter of the population[174];
- Blacks make up 60% of New Orleans population[175] but account for more than three-quarters of deaths (76%[176]) and a majority of cases occur in the most vulnerable census tracts;
- In Chicago more than half of deaths have occurred among Blacks but Blacks make up just 30% of the population and with cases clustered in the most highly vulnerable areas on the South and West sides of Chicago;
- In Washington DC, Blacks comprise 79% of Covid-19 deaths[177] despite making up less than half of the population[178].

City/ County	Total Deaths	%Black Deaths	% Black Population[179]	Over representation[Z]
St. Louis (City)[180]	65	72%	46%	1.57
Milwaukee (County)[181]	187	50%	27%	1.86
New Orleans (Orleans Parish)[182]	406	76%	60%	1.27
Chicago (City)[183]	661	54%	30%	1.79
Washington DC [184]	251	79%	46%	1.71

[Z] Any number above 1 represents mortality larger than the population share.

Mortality Risk 2: Racial Discrimination in Healthcare and Access to Care

Conversations about race in healthcare often narrowly focus on how broad distrust of health care systems by the Black community is a cause for poor health outcomes. Less is said about the fact that this is a well-earned mistrust stemming from longstanding structural racism within our health care system and implicit bias within our providers.

The implicit bias medical professionals show against Black individuals is evidenced in numerous ways: shorter patient-provider interactions, fewer referrals to assessments or specialists, under or over-utilization of diagnostic testing, recommending treatment options based on assumptions of finances or treatment adherence, fewer special privileges and greater inconveniences during the course of medical care.[185] Implicit biases work outside of our conscious awareness – providers are not intending to be explicitly discriminatory, and may not even recognize these biases in themselves. Yet these negative thoughts and ideas bubble up and lead to discriminatory actions and behaviors nonetheless. Research has shown that in times of stress, distraction, exhaustion or when under pressure, these biases can be more readily activated and acted on.[186] This is a worrisome tendency in the time of COVID-19, when health care facilities and providers are being asked to perform under grueling and exhausting conditions.

Current research is unclear on how implicit bias impacts Black people's health outcomes, but it does appear to negatively impact the patient-provider relationship. Distrust of physicians and concerns about discrimination significantly reduces a person's willingness to seek medical care.[187] For a disease in which a few days can be the difference between life and death, resistance to accessing care will lead to greater mortality from COVID-19.

Healthcare Access

Black people have always faced healthcare inequities, and the COVID-19 pandemic will unquestionably worsen them. Insurance plays an important role in accessing medical care, and people with health insurance have better health outcomes. People that lack health insurance do not have a regular source of care and are more likely to skip routine and preventative medical visits and do not receive recommended annual screenings (blood pressure, cholesterol, blood sugar, mammograms and colon cancer checks).[188]

Blacks are less likely to have a stable source of health insurance and more health care access and cost concerns than other groups:

- Among non-incarcerated populations, 11% of uninsured individuals are Black;[189]
- Over their lifetimes, Blacks can expect to live a total of 12 years without health insurance before reaching age 65, compared to 8 years for White people;[190]
- Nearly 20% of Blacks could not see a doctor because of cost, compared to 13% of Whites that could not see a doctor for this reason;[191] and
- Black individuals lacking routine care were 5 times more likely to use the Emergency Department than Whites were for conditions that could be treated by a primary care provider or specialist (938 vs. 139 per 100,000, respectively).[192]

Mortality Risk 3: Poverty, Income and Wealth

Numerous research studies have strongly associated poverty with poor health outcomes.[193] This is because poverty is both a cause and consequence of poor health. Lack of money means a person may live in poor-quality housing, in a community with poor air or water quality, or live in an area that lacks community services and medical resources. This can lead to illness, which then leads to lost school and work productivity, higher medical debts and income instability.

Poverty has decreased significantly for both White and Black people since the Great Recession of 2008, with poverty rates peaking in 2012. Yet Blacks are still disproportionately impacted by poverty.

- Although Blacks did see a reduction in poverty following the Great Recession, poverty was still very high overall (28% in 2012 and 22% in 2018).[194]
- In 2018, the percentage of Black individuals living in poverty was about 2.2 times that of Whites living in poverty (22% vs 9%).[195]

Income Disparity and Wage Discrimination

There are considerable racial and gender wage gaps that significantly affect household income.[AA] All male and female workers, with the exception of Asian men, fare worse than White male workers do when it comes to median hourly and annual income.[196]

Race - The median household income in 2018 was just over $63,000, but there was a large difference between groups. White and Asian workers earned more than the median annual income (12% more and 38% more respectively), while Blacks earned 35% less than the median income.
Black households continued to earn the least amount of income of any racial group:

- In 2018, the Black median household income was $41,361, compared to $70,642 for White households;[197] and
- Black households earn 70% less on average than do White households.[198]

Gender and Race - According to an analysis by the Pew Research Center, women earn significantly less income than men do, but this varies by race. There are also differences in income for women of different racial and ethnic groups. Asian and White women earned more per hour ($18 and $17, respectively) than that of Black women ($13), and earned more per hour than Black and Latinx men did ($15 and $14 respectively).[199] Black men and women are disproportionately impacted by wage discrimination:

- Black women's wages were just 76% of White women's wages ($13 vs. $18);[200]
- Black men's wages were just 71% of White men's wages ($15 vs. $21);[201]
- Black women's wages were 87% of African American men's wages ($13 vs. $15);[202] and
- Black women's wages were only 61% of White men's wages ($13 vs. $21).[203]

Educational Attainment and Race – Blacks generally have lower educational attainment levels than Whites, which accounts for some of the wage gap. However, even when accounting for educational

[AA] Some of the difference in wages is the result of differences in education, workforce experience and occupation. However, some of the gap is due to a combination of wage discrimination and employment discrimination that makes it harder for some groups to gain employment in certain fields and occupations.

attainment, significant levels of inequality in income earned per hour remain.[204] Black people with a college education earn less money than their counterparts:

- Black women with a college degree earned 8% less than White women with a college degree ($23 vs. $25);[205] and
- Black men with a college degree earned 22% less than White men with a college degree ($25 vs. $32).[206]

Wealth

Compared to one's income, wealth is the value of one's assets. The more wealth a person has, the greater the wealth to debt ratio is. Wealth is what gets passed down in families so that the next generation can start their lives with a little more support than the previous generation. Accumulated wealth also provides a safety net in moments of crisis, something to fall back on when times get hard. Not having a safety net could be the difference between weathering a crisis or ending up in poverty and unfortunately, Blacks have the lowest rates of wealth accumulation compared to other racial or ethnic groups in the United States.

