Social Determinants of Mental Health as Mediators and Moderators of the Mental Health Impacts of the COVID-19 Pandemic

Francesco Bernardini, M.D., Luigi Attademo, M.D., Merrill Rotter, M.D., Michael T. Compton, M.D., M.P.H.

Contracting COVID-19, being exposed to it, or being affected by societal containment measures can have consequences that are themselves social determinants of health. Preexisting social determinants of health also drive the disproportionately high prevalence of COVID-19 infection and deaths among minority, marginalized, and other vulnerable populations. Thus, the social determinants of mental health act as both mediators and moderators of the pandemic's impacts, and like all social determinants, the effects of the pandemic are underpinned by public policies and social norms. The major economic impacts of containment measures have had cascading effects that will affect mental health for years to come.

Psychiatric Services 2021; 72:598–601; doi: 10.1176/appi.ps.202000393

In March of 2020, the World Health Organization (WHO) declared that COVID-19 had become a pandemic. With its potentially severe clinical manifestations and substantial mortality, COVID-19 has, at the time of this writing, infected people in at least 219 countries and territories across all continents except for Antarctica, affecting enough people and producing such serious levels of illness to rapidly produce an extraordinary and overwhelming demand on public health systems and health care infrastructures. The global effort to contain the COVID-19 outbreak, involving WHO, public health authorities, and governments worldwide, has produced correspondingly extraordinary and overwhelming demands on the world's social, political, and economic structures. The near collapse of the health care system in the wealthy Lombardy region of Italy demonstrated that devastating effects could happen anywhere, but the risks associated with the pandemic are significantly higher among low-income and developing countries (1) and among traditionally marginalized populations even within the wealthiest nations (2). Thus, the relevance and impact of the social determinants of health and mental health have been tragically demonstrated yet again by the disparate impacts of the COVID-19 pandemic, and many people are aware of the prominent inequities that have been revealed afresh by the pandemic. In this column, we outline some of the ways in which the social determinants of mental health both mediate and moderate the mental health impacts of the pandemic and measures for its containment (Figure 1). By "mediate," we mean that the pandemic and containment measures lead to social determinants, which in turn lead to adverse mental health outcomes. By "moderate," we mean that existing social determinants in society can influence the strength of the association between the pandemic and containment measures and adverse mental health outcomes, such that the relationship is stronger among groups experiencing preexisting social determinants. We also suggest how the social determinants framework can guide our responses as clinicians and public policy advocates.

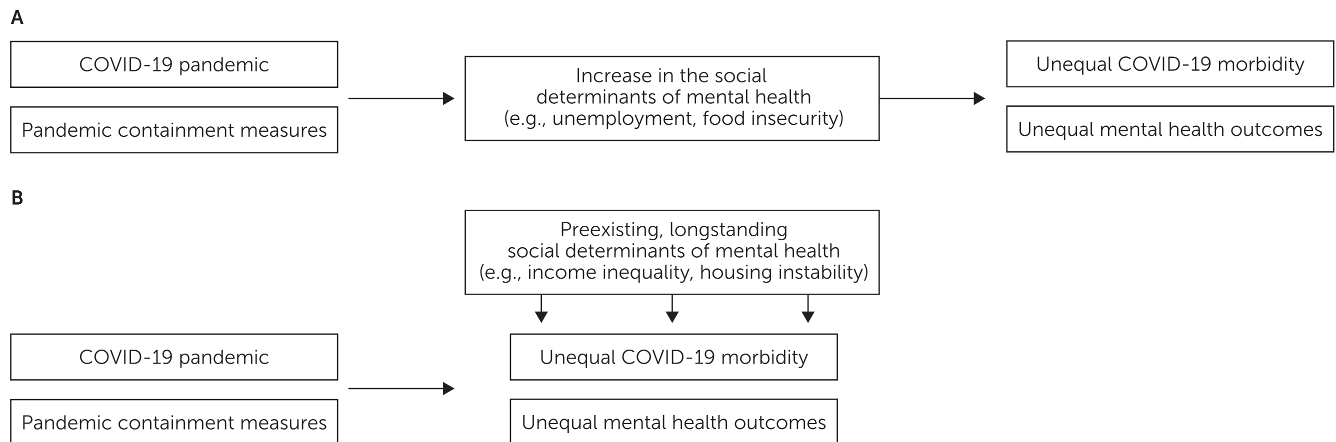
Social Determinants and Disproportionate Prevalence of COVID-19

