

## Social determinants of health and inequalities in COVID-19

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The COVID-19 pandemic is affecting populations worldwide. Although everyone is susceptible to the virus, there are numerous accounts of the pandemic having a greater impact on lower socioeconomic groups and minorities.<sup>1,2</sup> Also, in Stockholm, Sweden, the infection rate is 3–4 times higher in some socioeconomically disadvantaged residential areas compared to the regional average. Scientific studies of inequalities in Coronavirus disease 2019 (COVID-19) are lacking at present, but it is reasonable to assume that disparities in social determinants of health have contributed to these early observations and result in differential exposure to the virus, differential vulnerability to the infection and differential consequences of the disease.

### Differential exposure leading to increased risk of infection with COVID-19

Limited material circumstances, such as crowded living conditions and multigenerational households, may increase the risk of being infected with SARS-CoV-2. The WHO housing and health guidelines from 2018 reports strong associations between crowding and airway infections, and there is reason to believe that COVID-19 is no exception. Work-related exposure is also increased for occupations that do not permit working from home and entail physical proximity to other people or direct contact with the public. These typically include low-income jobs in service sectors, such as health or social care, transportation, cleaning and hospitality. Use of public transportation to get to work and the lack of adequate personal protective equipment, or instructions on how to use them properly, may further increase the exposure risk. Precarious employments and a lack of social insurance are also more common among low-income earners and can limit their financial ability to stay at home during sickness.

### Differential susceptibility leading to increased risk of severe COVID-19

The risk of severe disease and death in COVID-19 is increased among individuals with poor general health and nutritional status, and among those with underlying chronic conditions such as cardiovascular diseases, lung diseases, diabetes and cancer.<sup>3</sup> The prevalence of these conditions is inversely associated with socioeconomic status.<sup>4</sup> A socioeconomic gradient is also observed for smoking and obesity, which may further aggravate the disease.<sup>3,4</sup> As health-seeking behaviors relate to health literacy and access to health care and are influenced by user fees, persons in disadvantaged socioeconomic groups may delay seeking care for COVID-19, potentially resulting in more severe disease and death.<sup>5</sup>

### Differential consequences of COVID-19

The social and economic consequences of the COVID-19 pandemic will affect the whole population but is expected to strike more severely in lower socioeconomic groups. The risk of unemployment is higher among those with atypical and precarious employment conditions, whose financial margins are already minimal. While unemployment is increasing overall, low-income earners more often serve in sectors that are hardest hit by the pandemic and have smaller economic buffers to sustain periods of lost income. The negative impact of unemployment on health is well known, and includes poor mental health, increased alcohol and substance use and family violence.

#### *What can be done?*

A range of efforts is needed to counteract the apparent risk that COVID-19 will exacerbate existing health inequalities and disproportionately affect lower socioeconomic groups. An important starting point is increasing knowledge and awareness of the underlying mechanisms; studies are needed to understand how the disease strikes and by which pathways it impacts certain population groups more adversely—taking lessons from previous disease outbreaks. As many of the potential risk factors (limited material conditions, crowding, poor general health and underlying disease) tend to cluster in the same individuals and areas, it is important to distinguish the specific impact of each in order to inform preventive interventions and policies.

Governments should take early actions to mitigate the various negative effects of COVID-19 and protect vulnerable groups, especially considering policies that alleviate the economic impact on low-income earners. Increased collaboration is needed across multiple levels and stakeholders, including between health and social care, between different administrative levels, and between public and non-governmental organizations. Specific preventive and mitigating measures should be strengthened where the need is greatest and may be focused on areas with socioeconomic conditions that are conducive to high rates of infection and severe disease. Local interventions should be informed by and designed in collaboration with the community to allow appropriate measures to be taken that resonate with the needs of the communities. In addition, these measures should be evaluated for their effectiveness.

Finally, the inequality in COVID-19 that quickly arose in the wake of the pandemic indicates the need for disaster preparedness plans to specifically address vulnerable communities in order to ensure a rapid and coordinated response to protect these groups at an early phase in future crisis.

*Conflicts of interest:* None declared.

## References

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