- The wealth of the average White family is 41 times greater than the wealth of the average Black family.[207] From the 1980's through 2016, the number of Black families with either negative or zero wealth skyrocketed from 8.5% to 37%.[208]
- Only 44% of Black families in 2016 owned their homes compared to 72% of White families. Additionally, among Black homeowners, rates of investment tend to be lower when compared to White homeowners ($1.34 vs. $1).[209]
- It is projected that by the year 2082, the median Black family will own zero wealth.[210]

Mortality Risk 4: Environmental Contaminants and Pollution

The environments that individuals live in are not all created equal. Many communities of color are located in areas with disproportionately poor air and water quality, and have higher rates of exposure to lead and arsenic[211]. This combination of exposures can negatively impact health, leads to a number of health conditions and is a factor in premature death.[212] The higher the levels of environmental pollutants in an area, the higher at-risk residents are of stroke, heart disease, lung cancer, and chronic and acute respiratory illnesses (particularly asthma).[213] Exposure to air pollution is particularly problematic at a time when we face a severe respiratory illness like COVID-19. Poor air quality alone can cause shortness of breath, difficulty breathing, wheezing, and chest pain, while also worsening pre-existing health conditions like asthma, heart disease and chronic obstructive pulmonary disease (COPD). It is even more troubling to layer an illness that effects multiple systems on top of environmental conditions that are already taxing the lungs, heart, endocrine and vascular systems.

Pollution Burden

In 2019, the Proceedings of the National Academy of Sciences of the United States of America, examined "pollution inequity" – the difference between the environmental health damage caused by one racial/ethnic group and the exposure to this pollution by other groups. In the United States, fine particulate matter is disproportionately caused by White people through greater consumption of goods

and services, but disproportionately breathed in by Black and Latinx people. In other words, White people buy more, and therefore drive the production of pollution-intensive goods and services, but are less likely to live in the areas where these goods are produced.[214] Blacks, overall, experience a "pollution burden"— they create less pollution but are exposed to more pollution.

- Whites experience nearly 20% *less* air pollution exposure than is caused by their consumption, while African Americans and other people of color experience the opposite.[215]
- Overall, African Americans have of 56% more exposure to these pollutants relative to the exposure caused by their consumption.[216]

Fine Particulate Matter Exposure

Research indicates that the fine particulate matter (PM) found in air pollution is the largest environmental health risk factor in the United States. The National Centers for Environmental Information found that Black people are exposed to about 1.5 times more PM than White people.[217] Individuals living in poverty were disproportionately affected by PM, with an exposure rate about 1.3 times higher than those who were not poor.[218] Exposure is only partly explained by the location of polluting industries – the volume of emissions from individual factories appears to be much higher in minority neighborhoods.[219]

The Link between PM exposure and Increased Risk of COVID-19 mortality

There appears to be a causal relationship between exposure to PM and COVID-19 mortality.[220] Long-term exposure to air pollution can worsen symptoms of lung disease and increase the risk of more serious lung infection, so it makes sense that air pollution exposure would make the lungs more vulnerable to a respiratory virus. Researchers considered other factors that could have led to increased deaths, including poverty rates, race, population density, and smoking, and found that pollution still played a role after considering these additional factors.[221] This study found:

- A very slight increase in air pollution (1 mg/m3 higher of PM) results in a 15% higher death rate for COVID-19 after controlling for population density, pre-existing health conditions and race; [222] and
- 90% of the Black population lives in areas of the country where PM concentrations are the highest, namely the Midwest, South and East.[223]

Figure 1: County level 17-year long-term average of PM2.5 concentrations (2000- 2016) in the US in g/m3[224]

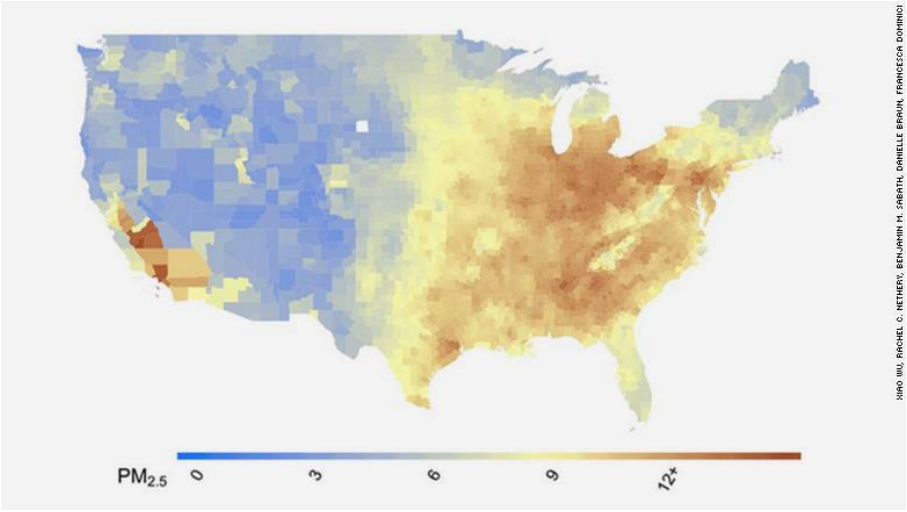
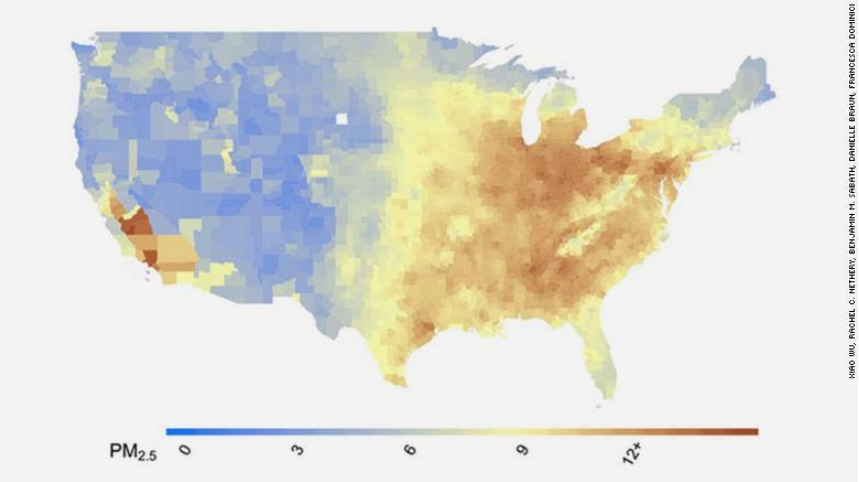


Figure 2: County level number of COVID-19 deaths per one million population in the US up to and including April 4, 2020[225]



Arsenic Exposure

The release of inorganic arsenic into the environment results from both natural and industrial sources. People are exposed to arsenic through ground water, industrial manufacturing, food, cosmetics and fine particulate matter.[226] Arsenic has long-term health effects on the body and can lead to a number of illnesses, including chronic bronchitis and chronic obstructive pulmonary disease, vascular diseases and hypertension, heart disease, diabetes and some cancers.[227] Arsenic levels are 1.1 times higher in the Black community than among predominantly White communities.[228]

Lead Exposure

Lead is a major public health concern, and is found in many consumer and industrial products, in municipal, commercial and residential pipes, and in the ground water and air.[229] Lead exposure is

harmful for everyone, but is particularly toxic to children. It can lead to serious, lifelong consequences, including cognitive impairments, kidney disease, anemia, high blood pressure and damage to reproductive organs.[230] These diseases can lead to further health complications and illness. The Institute for Health Metrics and Evaluation (IHME) found that lead exposure accounted for 63.2% of the global burden of non-congenital developmental intellectual disability, 10.3% of heart disease, and 6.2% of the global burden of stroke.