According to a WHO definition, the social determinants of health are the conditions in which people "are born, grow, live, work, and age." They include adverse early life experiences; discrimination in its varied forms; exposure to conflict, violence, and other politically motivated harm;

HIGHLIGHTS

- COVID-19 and societal containment measures have amplified the social determinants of health, setting the stage for long-lasting mental health impacts.
- Preexisting social determinants of general medical and mental health drive disparate prevalence and severity of COVID-19 among marginalized and disenfranchised populations.

FIGURE 1. Effect of social determinants of mental health on the unequal prevalence and mental health consequences of COVID-19[a]



[a] A: Social determinants as mediators of the effects of COVID-19. B: Social determinants as moderators of the effects of COVID-19.

criminal justice system involvement; low educational attainment, poor-quality education, and educational inequalities; unemployment, underemployment, and job insecurity; individual and area-level poverty; homelessness, housing instability, and poor-quality housing; food insecurity; poor access to transportation; poor access to health care; adverse features of the built environment and neighborhood disorder; and exposure to pollution and the impacts of climate change (3).

These social determinants are among the reasons postulated to explain the disproportionately high prevalence of COVID-19 cases and deaths among racial-ethnic minority groups in the United States. Such populations are less likely to be insured and therefore less likely to have access to COVID-19 testing and treatment; more likely to live in housing that makes it difficult to practice social distancing or self-isolate; more likely to work in jobs that they cannot afford to miss, that are not amenable to teleworking, and that require them to use public transportation (placing them at additional risk for exposure); and more likely to have underlying health conditions that increase risk, morbidity, and mortality—conditions that are themselves driven by social inequities (2, 3).

Mental health effects of the pandemic mediated by social determinants. Mental health effects of the pandemic include serious and persistent stress, which may be associated with sleep disturbances; increased substance use; depressive symptoms, including suicidality; anxiety-related behaviors; and reductions in perceived health (4). The pandemic's effects on mental health are caused and compounded by the necessary containment measures, which include social and professional restrictions, physical distancing, and compulsory isolation at home. Both the pandemic and the measures for its containment increase the prevalence of certain social determinants. For example, many communities have observed increased prevalence of adverse childhood experiences, unemployment or underemployment, and food insecurity (caused by supply chain disruptions, business closures, empty store shelves, and inadequately stocked food pantries), to name just a few of the social and economic disruptions. Thus, aside from causing stress related to the virus itself, the pandemic will have substantial and long-lasting effects on mental health through pathways created by these social determinants. As such, the social determinants are mediators: the pandemic and its containment measures lead to these social conditions, which in turn lead to poor mental health and mental illness. A global economic slowdown has resulted from containment measures, accompanied by massive unemployment and fewer governmental resources to support public welfare systems. For each percentage point slowdown in the global economy, at least 14 million people are falling into poverty and food insecurity worldwide (5, 6). The full effects of COVID-19 are yet to be seen, but given the current situation, the acute and long-term consequences on global mental health may be devastating.

Mental health effects of the pandemic moderated by social determinants. Individuals experiencing the general medical and behavioral health inequities associated with the aforementioned social determinants have also carried a disproportionate burden of COVID-19 morbidity and mortality. Social determinants already existing in society because of longstanding injustices moderate the impact of the pandemic, and those with the greatest social challenges face the greatest impacts. Existing social and economic inequities drive the spread of infection and moderate the impact of containment measures, with foreseeable consequences on populations that are already disadvantaged. Poor populations, underdeveloped countries, conflict zones, prisons, and refugee camps appear to be more at risk to be hit the hardest (5). Persons with serious mental illnesses may be particularly at risk because of their medical, social, psychological, and cognitive vulnerabilities (7).

