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DREXEL UNIVERSITY
Urban Health Collaborative
Dornsife School of Public Health

COVID-19 HEALTH EQUITY IN CITIES

CONCEPTUAL FRAMEWORK

Inequities in COVID-19 are the result of long-standing structural, racial, economic, and social inequities that existed prior to the pandemic and that are being made visible (and are magnified) by the current crisis. Advancement of health equity and the reduction of COVID-19 inequities in cities requires a clear conceptual understanding of the main drivers of inequities and how they create differences between populations, between neighborhoods, and between cities.

The conceptual framework described below has guided the approach used by a project implemented by Drexel Urban Health Collaborative in partnership with the Big Cities Health Coalition, with support from the Robert Wood Johnson Foundation to identify appropriate indicators to document and monitor inequities in cities. It can also be utilized as a tool to identify targets for actions and policies designed to mitigate and eliminate inequities in COVID-19 outcomes.

DRIVERS OF COVID-19 INEQUITIES IN CITIES

COVID-19 inequities in cities are driven by a complex set of factors that increase risk of exposure, the risk of acquiring the infection when exposed, and the risk of developing more severe or fatal disease when infected. Living and working conditions as well economic, and policy barriers prevent some populations from engaging in recommended public health prevention strategies such as social distancing, hand washing, self-isolation, and quarantine increasing infection rates. Undiagnosed disease due to limited access to testing-- particularly among asymptomatic or pre-symptomatic carriers-- can also lead to higher rates of disease transmission. As with other infectious diseases, acute and chronic stress may also increase susceptibility to infection. Additional factors that increase the likelihood of severe disease and death include delayed diagnosis and follow-up treatment due to limited access to healthcare (e.g. lack of health insurance); barriers within the healthcare setting such as bias and discrimination that leads to differential treatment; limited access to culturally and linguistically appropriate services; as well as underlying chronic conditions which are more prevalent among marginalized racial groups and individuals with low socioeconomic status. Congregate settings within urban environments such as jails and prisons, detention centers, homeless shelters and nursing homes are prone to outbreaks and widespread transmission due to crowded, often unsanitary conditions and limited access to testing to monitor cases (Lofgren et al., 2020; Reinhart & Chen, 2020). Workers within these settings are also at increased risk of exposure and infection which may lead to community transmission.

COVID-19 INEQUITIES AT MULTIPLE LEVELS

Inequities in COVID-19 outcomes are observed at multiple levels: between populations; between neighborhoods; and between cities.

COVID-19 INEQUITIES BETWEEN POPULATIONS

Due to longstanding racial, social, and economic inequities, marginalized racial groups, individuals with low-wage and essential occupations (e.g. grocery store clerks, nursing aids, janitors, food processing workers), individuals with limited socioeconomic resources, and immigrant populations (documented and undocumented) are disproportionately impacted by the COVID-19 pandemic (Ross & Bateman, 2019). These groups are at increased risk of exposure and often experience barriers to accessing healthcare services for testing and follow-up treatment. For example, many low-wage essential workers in service and production industries have been forced to work in hazardous conditions with inadequate personal protective equipment and inadequate income protections such as paid sick leave and hazard pay, putting them at increased risk of exposure to the virus and leaving them without protections if they get sick (Kinder, 2020; Tomer & Kane, 2020). Black and Latinx workers are disproportionately represented in these industries (43% of Black and Latino workers compared with 25% of white workers), making this a major driver of increased risk of infection among these racial groups. Lack of employer-based healthcare in these occupations may further exacerbate these inequities. Conditions among undocumented workers are even more precarious because they lack protections afforded to other workers and are limited in their power to bargain for safer working conditions.

COVID-19 INEQUITIES BETWEEN NEIGHBORHOODS

Neighborhoods differ in many social and environmental features that may affect COVID-19 outcomes. Racist federal, state, and local policies (e.g. redlining) and discriminatory mortgage practices (e.g. predatory lending) have made residential segregation a persistent hallmark of major cities across the United States (Bailey et al., 2020; Rothstein, 2017; Trounstine, 2018; Williams & Collins, 2001). Decades of disinvestment in segregated neighborhoods has led to a wide range of structural conditions such as low-quality, crowded housing conditions that increase risk of exposure, transmission, and likelihood of death during the pandemic (Barber et al., 2020). Chronic stress, exposure to pollutants due, in large part, to environmental racism, and inadequate access to healthy foods also leads to many of the underlying chronic conditions (Kershaw & Albrecht, 2015) that make individuals more susceptible to more severe cases and subsequent death. These factors are further compounded by limited access to quality healthcare within community settings which leads to less access to testing and follow-up treatment.

COVID-19 INEQUITIES BETWEEN CITIES

Cities differ in many characteristics that may related to differences in health (and COVID-19) across cities. Pre-existing economic and social conditions as well as public health and healthcare infrastructure may lead to differences in COVID-19 incidence rates and deaths. Population density and overcrowding may also differ across cities and affect COVOD-19 outcomes. Moreover, cities that were more unequal or more segregated prior to pandemic or that had larger pre-existing inequities in chronic diseases may see larger inequities in COVID-19 incidence or mortality. A city's policy response may also influence overall rates and deaths and the magnitude of inequities within the city (Benfer & Wiley, 2020).

It is important to note that inequities at one level, reinforce inequities at other levels. For example, low-wage essential workers are more likely to live in racially and economically segregated communities in over-crowded housing conditions due to limited affordable housing options in cities. This in turn may lead to more widespread household and community transmission ultimately resulting in higher rates within these settings and larger inequities between neighborhoods (Barber et al., 2020). Finally, a city's policy response (or lack thereof) to these inequities (e.g. targeted free testing or moratoriums on evictions) may mitigate or exacerbate observed inequities.

VISIT THE COVID-19 INEQUITIES DATA PLATFORM

https://bchc-inequities-project.netlify.app/

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The mission of the Drexel Urban Health Collaborative at the Dornsife School of Public Health is to improve health in cities by increasing scientific knowledge and public awareness of urban health challenges and opportunities, and by identifying and promoting actions and policies that improve population health and reduce health inequities. Through three areas of emphasis, research and data, training, and community and policy engagement, the UHC works to advance knowledge, build capacity, and translate knowledge into community and policy actions to improve urban health in Philadelphia and in cities all over the world. For more information, visit https://drexel.edu/uhc/ .