Black people are disproportionately affected by lead exposure and this exposure may be transmitted from mother-to-child, in utero, creating intergenerational lead transfer and the attendant health consequences, for example:

- Among children ages 1-5, Black children had the highest rate of lead levels;[231]
- Research indicates that the disproportionate burden of lead exposure is transmitted from mother-to-child in Black children before they are born and persists into early childhood;[232] and
- Black children had during the first year of life, 1.9 times higher lead levels compared to white children.[233]

Mortality Risk 5: Pre-Existing Health Conditions

Research has identified a number of pre-existing health conditions that are assumed to cause greater complications and higher risk of death for people infected with the COVID-19 virus.[234],[235] When someone becomes seriously ill with COVID-19 infection, it places increased demands on the cardiovascular, respiratory and circulatory systems. If these systems have already been impacted by a chronic, pre-existing health condition, the person is at greater risk of dying from COVID-19.[236] The health conditions thought to increase the likelihood of COVID-19 mortality include: diabetes mellitus, hypertension, COPD, coronary artery disease, cerebrovascular disease, and chronic renal disease.[237] As decades of health outcomes data makes clear, the pre-existing conditions that increase the risk of COVID-19 mortality are conditions that disproportionately affect Black people in diagnosis and in death. As noted in the environmental contaminants risk factor section, these pre-existing conditions are also tied to air and water quality. We also include HIV, disability, trauma exposure, and mental health in this section because, although they are not currently considered to be an independent health risk for COVID-19 mortality, additional barriers and underlying health conditions can increase mortality risk.

Chronic Respiratory Diseases

Chronic respiratory diseases are illnesses that affect a person's lungs and airways. They include conditions such as asthma, lung disease, sleep apnea, and chronic obstructive pulmonary disease (COPD) including emphysema.[238] These conditions pre-dispose individuals diagnosed with them to the COVID-19 virus by inhibiting one of the body's basic functions – respiration.[239]

COPD. Chronic obstructive pulmonary disease is an inflammatory lung disease that obstructs airflow from the lungs. COVID-19 further suppresses airflow by irritating and inflaming lungs and airways, making it more difficult to breathe. COPD affects Black patients differently than it does White patients:

- Black individuals with COPD are significantly younger, smoke less, and report concurrent asthma more frequently compared to Whites;[240]
- Blacks are underdiagnosed with COPD, even when they meet the clinical diagnostic criteria;[241]

- Education and income do not reduce the risk of COPD in Black people as they do in White people, suggesting environmental and social factors play a role.[242]

Asthma. While the role of asthma remains unclear in the progression of COVID-19, as of this writing it is still considered a possible pre-existing condition that would interact and likely cause negative outcomes in individuals infected with COVID-19. Blacks are disproportionately impacted by asthma, for example:

- There is a 25% higher prevalence of asthma among Black adults as compared to White adults;[243]
- Blacks with asthma are 3 times more likely to die from complications of asthma than White people with asthma;[244] and
- In Chicago, for those 65 and older, hospitalization rates for asthma among Blacks were 540% higher than hospitalization rates for Whites.[245]

Cancer

People living with cancer or those who have had cancer may have a heightened risk of contracting COVID-19 because of weakened organ functioning or a compromised immune system.[246] Lung and liver cancers may increase a person's risk of COVID-19 mortality due to compromised respiratory function[247] and risk of immunosuppression.[248]

No statistically significant disparity exists in total cancer rates between Black and White males – the percentage difference between the two groups is less than 3%. Black women have a 10% *lower* cancer incidence rate than White women.[249] The opposite is true when it comes to cancer deaths. Black men and women have an increased rate of death from cancers (20% and 10% respectively), despite having either equal or lower cancer risks overall.[250]

Next to prostate cancer in men[251] and breast cancer in women,[252] lung cancer was the second leading type of diagnosed cancer for both African American men and women between 2012 and 2016 in the United States.[253] Blacks are more likely to die from lung cancer than other racial or ethnic groups, for example:

- Both Black men[254] and Black women[255] have lower 5-year survival rates as well as higher death rates for lung cancer than their White counterparts; and
- In Chicago, Black death rates were 40% higher than White death rates from lung cancer (53 deaths per 100,000 vs. 38 deaths per 100,000, respectively).[256]

Cardiovascular Disease

Like chronic respiratory disease and cancer, cardiovascular disease includes a variety of conditions that adversely affect the heart and blood vessels, including coronary heart disease, hypertension and stroke.[257] The presence of cardiovascular disease is believed to increase a person's COVID-19 vulnerability as the heart may incur additional strain from COVID-19 infection as a result of taxed pulmonary functioning.[258] Blacks are more likely to experience and die from some forms of cardiovascular disease.

- Age-adjusted rates of diagnosed hypertension for Blacks are 35% higher than for White persons.[259]

- Age-adjusted rates of death from heart disease were 25% higher among Blacks as compared to Whites (208 vs. 169, respectively).[260]
- In Chicago, Blacks have a 13% higher death rate from heart disease than Whites (111 vs. 97, respectively).[261]
- The death rate from stroke among Black individuals was more than 40% higher than the rate for White individuals in 2017.[262]

Diabetes/Kidney Disease

People with diabetes may be more vulnerable to COVID-19 as blood sugar fluctuations affect the severity of viral infections as well as weaken the immune system.[263] There is also increasing evidence of how COVID-19 can often wreak havoc on the kidney system, leading to dialysis in the hospital and for some individuals, the kidneys seem to be permanently damaged – requiring dialysis after COVID-19 recovery. Reports from China indicate that 40% to half of all hospitalized individuals had kidney damage, and that in the United States, nearly half of all ICU patients might have kidney damage.[264]

Blacks are much more likely to have diabetes and experience greater morbidity and mortality from diabetes as well.

