Perspective

COVID-19 and Underinvestment in the Health of the US Population

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The COVID-19 pandemic has emerged as the public health challenge of our time, with more than 2 million confirmed cases worldwide.[1] At the time of writing, based on the current rate of increase in the number of cases and daily deaths, the United States is the nation with the highest numbers of cases and deaths due to the global pandemic.[1,2] While uncertainty remains about the eventual scale of health harms and societal impact, it seems clear that the United States has proven particularly susceptible to the spread of COVID-19 and the costs associated with containing it.

Well over 500,000 confirmed cases have been reported in the United States to date, with over 30,000 deaths.[1] While there currently are little data by race or ethnicity being reported publicly by state health departments, available data suggest that COVID-19 deaths may reflect long-standing racial inequities. For example, African-Americans account for

This article has been accepted for publication and undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the Version of Record. Please cite this article as doi: 10.1111/milq.12462.

more than 70% of the 652 deaths reported in Louisiana at the time of this writing, despite comprising around 30% of the population.[3] Preliminary data from the CDC on hospitalized confirmed COVID-19 cases, while still limited, suggest this may be part of a broader pattern.[4]

Cases and deaths are being reported predominantly in urban centers, such as New York City, which alone accounts for almost one-third of all US deaths.[1] As the pandemic continues to spread across the United States, and in particular through populations with higher proportions of individuals at high risk of COVID-19 and with lower access to health care, reports of severe disease and death are likely to rise further.

Beyond the immediate health effects, more than 16 million jobs have been lost thus far in the United States as a result of the pandemic and associated physical distancing measures.[5] It therefore seems pertinent to ask why the United States has been so disproportionately afflicted by COVID-19, bearing in mind the resources and institutions at its disposal. Errors in the initial availability of testing and questions regarding political decision-making dominate public discourse around this issue. We argue, however, that while these factors matter, two preexisting features of the United States have resulted in a substantially steeper cost of COVID-19, in terms of lives and livelihoods, than would have been the case were these features promptly and effectively addressed.

In a separate article, we examine the nature of persistent underinvestment in public health infrastructure in recent years.[6] On a more fundamental level, however, there has also been an obvious underinvestment over time in the health and well-being of the US population. This underinvestment did not serve us well before the pandemic and its continuation during the pandemic is exacerbating the pandemic's effects. In this Perspective, we examine how the US has long underinvested in population health and, as a result, faces a

higher risk of COVID-19 harming health status and causing socioeconomic disruption associated with physical distancing.

The US Population in the Context of COVID-19 Risk

As a first step, it is important to acknowledge that, at core, the US population is unhealthier overall than many of its peers, with—by far— the highest chronic disease burden among Organization for Economic Co-operation and Development (OECD) countries. For example the United States has approximately twice the obesity rate of the OECD average.[7] The United States has lagged behind its peers in life expectancy for the last 4 decades,[8] and it currently has the highest number of hospitalizations from preventable causes, and the highest rate of avoidable deaths, among peer nations.[6] Mortality rates among those aged 40-75 in the United States are particularly high compared to other high-income countries,[9] and US life expectancy is projected to continue to lag behind comparable countries into 2030.[10]

Health status is also distributed inequitably among Americans, with gaps in life expectancy between the richest and poorest 1% of 15 years for men and 10 years for women.[11] Unlike most other high-income countries, this inequity in life expectancy has been increasing over time.[11] Underlying these poor mortality rates and life expectancy in the United States are diseases such as heart disease, asthma, and diabetes, and associated risk factors (eg, obesity and hypertension)—all morbidities that have been reported to exacerbate the health effects of COVID-19.[4,12]

The Underlying Conditions That Create Poor Health

Inequity in Socioeconomic Conditions

The US population includes a large proportion of economically insecure families, with nearly 40% of households unable to afford an unexpected $400 dollar bill.[13] Health is, to a large degree, shaped by the conditions in which people are born, grow, live, and work, termed the social determinants of health.[14] Fundamentally, substantial differences in income are strongly associated with poor health in general through a lack of access to good quality housing, education, health care, and work opportunities, as well as higher rates of exposure to known harms, such as smoking, obesity, self-harm, and substance abuse.[15]