A damaging feedback loop has been created: each of the social determinants of health and mental health contribute

to the disparate prevalence and severity of COVID-19 among marginalized and disenfranchised populations. In turn, the disparate prevalence of COVID-19 contributes to the worsening of the very social determinants that affect mental health. For example, housing instability makes sheltering in place more challenging and therefore increases the risk of contracting COVID-19. In turn, exposure to COVID-19 increases housing instability when at-risk individuals are excluded from housing, need to be isolated, and/or cannot pay rent because of COVID-19–related unemployment. Crowded housing and densely populated neighborhoods similarly set the stage for higher, and unequal, prevalence of infection, disease, and death.

Public policies and social norms. Any consideration of the social determinants of health leads to the underlying public policies and social norms. The pandemic is underpinned by public policies and social norms that, by creating social injustices, ultimately increase risk for disease and behavioral disorders. Without direct policy and social action, these injustices will continue to affect the lives and health of those already suffering deprivation, discrimination, and inequality, even after the stressor has receded.

From a public policy perspective, the COVID-19 crisis has quickly disclosed the unpreparedness of public systems to face viral epidemics in even the historically richest European and North American countries, exposing widespread inadequacies, including shortages of personal protective equipment, testing reagents, ventilators, and other supplies. In some places, political debates have affected or trumped coordinated efforts to efficiently and effectively ramp up testing availability and contact tracing. Additionally, as noted above, policies that affect health care access in general directly affect vulnerability to, identification of, and treatment of the illness itself.

Social norms are the informal agreements that govern the behavior of members of a society. In contrast to official policies, laws, rules, and regulations, the social norms that underpin the social determinants of health are the conscious and unconscious biases and beliefs that maintain systemic inequality and inequity. For example, the overrepresentation of COVID-19 infection among some of the lowest-paid workers in the United States who, in the context of the pandemic, are now deemed "essential" reflects, in part, a longstanding underappreciation of their value, their socioeconomic challenges, and their health care needs. Disturbingly, the concentration of COVID-19 illness and impact on racial-ethnic minority groups, which have suffered centuries of discrimination and trauma, exposes the continuing challenges of racism, racial discrimination, race-based inequities, and structural violence.

The COVID-19 Pandemic in Italy

The tragic experience of the COVID-19 outbreak in Italy is illustrative and instructive. Like other medical conditions (e.g., hypertension, diabetes, asthma), COVID-19 is not limited to poor or marginalized populations. As noted above, the wealthy and more industrialized regions in the north of Italy, such as Lombardy, Emilia-Romagna, Veneto, and Piemonte, were hit very hard by the infectious outbreak, with almost half of Italian COVID-19 deaths occurring in Lombardy, as of this writing. This event stands in contrast to the usual expectations for the impact of social determinants on health outcomes. Although further study is warranted, some of the preliminary reasons to explain this counterintuitive finding are the higher number of international and national travelers in the region; the delayed lockdown of businesses to preserve industrial production and economic activity when infectious spread was already evident; and the high levels of air pollution. Southern Italy may have been spared from the worst-case scenario, because when the North was placed in lockdown, there were only a few cases of infections in the South. The whole country was locked down shortly thereafter, with significant travel restrictions between the northern and southern parts.

On the other hand, Southern Italy may be disproportionately affected by the pandemic in the long term. Preexisting structural and infrastructural weaknesses of the economy of Southern Italian—elevated rates of unemployment, high levels of off-the-books work, wide presence of criminal organizations, and difficult credit access—make the South particularly vulnerable to the socioeconomic disruption associated with the pandemic and to its downstream health and mental health effects (8).

Reducing Inequities and Addressing the Social Determinants of Mental Health

The full effects of COVID-19 on global mental health are yet to be seen, but the current health and economic situation is already increasing risk for substance use disorders and mental illnesses, worsening outcomes among those with existing behavioral disorders and deepening mental health inequities among population groups (2, 4). As Berwick (9) has recently expressed, health care professionals can help lead an agenda in demanding and supporting societal reform. The pervasiveness and severity of the pandemic, and its disparate population-level effects, require ongoing, urgent attention from public health authorities and organizations worldwide, including psychiatric organizations, in support of health-promoting public policies and social norms to reduce inequities and address the social determinants of general medical and mental health.