- In 2017, the rate of diabetes among Black individuals was 40% higher than among White individuals (10.9% vs. 8.0% respectively).[265]
- The rate of end stage renal disease for Blacks is 250% higher than it is for Whites.[266]
- Deaths due to diabetes among Blacks were double the death rate among Whites in 2017.[267]

HIV

While the risk of COVID-19 complications for people living with HIV is still unknown, it is recommended that people with HIV continue to take the same precautions as people without HIV, taking the appropriate measures to stay healthy and avoid infection risk.[268] It is possible that there is some level of risk for anyone living with a chronic condition and that being immunocompromised could carry its own set of risks.[269] Additionally, Blacks represent a disproportionate number of HIV cases in the United States.

- In 2016, Blacks made up 44% of all known HIV infections.[270]
- Blacks die from AIDS at a rate 7 times higher than that of Whites (14 vs. 2 per 100,000).[271]

Disabilities

People living with disabilities may be at heightened risk of experiencing complications from COVID-19 due to one of a few factors including the presence of underlying conditions, symptoms or effects of their disability, and the social arrangements surrounding people living with disabilities. People living with disabilities are three times more likely than people without disabilities to also have a chronic health condition like the illnesses highlighted above.[272] In addition, people with disabilities may experience unique hardships that limit their ability to adopt preventative measures because of mobility limitations, cognitive challenges, and communication barriers.[273] Physical distancing might also be more difficult for people with disabilities that live independently if they rely on assistance from providers and aides, or

live in group quarters. Black people are also more likely to be living with disabilities than their White counterparts.

- One in four Blacks is living with a disability, compared to one in five White individuals and one in six Latinx individuals.[274]
- Black people living with disabilities also have the highest rates of obesity compared to other racial and ethnic groups[275] which can create additional complications for people with chronic underlying conditions.

Trauma and Mental Health

Trauma and mental health, often broadly categorized as "behavioral health," are also pre-existing conditions that can exacerbate morbidity and mortality from viruses like COVID-19. Behavioral health is often separated from the study of physical health, even though the relationship between optimal physical and mental wellbeing are well documented and not mutually exclusive.
In other words, poor mental health can adversely affect physical health and vice versa.[276]

People with serious mental illness (SMI) experience higher rates of premature death, evidenced by a 10-25-year reduction in life expectancy overall.[277] Further, people who have experienced homelessness or incarceration (e.g. themselves traumatic experiences), also have higher rates of trauma, mental health, and substance use disorders.[278] Mental and physical health conditions often exist concurrently and like their physical health equivalents, behavioral conditions cannot be separated from the social conditions that shape them.

Trauma - The American Psychological Association defines trauma as, "an emotional response to a terrible event."[279] Trauma can be cumulative, the effects compounding over time due to multiple traumatic exposures; historical,[280] passed down from one generation to the next and social, a phenomenon experts refer to as racial trauma, such as in the case of discrimination.[281] Black individuals s are profoundly more likely to be impacted by trauma and PTSD.

- Black people experience higher rates of poly-victimization, such as physical, sexual or verbal abuse and exposure to family and community violence; which leads to a higher prevalence of mental health symptoms and trauma.[282]
- The lifetime prevalence of PTSD among Black individuals is higher when compared to Whites, but treatment and service use is lower.[283]

Mental Health - Research suggests both over and under diagnosis of mental health conditions among Black populations. Cultural biases regarding what constitutes pathological behaviors can lead to an overdiagnosis of psychotic disorders and serious conditions like schizophrenia.[284] Comparatively, Blacks are underdiagnosed for conditions like major depressive disorder, bipolar disorder and anxiety.[285] Significant, racially disproportionate differences in mental health diagnosis and service use among Black individuals exist.

- Blacks are two times more likely to report psychological hardship[286] yet experience less access to mental health services overall.[287]
- Only 1/3 of Black individuals get the mental health care they need, including outpatient services and psychotropic medications.[288]

- Black people are two times more likely to be diagnosed with schizophrenia[289] yet less likely than their White peers to be diagnosed with a mood disorder.[290]

Conclusion: Made by History

Despite the news coverage that this virus does not discriminate, **pandemics actually *do* discriminate and exacerbate existing inequities.** For example, the bubonic plague or the Black Death in the 1300s, killed one-third of Europe's population, but the highest number and rate of deaths occurred among the poor.[291]

Health outcomes in the United States are driven by systemic causes, such as racism, poverty, income, health insurance and access to care, exposure to pollution like lead and air contaminants. These variables, correlate highly with being Black in the United States. Therefore, the infection risks and mortality risks from COVID-19 tie directly to structural racism. Where one lives, down to the zip code predicts life expectancy.[292]

If zip codes determine our lifespan, then segregation, as the manifestation of structural racism, matters. If zip codes determine the kind of education you will receive and where you can work, then zip codes correlate to higher rate of infection among people of color. If zip codes or blocks[293] determine arresting patterns,[294] it is no wonder that Black individuals experience increased arrest, detention, and incarceration.

These patterns are the patterns of a long history, from slavery to Jim Crow, to redlining, to block-busting to hyper-segregation. These patterns from history live on today. Take a map of Chicago, and place any negative indicator that you can think of, arrests, overdoses, lead contamination, unemployment, foreclosures and evictions, homelessness, gun violence, and this map will have one thing in common: all of the negative indicators will point to the communities in Chicago that have experienced the greatest degree of disinvestment. In the case of Chicago, these communities comprise the West and South sides of the city. Immediate, thoughtful, sufficient and sweeping investments in the Black community as part of a COVID-19 response could help Black families weather this unprecedented time. Revisiting infection and mortality risk data post-COVID-19 will be telling of the ways in which our society either adequately worked to address community needs in the midst of a raging pandemic or collectively failed, setting the stage for an even greater epidemic of inequity among Black people. Our opportunity is now.

Recommendations for Action to Reduce Exposure and Mortality Risks

Much like the illness itself, our collective response to the COVID-19 pandemic is going to happen in waves. We are in the most acute phase of this health crisis and short-term solutions to protect and preserve health are dominating our policy efforts. In the future, we will transition to longer-term solutions designed to reenergize the economy, strengthen our health and public health infrastructure and rebuild communities harmed by COVID-19. In each phase of this work, the experiences and needs of Blacks must be identified and prioritized if we are to have any hope of ending the disproportionate impact of this disease on these families and communities.

Short-Term Policy Recommendations to Address the Immediate Health Crisis

Data Needs

COVID-19 case and mortality counts must include demographic data.

Researchers, epidemiologists and policymakers need a clear understanding of who is infected by COVID-19, and of those infected, who succumb to their illness. At minimum, case counts should include race, gender and age. Without comprehensive race and ethnicity data regarding COVID-19 cases, deaths, and recoveries, we cannot sufficiently understand nor respond to the crisis in an informed way. While race and ethnicity data are currently being collected, consistency and standardization are gravely lacking in both data collection and reporting. This carries serious consequences, limiting our ability to make legitimate comparisons across communities, leading to undercounting among groups, affecting our understanding of existing gaps, and ultimately preventing response measures from adequately meeting community-specific needs.