In the context of COVID-19, these disparities make it harder for families to adhere to physical distancing requirements and to absorb the unexpected costs associated with lost income. This is exacerbated by disparities in the ability to work remotely, with fewer than 8% of Americans with earnings below the 25th percentile able to do so.[16] That such a large proportion of Americans may be unable to afford the additional and unexpected financial burden of COVID-19 related illness, or to engage in physical distancing measures because they cannot afford the lost income or are essential workers, puts undue strain on households already struggling, and is likely to exacerbate the spread and effects of the pandemic for all Americans.

Entrenched Racial Gaps

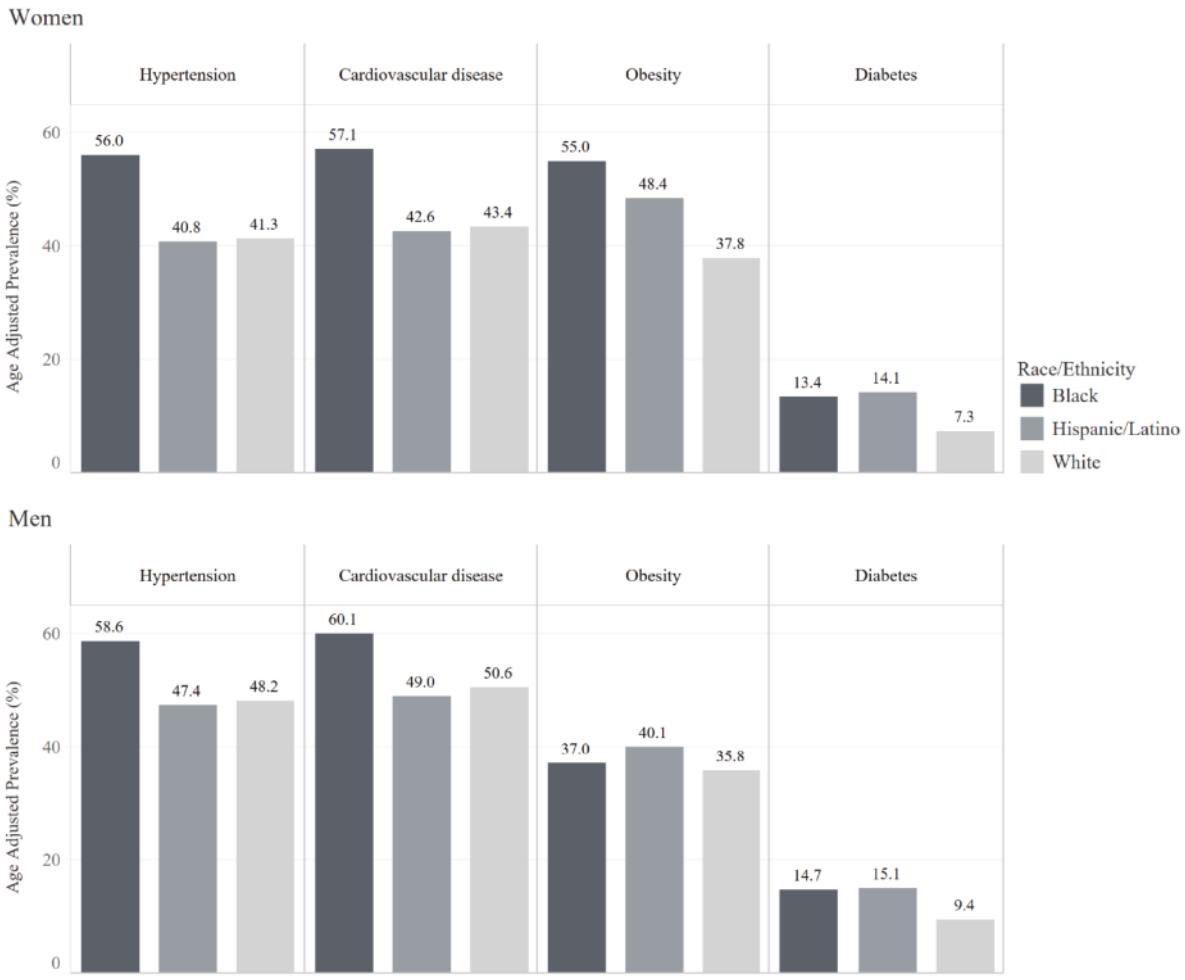
Coloring the US health picture are longstanding, entrenched, and in some cases worsening racial and ethnic divides in health. The divides reflect persistent racial gaps in wealth and opportunity. African Americans have much lower rates of upward mobility across the income distribution. Black children with parents in the top income quintile are as likely to fall into

