

# Researchers find social inequities tied to more severe COVID-19 symptoms

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A nurse preparing a COVID-19 patient for a procedure in intensive care. Credit: U.S. Navy / Sara Eshleman

Social inequities like housing and access to health care put individuals from marginalized racial and ethnic groups with substance use disorders at greater risk for developing severe COVID-19 symptoms than white individuals with substance use disorders, according to researchers. The study findings suggest that treatment strategies that consider multiple dimensions of vulnerability may help health care providers better manage COVID-19 disease among at-risk populations.

"What we're seeing with COVID is that for populations who were already experiencing high levels of social inequities, COVID-19 is likely exacerbating those underlying issues, likely putting people at risk of developing new issues," said Brandy Henry, assistant professor of education (rehabilitation and human services) at Penn State. "There are a lot of complicated, interlocking factors. How do we make sure our most vulnerable populations aren't left behind as we move into this post-COVID world where people are reducing universal precautions?"

The researchers' newest study, published in *Preventive Medicine*, expands on two previous studies by examining how race/ethnicity and substance use are independently and collectively associated with COVID-19 outcomes.

The previously published papers include [a paper](#) on the relationship between opioid use disorder (OUD) and COVID-19 complications, and [a second publication](#) that assessed the relationship between pre-existing mental health disorders and COVID-19-related outcomes.

"Our previous studies identified both race/ethnicity and substance use as associated with COVID-19 severity," Henry said. "However, we did not disentangle how these two factors overlap. In this study we highlight group specific associations which can help guide more targeted interventions."

The latest study assessed patient race/ethnicity as an effect modifier, or a third factor that is associated with the outcome but not the exposure, of the risk of severe COVID-19 disease among patients with histories of SUD and overdose.

The researchers analyzed electronic health record data from 116,471 [adult patients](#) who sought treatment at a hospital for COVID-19 between March 2020 and February 2021 across five health care systems in New York City to estimate associations between SUD and [drug overdose](#) history with COVID-19 outcomes. The researchers then assessed race/ethnicity as an effect modifier for severe COVID-19 disease to identify potential disparities in COVID-19 severity across racial and [ethnic groups](#).

"As an early COVID-19 epicenter and a racially and ethnically diverse jurisdiction with high rates of opioid and other drug overdose, NYC is an ideal setting in which to begin to untangle the relationships between COVID-19, SUD/overdose, and racial/ethnic disparities," the researchers wrote in the paper.

The research group found that non-Hispanic Black, Hispanic/Latino and Asian/Pacific Islander patients experienced a higher prevalence of adverse COVID-19 outcomes compared to non-Hispanic white patients. Among those with histories of any SUD, non-Hispanic Black patients had significantly lower sepsis and ventilation risk compared to other race/ethnicity groups, consistent with prior work that identified reduced risk of in-hospital complications among non-Hispanic Black COVID-19 patients in New York City despite increased overall out-of-hospital mortality.

The discrepancy between mortality rates in and out of hospital may reflect pervasive racial and ethnic inequities in social determinants of health, such as housing, occupation and access to health care, Henry said,

which can inhibit access to timely care.

"History of OUD and drug overdose were the strongest risk factors for mortality," Henry said. "We did not detect significant differences in risk of mortality between race/ethnicity groups among patients with OUD and/or past overdose. Thus, these patients may constitute uniformly high-risk populations."

The researchers' findings suggest that disease treatments should consider strategies tailored to the unique needs of different patient populations, Henry said. For example, racial and ethnic segregation in housing is associated with disparate access to methadone and buprenorphine treatment for OUD, with highly segregated non-Hispanic Black and Hispanic/Latino communities having higher density of methadone treatment and non-Hispanic white communities having higher density of office-based buprenorphine treatment.

As such, regulations relaxing access to methadone treatment, which reduces both OUD relapse and overdose risk, have the potential to simultaneously reduce health disparities while mitigating risks for high-need patient groups in the post-pandemic era.

"Additionally, relaxing buprenorphine restrictions would provide greater flexibility of services to a wider population," Henry said. "Clinical and public health providers also must address medical mistrust, which is prevalent among people who use drugs and racially/ethnically minoritized communities."

**More information:** Bennett Allen et al, Racial differences in COVID-19 severity associated with history of substance use disorders and overdose: Findings from multi-site electronic health records in New York City, *Preventive Medicine* (2023). [DOI: 10.1016/j.ypmed.2023.107533](https://doi.org/10.1016/j.ypmed.2023.107533)

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