Standardize processes and tools for consistency and accuracy.

The federal government is relying heavily on individual states to determine their respective action plans in response to COVID-19, preventing a coordinated national effort. States are individually modeling their own illness projection timelines, implementing their own studies and using their own intake and case tracking forms, all of which make it impossible to coordinate a comprehensive, proactive federal response to the illness.[295] One intermediary step to allow government officials and researchers to surveil for hotspots, identify emerging at-risk groups and compare situations across state lines would be the development of standardized intake and case reporting forms. Standardizing data collection tools when administering testing, tracking cases, and admitting people into hospitals and reporting mortality counts would go a long way toward improving consistency and accuracy in healthcare data.[296]

Infrastructure Needs

Prioritize racial equity in the proposed Coronavirus Containment Corps.

Senator Elizabeth Warren (D-MA) and Congressman Andy Levin (D-MI) are advocating for the dire need to expand America's public health workforce.[297] At its core, their document calls for the hiring, training, and deployment of individuals nationwide to conduct contact tracing of positive cases of COVID-19.[BB]

[BB] Contact tracing, the process by which an investigator identifies all of the interactions patient zero has had with others to break the chain of transmission, is a longstanding practice of public health and disease prevention.

Illinois policymakers should explore legislation based on the recommendations highlighted in the Warren-Levin document. However, Illinois should go one step further and ensure that racial equity is baked into the outreach, hiring and employment practices for any contract tracing efforts. Given the trust necessary to effectively gather information from patients and contacts, contact tracers within any geographic region should account for the racial, ethnic, linguistic and socioeconomic characteristics of populations. Moreover, the distrust towards government in communities of color is well documented and historically valid, meaning that any government-sponsored attempt to contain the spread of COVID-19 must acknowledge this and build up a workforce reflective of the community it serves.

Testing Needs

Strategic Testing and Triage Centers for Vulnerable Groups.

Access to testing is a critical tool in both individual health and surveillance of disease progression through the community. Delays in the identification of a COVID-19 diagnosis not only put an individual at risk of more serious illness if left untreated, but further compromise population health if we cannot quickly identify community hotspots. For all of the reasons listed in this paper, Blacks are a vulnerable group and should be prioritized for COVID-19 testing and triage services. Drive-thru testing has increased service capacity, but it requires that the person have a car to travel to a testing site. Medical and pharmacy deserts in predominantly Black neighborhoods mean that there may not be facilities nearby for people to receive needed medical advice, guidance and screening. Governments and public health offices are going to have to increasingly partner with accessible, trusted community-based organizations (social service agencies, churches, etc.) and deploy mobile testing and screening vehicles and programs to meet people where they live in the community. A carefully trained, adequately equipped community health team that is grounded in the neighborhood it serves can do the following: educate people about COVID-19 symptoms and risk factors, offer culturally sensitive myth busting and prevention recommendations, and validate fears of being disregarded by the formal health care system while helping them navigate this same system.

Supports and Services Needs

Allow SNAP beneficiaries to buy groceries online.

SNAP beneficiaries receive electronic benefit (EBT) cards that act like debit cards. In 2019, the USDA piloted a program in New York that allowed beneficiaries to purchase groceries online from select retailers using their EBT cards. Since that time, additional states have been included in the pilot program. This is sound policy that should be extended to every beneficiary across the United States. Additionally, online retailers should waive minimum order requirements and delivery fees for SNAP beneficiaries to help them get the most food for their money. Other beneficial actions include reserving products and delivery times for SNAP beneficiaries, and expanding the number of retailers that are approved to accept SNAP EBT payments.[298]

Expand access to Medicaid for people that lost employer-based health insurance.

Over 50% of Americans get their health insurance through their job (or a family member's job), which raises anxieties about health care coverage during a time of increasing unemployment or a reduction in work hours.[299] In the event of unemployment, there are options for health care coverage, but these options are not available equally across the country. In 37 states, of which Illinois is one, Medicaid

expansion has allowed state-based Medicaid programs to cover all people with household incomes below 133% of the federal poverty level.[300] This allows people with zero to limited income or unemployment insurance income under the 133% poverty threshold, to apply for Medicaid coverage. People with health insurance are much more likely to seek medical care. During this health pandemic, policies should remove barriers that discourage people from accessing timely, needed medical services.

Promote COVID-19 isolation facilities.

Many large municipalities, including the City of Chicago, are offering isolation rooms and facilities for people testing positive for COVID-19 who are unable to safely isolate in their own home.[301] This is an important service, but many people are unaware of this option unless they have an external referral from hospitals and medical care providers. More thorough education would allow patients to ask about this benefit and better advocate for their own care. Communities that are not currently offering these facilities should consider their development to reduce the risk of household and community spread. The CDC provides guidance for these alternative care sites that serve as beneficial tools to help prevent a surge in cases within hospital settings.[302]

Fund grassroots and community-based social service agencies to provide wellness checks.

Wellness checks are an essential tool for ensuring the health and safety of residents, and in their absence, vulnerable and socially isolated people can slip through the cracks. Neighborhood-based groups and organizations have already mobilized across the nation to provide support of local residents both through informal care networks and formal service delivery. Greater financial support and additional resources should be provided to these groups to help them both scale up service numbers and provide more regular wellness checks with neighbors and clients. Much of this work is being done through private donations of time and money, or through funds that have been reallocated from other programs to address the current crisis. Community-based organizations operate on razor-thin financial margins that often mirror the household income limitations of the people they serve. These organizations have established the trust and access necessary to reach residents and should be supported in continuing this work.

Fund faith communities to provide grief counseling and trauma support.

Many municipalities and states have been setting up mental health hotlines to address the stress, anxiety and depression that is associated with this uncertain time. This is important work that should be continued in these areas, or developed in areas where such services do not exist. Similarly, it is also important to provide support and services in the event of a COVID-19 passing. The conditions of the shelter-in-place restrictions make it impossible for loved ones to gather in the event of a death, and most faith communities do not have the resources or capacity to provide virtual worship, including funerals and home-going services. Faith communities play an important role in the lives of many Black individuals and should be supported with funding and resources to develop virtual worship, virtual home-goings and virtual grief and trauma counseling to better support grieving communities.

Immediate law enforcement and criminal justice reforms in response to COVID-19.