the bottom income quintile of family income as they are to remain in the top.[17] By comparison, white children are around 5 times as likely to remain in the top quintile as they are to fall to the bottom quintile.

Self-reported racism has been linked to poorer health outcomes,[18,19] and historical reductions in structural segregation have been linked to improvement in the health outcomes of African Americans.[20] In general, African Americans and Native Americans experience poorer health and shorter lives compared to White and Hispanic/Latino Americans.[21]

Looking specifically at the conditions that are likely predisposing to poor COVID-19 outcomes, the same racial/ethnic inequities that predispose the United States to poor national health outcomes also amplify the risk of more severe COVID-19 infections. For example, cardiovascular conditions are not distributed equitably across racial/ethnic groups and are substantially higher among minority groups (see Figure 1).

Figure 1: US Age-Adjusted Prevalence of Cardiovascular Disease and Related Risk Factors for Higher Risk of Severe COVID-19 by Race/Ethnicity and Gender[a]



[a]Data from Virani et al 2020.[22]

Such health inequities are likely to further increase disease burden associated with COVID-19 and affect the ability of these groups to engage in social distancing and mitigate the economic impact associated with the pandemic. This is compounded by the effect of racial inequality on the ability to stay in employment by working remotely. Only 1 in 5

African Americans and 1 in 6 Hispanic/Latino Americans are able to work remotely, compared to 1 in 3 non-Hispanic white Americans.[16] Similarly, racial differences in household composition may magnify the effects of lock-downs. Some 65% of all African American children live in single-parent households, compared to 41% of Hispanic/Latino children and 24% of non-Hispanic white children.[23] The closure of schools places a particularly disproportionate burden on single-parent households who may be facing economic insecurity. The scale and intersectional nature of the additional health and socioeconomic burdens that COVID-19 will accrue to these populations requires urgent attention, and sustained focus.

Marginalized Populations

The United States is also characterized by large populations of marginalized groups that face some of the worst combinations of poverty, poor health outcomes, poor mental health, and stigmatization from others, including the media. This includes the US homeless population of over 500,000 adults,[24] the estimated 12 million undocumented immigrants,[25] and the US prison population, which, owing to persistently high incarceration rates compared to other countries, included more than 2.1 million individuals in 2016.[26]

Both COVID-19 and the economic hardship associated with physical distancing measures are felt especially hard by marginalized groups that are unable to self-isolate or seek care, either through the nature of their living conditions or through fear of punishment or deportation. A failure to provide or account for the lack of options among these groups in contracting and spreading COVID-19 is a moral failure with health implications for all Americans.

