

When Public Health Crises Collide: Social Disparities and COVID-19

Richard Stein¹ and Oana Ometa²

¹New York University Tandon School of Engineering

²Babes-Bolyai University

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In *To Have or to Be?*, psychoanalyst Erich Fromm writes about pursuit after domination of nature, material abundance, and unlimited happiness, which made modern society become more interested in *having* than in *being*. Income, in his view, should not be as accentuated as to create different experiences of life for different groups [1]. Of the concepts that Fromm presents, the domination of nature, which facilitates zoonotic spillover events by increasing the overlap between the habitat of various species with that of humans [2-5], and the gap between the rich and the poor, which recently has become the widest in years [6], become particularly relevant in context of the COVID-19 pandemic.

Even though susceptibility to COVID-19 does not know socioeconomic boundaries, a critical and worrisome finding is emerging from preliminary data and may re-shape infectious disease outbreak management strategies for the future. An early analysis of COVID-19 data from several jurisdictions in the United States found that counties with a majority of African American residents had three-times higher infection rates and six-times higher mortality rates than counties with a majority of Caucasian residents [7]. Another analysis, of March 2020 COVID-19 hospitalization data from 14 states in the United States, found more African American individuals among hospitalized patients whose race or ethnicity was recorded [8]. These and other findings reveal a disproportionately higher risk of serious or fatal COVID-19 in minorities. What makes these observations remarkable is that hypertension, diabetes, and obesity, which are risk factors for more severe or fatal COVID-19 [9-13], are exactly the chronic conditions that have long been recognized as disproportionately affecting racial/ethnic minorities and socioeconomically disfavored individuals and groups [14].

Obesity affects minorities and low-socioeconomic-status groups disproportionately at all ages [15], a finding that was reported in several countries [16-19]. Some of the risk factors that account for disparities in obesity include low socioeconomic status [20], food insecurity, restricted access to healthy diet and recreational facilities [21-24], residence in areas with fast food restaurants [25], a high neighborhood density of small grocery stores [26], distance to a store [27], exposure to obesogenic environments [28, 29], shift work [30] and irregular sleep patterns [31-33].

Obesity increases the risk for other chronic diseases [12], including diabetes and hypertension [34]. African American adults in the United States have among the highest rates of hypertension worldwide [35]. Several factors were implicated in disparities in hypertension, including socioeconomic status [36], differences in awareness [37], residence in a food desert [38], chronic stress [39, 40], fewer healthcare resources [41], and income [42]. Disparities for diabetes were described in minority populations in terms of increased prevalence [43, 44], worse management and control [45, 46], and higher rates of complications [45, 47]. Over the past three decades the socioeconomic disparities for type 2 diabetes have widened [48].

Racial, ethnic and socioeconomic disparities also shape inequities in the access to mental health care [49-52].

This is very relevant for COVID-19, in context of the quarantine that was implemented in many countries in various forms, including school closures, allowing non-essential personnel to work from home, closure of mass transit systems, cancellation of public events, and restrictions on the assembly of groups of people [53-55]. Social isolation negatively impacts mental health and, with > 70% of the young people and adults not receiving adequate mental health treatment from health care personnel worldwide [56], the implications in the wake of COVID-19 are extensive and far-reaching. The 2002-2003 SARS pandemic revealed that a substantial proportion of the quarantined individuals may display PTSD and depression symptoms, with longer duration of the quarantine being associated with more severe PTSD [57]. During the same pandemic, hospital employees from Beijing who were quarantined had higher PTSD levels than those who were not, even three years later [58]. Among individuals from South Korea isolated for two weeks during the 2015 MERS outbreak, anxiety and anger were still present 4-6 months after the quarantine [59].

The disproportionately higher suffering of socio-economically disadvantaged individuals at a moment of crisis is, unfortunately, nothing new. In the 14th century, in the Black Death pandemic, the poorest populations were also the most extensively impacted ones in terms of mortality [60, 61], and low-income individuals had a considerably worse outcome after the 1918 flu pandemic [62]. The disproportionate effect on socio-economically disadvantaged individuals was also apparent in the wake of natural disasters, such as Hurricane Katrina [63] or the Deepwater Horizon oil spill [64]. One aspect that makes COVID-19 different is that several segments of the population become more vulnerable not simply due to socioeconomic disparities, but as a result of chronic medical conditions that these disparities have at least partly fueled over decades. The partial overlap between the risk factors for these two groups of diseases is reminiscent of debates on whether the broad classification of diseases into non-communicable and communicable ones is a meaningful one, considering that the two groups often overlap and interact markedly with one another [65-67]. Another aspect that sets COVID-19 aside from other pandemics in recent history is the extent and the duration of the quarantine and the resulting increase in unemployment rates [68, 69], which only promise to prolong and exacerbate the extent of social inequities and the burden of chronic diseases.

COVID-19 provides a steep and perplexing learning curve that underscores the imperative need to envision infectious diseases not simply from a biomedical perspective, but as part of a complex framework that incorporates ethnic, socioeconomic, and political dimensions. Racial/ethnic and socioeconomic disparities are conducive to the development of chronic medical conditions that could increase the risk of severe COVID-19, widening the disparities and accentuating the chronic disease burden and, as a result, further marginalizing already vulnerable individuals and groups. The implications of this positive feedback loop for individuals, groups, and society, extend beyond COVID-19 and beyond infectious diseases in general. The current pandemic eloquently demonstrates, albeit at a high cost, that societies function on the basis of a social contract, as described by Jean-Jacques Rousseau and, undoubtedly, offers an important moment to reflect on the profound, far-reaching, and multi-layered consequences of disparities in society.

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