Both the adult and juvenile criminal justice systems have been impacted by COVID-19 illness among people detained and among staff members. Jails, prisons and detention centers are very vulnerable to outbreaks, so reducing the rotating number of people entering and exiting these facilities is critical for

infection prevention and control. One strategy to reduce the flow of people into facilities is getting rid of cash bond, which will reduce the number of people being held in jail for inability to pay. Cash bonds must typically be paid to secure release from detention, and those that cannot pay are detained until their appearance in court. Additionally, many local and state correctional facilities have begun releasing people early from jails and prisons, and this should be expanded as much as possible to reduce institutionalized populations. Finally, it is critical that facilities provide PPE for all staff, and especially to detainees that are showing symptoms of COVID-19 infection.

Workforce Needs

Paid sick leave for all essential workers.

Federal law does not require private employers to provide paid leave to employees, although there are a number that do so for the health and wellbeing of their workforce. While some cities and states have programs in place to provide paid sick days to workers, none of these programs guaranteed the mandatory 14 days needed to quarantine or isolate due to COVID-19 until the enactment of the Families First Coronavirus Response Act (FFCRA).[303] However, the legislation excluded a number of employment sectors, which limits safeguards for many essential workers, including workers of businesses with 500 or more people and health care providers, emergency responders and people working in healthcare facilities. Combined, it is estimated that 68-106 million workers will be exempted from these protections.[304] This can include grocery and retail workers, hospital staff, delivery and transportation workers, food production workers and many other essential workers described in this paper. Future legislation must address these exemptions and ensure that all essential workers have access to sick pay protections.

Hazard pay for all essential workers.

Essential workers have been critical in holding the US economy together during this pandemic. They range from the doctors and nurses treating patients, to the grocery and retail clerks ensuring stores have what we need. They are also janitors, delivery drivers, workers on a production line, social workers, and home health aides. These workers put themselves at risk when they are on the job, and hazard pay recognizes this sacrifice by proposing compensation beyond their salary. Some proposals have been limited to just healthcare workers, but there is increasing demand to include other occupations. To date, no legislation has been passed that approves hazard pay, so future proposals should be progressive, with the goal of getting workers at minimum to a living wage.[305]

Personal protective equipment (PPE) for essential workers.

PPE, such as face masks and gloves, reduce the risk of COVID-19 transmission when used properly. Anyone that has sustained interaction with another person, particularly if they cannot maintain a social distance of 6 feet, is at risk of exposure. It is an occupational health and safety issue to ensure that workers have access to the equipment they need to keep themselves safe. The Occupational Safety and Health Administration has classified workers by risk level, and provides recommendations for how to create safe workplaces for these employees.[306] All essential workers, especially those with underlying

conditions or those at high risk or very high risk given their working conditions (e.g. frontline healthcare workers), should have access to PPE.[CC]

Long-Term Policy Recommendations to Address the Social Determinants of Health

Reinvest in Black communities.

It is beyond the scope of this paper to provide a detailed history of the policies and practices that lead to community disinvestment and lack of opportunity. Please review our previous research, particularly our two papers on the enduring impact of segregation in Chicago, to understand how centuries of decisions have led to the challenges in disinvested communities evident today. That said, if we wish to prevent devastating losses of Black life in the future – from novel infections like COVID-19, to chronic health conditions, to overdose and gun violence – we must commit both the political will and the financial resources to build up Black communities. This is by no means easy or inexpensive, and cannot be done with municipal dollars alone. These communities need to attract and support businesses, stabilize quality and affordable housing, and provide a good education for children. These things, which have nothing to do with a virus, have everything to do with health. COVID-19 is changing communities, and the federal government is responding. This crisis has shown us that we can mobilize an entire country to implement broad, sweeping changes. Comments suggesting that community reinvestment would be "too hard", "too costly" or "too time-consuming" are misleading, false, and unethical.

Reinvest in public health infrastructure.

The U.S. public health system has been chronically underfunded for years, exposing a number of vulnerabilities. These systemic vulnerabilities present one of the greatest threats to collectively defeating COVID-19 in the wake of this global pandemic. After adjusting for inflation, the Centers for Disease Control and Prevention (CDC) budget dropped 10% over the past decade including cuts to the Prevention and Public Health Fund.[307] Our weakened public health system in the era of COVID-19 is exemplified by insufficient testing capacity,[308] the limited availability of testing technologies with varying levels of accuracy,[309] little to no capacity behind contact tracing,[310] and a population of uninsured individuals growing by the millions.[311] Not only must we reinvest in our public health infrastructure, we must also begin to invest in an emergency response fund[312] to better prepare for future crises potentially more catastrophic than COVID-19.

Healthcare for all.

There are many possible approaches to ensuring that residents have access to health care. One possibility includes a universal, single-payer or national health insurance program that guarantees insurance for all people.[313] Another possibility includes at a minimum, building out the primary care infrastructure in the United States to ensure that every person has access to essential health benefits through community primary care clinics and providers.[314] There are pros and cons to each of these

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[CC] Very High Risk: Healthcare workers performing procedures or handling specimens of known COVID-19 patients, morgue workers performing autopsies; High Risk: Healthcare workers and medical support staff treating known or suspected COVID-19 patients, medical transport workers, mortuary workers; Medium Risk: Workers that require frequent and/or close contact with (i.e., within 6 feet of) people who may be infected with SARS-CoV-2, but who are not known or suspected COVID-19 patients; Lower Risk: Workers that do not require contact with people known to be, or suspected of being, infected with SARS-CoV-2 nor frequent close contact with (i.e., within 6 feet of) the general public.

approaches, and political will varies for each of the proposals. But healthcare access is fundamentally a human right and therefore we must prioritize a non-employer based system for all people.

Fight for environmental justice and an end to environmental racism.

Air pollution, unhealthy homes, lead in the water supply, and contaminants in the soil – all of these negatively affect health. Pollution-producing factories and facilities, landfills, transit hubs, expressways and major roadways, waste transfer stations, livestock processing facilities and manufacturers are often situated in poor communities of color.[315] Government studies beginning in the 1980s and 1990s determined that most hazardous waste sites and other toxic environmental sites were located in poor Black and Latino communities.[316] Key environmental actions to improve health and reduce disparities include: (1)reduce sources of lead contamination; (2)improve the quality of drinking water to ensure it meets all health standards; (3) reduce fine particulate matter to national air quality standards, with special emphasis on communities with low air quality and low-income populations; and (4) reduce exposure to hazardous waste sites, with special emphasis on low-income communities of color.[317] Promoting and supporting the development of community-accountability environmental justice councils to aid in project oversight would help to address environmental racism.

End mass incarceration.