Health Care Access

Compounding these existing health inequities is the unique mismatch between health care needs and access to care in the United States. The US health care system is by far the most expensive in the world, spending twice as much as the average OECD country.[7] This includes both insurance premiums and out-of-pocket payments, which even for the insured can be prohibitively expensive.[27] And yet, despite this high level of spending, the United States has the highest rates of avoidable death among peer countries.[7]

To demonstrate the scale of this issue and its relevance to managing and ultimately overcoming COVID-19, the 2018 census reported approximately 27 million uninsured Americans,[28] for whom out-of-pocket costs of treatment for COVID-19 would likely be prohibitively expensive, and who may therefore avoid seeking diagnosis or treatment. This number is likely to grow as a result of the extensive job loss in the United States associated with the pandemic (22 million at last count), and does not include the 29% of Americans who were underinsured in 2018[29] and thus were less likely to seek care. Around one-quarter of all Americans reported difficulty in paying medical bills before the start of the current pandemic, a number likely to rise significantly as unemployment grows.[30]

It is possible that post-COVID-19 recovery legislation may cover some of the newly un- or under-insured, and the true effects of these barriers to health care access in the context of COVID-19 remain to be seen. However, it is also likely that barriers to medical care are likely to compound existing fears regarding conditions in hospitals during the pandemic, and may force many Americans to stave off seeking treatment for as long as possible, with negative consequences for their own health, as well as for their communities through increasing transmission risk.

The Compounding Effects of Health Inequity, Economic Inequities, and Health Care Access

Socioeconomic conditions, such as poverty and racism, are multidimensional and constitute a much greater burden than merely financial or health-related insecurity. Using five dimensions of poverty (limited education, poor locale, low income, unemployment, and a lack of health insurance), the Brookings Institution reported that almost 25% of Americans experience multidimensional poverty (two or more of these disadvantages), and almost 50% experience at least one dimension.[31] There is once more a stark racial gap, with African Americans and Hispanic/Latino Americans almost twice as likely as white Americans to experience at least one dimension of poverty, and more than three times as likely to experience three or more dimensions of poverty.

The persistent challenging circumstances and inequity experienced by such a large proportion of Americans, and the effects of such circumstances on their health and ability to access health care, combine to make it likely that both COVID-19 and the economic effects of physical distancing will affect them to a greater degree, making them less able to work remotely, less able to engage in physical distancing, more likely to become seriously ill, and less able to seek the health care they need.

Building a Post-COVID World

The United States, compared to its peer countries, is characterized by growing income inequality, racial health inequities, poor treatment of large numbers of marginalized populations, and high costs of health care. A failure to address these issues has contributed to persistent poorer population health outcomes, with the burden of poor health falling disproportionately on those of lower socioeconomic status.

These health inequities, and the nature of the social inequity that underpins them, are likely to exacerbate the effects of COVID-19 for those who can least afford it. Beyond this,

however, the barriers these groups face to seeking treatment and engaging in physical distancing may worsen the spread of COVID-19, and by consequence, the health of all Americans. This renders the US population uniquely susceptible to the burden of COVID-19 and the negative impacts of the physical distancing being enacted in response.

Population Health in a Post-COVID World

A healthier US population, combined with a strong public health infrastructure, would not only be more just, but also more economically secure and less susceptible to future pandemics. This will require acknowledging social determinants as the foundational causes of health, and the health of all citizens as a public good—a means of retaining both economic security and also the personal freedom on which prosperity can be built. This also includes an understanding of the need for the places in which we are born, the jobs in which we work, and the communities in which we live to be health-generating. As political leaders liken the response to this pandemic to a war in which all citizens are combatants, it is more important than ever to consider those we have left behind, and without whom, rebuilding a better world is impossible.

In many respects such a vision may seem aspirational, perhaps even unattainable. But the work of public health is definitionally aspirational. Just as the evidence exists for actions to improve the public health structures that keep us safe, so too does the evidence for how we might invest in a healthier population. At the beginning of 2020 it would have seemed inconceivable that the country would be, within three months, essentially shut down by a previously unknown pathogen. It may seem similarly unthinkable today that the United States would employ population health as an animating value informing all of its policies, and in doing so align efforts to build safer housing, produce healthier food, establish livable wages, and provide universal high-quality education. But all are necessary to foster a healthier

population, and avoid the next catastrophic contagion, and all are achievable given the right mix of political will and clarity of public discourse. If the current COVID-19 moment can so catalyze the public conversation, the country hopefully will emerge far better and healthier from this pandemic in years to come.

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