AUTHOR AND ARTICLE INFORMATION

Department of Mental Health, Psychiatric Diagnosis and Care Service (SPDC) Pordenone, Azienda Sanitaria Friuli Occidentale, Pordenone, Italy (Bernardini); Planetary Health Lab, University of Edinburgh, Edinburgh (Bernardini, Attademo); Department of Mental Health, SPDC Potenza, ASP Basilicata, Potenza, Italy (Attademo); Albert Einstein College of Medicine, New York City (Rotter); New York State Psychiatric Institute, New York City (Compton). Ruth S. Shim, M.D., M.P.H., and

Michael T. Compton, M.D., M.P.H., are editors of this column. Send correspondence to Dr. Bernardini (francescobernardini78@yahoo.fr).

The authors thank the health care workers and scientific community fighting against COVID-19 worldwide.

The authors report no financial relationships with commercial interests.

Received May 29, 2020; revision received July 28, 2020; accepted August 13, 2020; published online February 17, 2021.

REFERENCES

1. Nacoti M, Ciocca A, Giupponi A, et al: At the epicenter of the COVID-19 pandemic and humanitarian crises in Italy: changing perspectives on preparation and mitigation. NEJM Catalyst (Epub March 21, 2020)
2. Double Jeopardy: COVID-19 and Behavioral Health Disparities for Black and Latino Communities in the US. Rockville, MD, Substance Abuse and Mental Health Services Administration, 2020. https://www.samhsa.gov/sites/default/files/covid19-behavioral-health-disparities-black-latino-communities.pdf. Accessed May 29, 2020
3. Compton MT, Shim RS (eds): The Social Determinants of Mental Health. Washington, DC, American Psychiatric Association Publishing, 2015
4. Mental Health and Psychosocial Considerations During the COVID-19 Outbreak. Geneva, World Health Organization, 2020. https://www.who.int/publications-detail/WHO-2019-nCoV-MentalHealth-2020.1. Accessed May 29, 2020
5. How Much Will Global Poverty Increase Because of COVID-19? Washington, DC, International Food Policy Research Institute, 2020. https://www.ifpri.org/blog/how-much-will-global-poverty-increase-because-covid-19. Accessed May 29, 2020
6. Ahmed F, Ahmed N, Pissarides C, et al: Why inequality could spread COVID-19. Lancet Public Health (Epub ahead of print, April 2, 2020)
7. Shinn AK, Viron M: Perspectives on the COVID-19 pandemic and individuals with serious mental illness. J Clin Psychiatry 2020; 81:3
8. Horowitz J: For Southern Italy the coronavirus becomes a war on two fronts. New York Times, May 19, 2020. https://nyti.ms/2VoQD0Q. Accessed May 29, 2020
9. Berwick DM: The moral determinants of health. JAMA 2020; 324: 225–226

Submissions Invited for Culture & Mental Health Services Column

A new column in *Psychiatric Services,* Culture & Mental Health Services, edited by Roberto Lewis-Fernández, M.D., aims to clarify the ways that culture shapes the utilization, delivery, and organization of mental health services. Submissions may examine the influence of culture at the level of the individual seeking care (e.g., the impact of a person's cultural views of illness on treatment choice and level of engagement), the provider (e.g., the role of implicit racial-ethnic biases on service recommendations), the program (e.g., how local socioeconomic and organizational factors influence the package of services offered at a clinic), or the mental health system (e.g., how political forces affect reimbursement structures that determine availability of services). Dr. Lewis-Fernández welcomes papers that focus on aspects of culture related to interpretation (meaning making), social group identity (e.g., race-ethnicity, language, and sexual orientation), and social structures and systems. The goal of the column is to make visible the social-contextual frameworks that shape care. Papers, limited to 2,400 words, may be submitted online as columns via ScholarOne Manuscripts at mc.manuscriptcentral.com/appi-ps. The cover letter should specify that the submission is for the Culture & Mental Health Services column.