Mass incarceration harms people and communities. Mandatory minimum sentencing and the war on drugs has led to decades-long increases in incarceration that have disproportionately impacted Blacks. The collateral consequences of a criminal conviction and time spent behind bars are far reaching, creating economic, educational and employment barriers, as well as poor health and social outcomes. People that have spent time incarcerated are more vulnerable to illness, are more likely to die prematurely and often have a difficult time reintegrating back into the community.[318] Everything that was challenging about life before incarceration is made even more difficult by a criminal record – jobs, housing, counseling and other needed services are harder to come by. Criminal justice reforms must start by deflecting people away from the criminal justice system as much as possible and replacing the standard criminal legal response with evidence-based interventions and services that adequately address human needs and human suffering. It is also time to reconsider our broad misdemeanor system that criminalizes large swaths of behavior and activity. Misdemeanors contribute to mass incarceration, are overly costly to adjudicate in relation to the severity of the offense, and carry financial and social costs for people found guilty of the offense. Finally, we must also reevaluate our probation and parole practices, since many people are detained in jails for a “technical violation” on one or more of the conditions of their probation/parole. These all-too-common measures are often highly punitive and do nothing to address the very real human problems that created the conditions for crime or wrongdoing in the first place.

Eradicate the racial wealth gap.

The racial wealth gap has been centuries in the making. Currently the wealth of a White household (~$171,000) far surpasses the wealth of a Black household (~$17,000).[319] As the American middle class began diversifying in the early to mid-20th Century, we strategically and purposefully excluded Black families from home ownership, higher education and occupational protections, the cornerstones of building wealth.[320] Black families are significantly less likely than their White counterparts to be able to bequest financial gifts, inheritances or intergenerational transfers of wealth to children and other family

members. This inability to pass down money and assets means that each generation starts fresh, with no accumulated resources to help get ahead. Black people also have more volatile lifetime earnings – workers that reach the top of the income distribution for their occupation don't always remain at that level. Each of these factors means a higher likelihood that Black families will lack the resources (savings, investment dividends, property, family lenders) to weather a serious threat to their household income. Further, this intergenerational wealth gap hinders the ability of future generations to protect themselves from unexpected financial threats. We see this playing out now with the COVID-19 pandemic, as households with less income and accumulated wealth have to keep working amidst shelter-in-place orders to stand even a remote chance of surviving financial losses. Rebuilding the unionized workforce and promoting employer neutrality towards unionization on a mass scale would be one significant way of investing in wealth creation for Black families and future generations to come.

APPENDIX A: UNDERSTANDING COVID-19

What is COVID-19?

COVID-19 is a novel infectious virus, meaning that it has not been previously seen in humans before.[321] Every year, humans contract and suffer from many infectious viruses – for example: rhinoviruses (the common cold) and influenza (the flu), which affect the respiratory system, or noroviruses, which cause gastrointestinal upset and diarrhea. COVID-19 is a member of the *coronavirus family,* a set of viruses known to cause respiratory infections in humans. [322] Many viruses in this family can cause illness and mild to moderate discomfort, but some come with the potential for very serious health complications and death (SARS, MERS).[323]

Where did COVID-19 come from?

There have been many questions over the past months about the origins of the COVID-19 virus, with some people believing that it was a manufactured or bioengineered virus. Preliminary research on the virus suggests that it closely resembles viruses that are already in circulation in animals – particularly bats and pangolins. Diseases that have the potential to jump from an animal to human – called *zoonotic diseases* – are not uncommon throughout human history.[324] Researchers now believe that COVID-19 emerged from a natural evolutionary process that created a highly effective and efficient virus that was easily transmissible because of the ease with which it can hook onto human cells.[325] Scientists were looking for evidence of any laboratory engineering, such as constructing a virus based on the structure of a known infectious virus, but there was no observed evidence of this kind of manufacturing. [326]

Why are we paying so much attention to COVID-19?

COVID-19 has gathered worldwide attention because while many of the cases are presumed to be mild in nature, approximately 20% of cases are estimated to be serious or severe. In other words, one out of five people that contract COVID-19 could be at risk of serious complications, including pneumonia. And unlike coronaviruses causing mild or moderate illness, COVID-19 has shown increasing potential to cause death from acute respiratory distress syndrome.[327] In these most severe cases, preliminary research has shown that patients develop pneumonia in both lungs, which triggers an overactive immune response that damages needed healthy lung tissue and leads to respiratory failure.[328] Further, because it is a novel virus, we do not have treatment protocols, medications or processes in place to deal with the illness – instead we are building these every day as we move through the different phases of the pandemic. Many people have claimed that COVID-19 is a glorified version of the flu, and that state and local responses have been an overreaction. While COVID-19 and the annual flu do share some characteristics (fever, respiratory symptoms, body aches and pains, fatigue), the number of cases that progress from moderate to severe, and the severity of the disease itself in the sickest individuals, are cause for alarm.[329],[330],[331]

How does COVID-19 spread and how good is it at spreading among people?

Infectious diseases that cause illness in humans come from a variety of sources, both viral and bacterial. In the case of a viral illness, like a cold or the flu, the virus is said to be contagious because it spreads from one person to another. COVID-19 is classified as a contagious virus, as current research points to the fact that it is transmitted person-to-person.[332] Scientists use a special number, called the *reproduction number (R-naught),* to develop estimates of how many people could potentially be

infected by a contagious virus. What this does is make an educated guess about the number of people that one person will infect during the period of time when they are most contagious to others.[333],[DD] This is important to study, because it gives us a sense of how much the disease will spread among people. Currently, the R-naught for COVID-19 is 2-2.5, meaning that for every one person that gets COVID-19, they can pass it on to at least 2 more people.[334] The seasonal flu, in the other hand, has an R-naught of 1.3, meaning that for every one person that has the flu, they can pass it on to about 1 more person.[335] This suggests that COVID-19 is more contagious than the flu, and we have all seen how quickly a flu virus can pass through a workplace, a school classroom or a church.

Current research suggests that COVID-19 is primarily spread through person-to-person contact with an infected individual. One method of transmission is *close contact transmission*, in which an infected person expels respiratory droplets containing the virus from their mouth or nose through coughing, sneezing or talking, and another person breathes in these droplets.[336] The droplets of the infected person could also land on the other person's face, making it possible to transmit the droplets to the eyes, nose or mouth. It's called close contact transmission because the infected person needs to be a distance of 6 feet or fewer from the other person to effectively transmit their respiratory droplets onto them.

Another method of transmission is *surface transmission*, in which an infected person expels droplets into the air or onto a surface, or otherwise touches a surface with virus on their hands. When another person touches these surfaces with their hands and then proceeds to touch their own eyes, nose or mouth, transmission can occur.[337] Scientists have been examining the *virus survivability* on different surfaces – in other words, how long could a virus remain on a surface after being expelled? This research is ongoing, but current findings suggest that the virus survives up to 24 hours on cardboard, 48 hours on mental surfaces and 72 hours on plastic surfaces.[338] This does not mean that it is *contagious* that entire time, but further research will determine this.

Scientists currently believe that close contact transmission is the more effective means of transmission than surface transmission, but encourage prevention of both types due to the newness of the disease.

[DD] NOTE: R-naught can and will change during the course of an epidemic, as we learn more about the virus, how it is transmitted, and as infection prevention measures are put into place. It is not a fixed value.

APPENDIX B: GOVERNMENT AND PUBLIC HEALTH RESPONSE TO COVID-19

What has been the response to preventing COVID-19 infection?

Because COVID-19 is a novel virus, the response is based on a public health model of infection prevention and control. Novel viruses present a considerable threat to the health and wellbeing of people worldwide, and can be a significant burden on existing healthcare systems. Governments build out the needed federal, state and local public health infrastructure to develop science-based policies and programs to limit the spread of infectious disease, prevent serious illness and death, conduct epidemiological surveillance, control outbreaks and respond to emerging disease or illness hotspots. In the United States, the Centers for Disease Control (CDC) is the leading entities working on the COVID-19 response, but they are aided in their effort by the work of research hospitals, academic institutions and state/local public health departments.

Current COVID-19 prevention strategies recommended by the CDC and many federal, state and local leaders include community-based virus exposure mitigation and individual risk reduction strategies. Community mitigation strategies range from none to substantial, and communities are encouraged to move through the stages based on the level of community transmission in an area. [339] This is why people living in many states watched the federal, state and local responses move from efforts to educate people on COVID-19, symptoms and handwashing (none to minimal) to implementing social distancing measures like limited gatherings (minimal to moderate) to cancellation, dismissal or banning of school, work, recreational and business activities (substantial).[340] In late February 2020, the CDC was cautioning that the response to COVID-19 was moving from one of containment to mitigation and that broader, sweeping non-pharmaceutical interventions would likely be deployed to reduce the risk of exposure.[341] By mid-to-late March, states and municipalities were employing many of those strategies.

Reducing Exposure to Virus

Many of the recommendations provided to the American public are designed to reduce community exposure to the virus. States and municipalities have leeway in executing all or some of the following strategies:

1. ***Travel Restrictions***: Currently the U.S. State Department advices all U.S. residents to avoid international travel and cruise ship travel and has barred entry of foreign nationals from China, Iran, select European countries, the UK and Ireland.[342]
2. ***Shelter-in-Place/At-Home Orders***: 42 states and the District of Columbia have issued shelter-in-place orders preventing all but essential travel and business operations, 3 states have issued partial orders and 5 states have no orders in place. [343]
3. ***School Closures***: 43 states have ordered closures of their K-12 schools, and the remaining 7 states recommend closures or allowed the school districts to make that decision.[344] Additionally, a number of public and private higher education institutions have transitioned to online/virtual learning platforms to reduce transmission on college campuses.[345]
4. ***Care Facilities or Group Quarters***: Elderly individuals and people with pre-existing health conditions face increased risk of severe complications and death following COVID-19 infection. Hospitals, nursing homes and long-term care facilities were encouraged to enact the following policies: (1) restrict visitors, volunteers and non-essential healthcare personal from entering

buildings, (2) cancel group activities and communal dining, (3) actively screen residents and staff for symptoms of COVID-19, (4) provide personal protective equipment (PPE) to staff.[346]

5. ***Social Distancing – No Gatherings***: Prior to many of the statewide shelter-in-place orders, states and municipalities had banned gatherings of 250 people, then 50 people and then 10 people. (CITE). Under the shelter-in-place order, people are allowed to leave their home for essential business and activities and to walk outside, but are prohibited from gathering and must maintain a 6-foot distance between themselves and others.[347]
6. ***Social Distancing – Remote Working***: Beginning in early to mid-March, the CDC and government entities began encouraging workplaces to develop and implement work-from-home and remote work opportunities, limit or ban work-related travel and participation in conferences and meetings and implement flexible leave policies.[348] The goal of these recommendations was to limit the number of people circulating in the community and potentially reduce the spread of illness in workplaces.
7. ***Social Distancing – Stay Home when Sick:*** From the very beginning of the pandemic, the CDC, states and municipalities all requested that sick individuals refrain from going to work or being in public if they were exposed to a known person with COVID-19, had symptoms of COVID-19, or were diagnosed with COVID-19. Persons that are suspected or known to be sick were asked to only leave home for urgent medical care, avoid public transportation and isolate themselves in a private "sick room" to reduce the risk of spreading COVID-19 to other household members.[349]

<u>Individual Risk Reduction Strategies</u>

In addition to community-level interventions, governments and public health agencies have encouraged people to engage in the following risk reduction behaviors to reduce the risk of contracting COVID-19:

1. ***Engage in Everyday Preventative Actions (Handwashing, Cleaning):*** Recommendations to engage in thorough, frequent handwashing or to use a hand sanitizer with 60% or greater alcohol content have been a persistent prevention message since the beginning of the COVID-19 outbreak.[350] Due to possible surface contamination as a means of transmission, the CDC also recommended the cleaning and disinfection of frequently touched surfaces in the home and workplace, including tabletops and counters, desks, doorknobs and handles, light switches, toilets and sinks, electronics, game consoles and TV remotes.[351] Although the initial response messaging discouraged the use of masks when in public, in early April, the CDC began recommending the use of cloth masks and face coverings. [352]
2. ***Social Distancing – Separating Ill Family Members from Well Family Members***: Preventing the spread of infection within a household is an important means of reducing virus transmission, particularly if the household has an essential worker that will be interacting with the public. The CDC and public health agencies have recommended that households with an ill family member (suspected or confirmed case of COVID-19) be isolated in their own room, have access to their own bathroom, be provided their own supplies, and wear a mask to prevent transmission.[353]
3. ***Social Distancing – No Personal Visits***: Following the first cases of COVID-19 in early February, the CDC provided limited recommendations for social distancing, such as reducing participation in large gatherings and events. By mid-March, the recommendations included not participating

in small groups, gatherings or events, limiting interactions to household contacts, and not welcoming visitors (including friends and family) to one's home.[354]

4. ***Social Distancing – Telemedicine***: People experiencing serious or severe symptoms, such as shortness of breath or chest pains, have been encouraged to seek emergency care, but for all others, there has been a request to shift to telemedicine/virtual appointments. The push to non-office visits is to both reduce exposure to non-infected patients in waiting and office rooms, as well as medical professionals working on-site.
5. ***Social Distancing – Limit Public Interactions through Remote Shopping and Stocked Pantries***: Grocery stores and pharmacies that provide needed supplies are an essential business, and as such may remain open during shelter-in-place and stay-home orders. However, guidance from the government and public health officials has increasingly taken the form of recommendations limiting in-person shopping, to shop online or use delivery services as often as possible and to stock 2 weeks supplies of foods and goods in their pantry. In early April, the White House requested that U.S. families not leave their homes for any reason through mid-to-late April to prevent further spread of illness and prepare for the impending deaths that will be coming. [355]

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