Allocating COVID-19 vaccines based on socioeconomic factors may reduce mortality

Study suggests spatial relationship between COVID-19 mortality and population-level health factors

COVID-19 vaccination strategies in the US are informed by individual characteristics such as age and occupation. A study published in *PLOS Medicine* by Sasikiran Kandula at Columbia University, New York, United States and colleagues suggests that including socioeconomic indicators as prioritization criteria for vaccination may help minimize severe outcomes, particularly deaths.

Efforts to reduce COVID-19 mortality rates have focused on prioritizing vaccination for those at a higher risk of severe outcomes. The effectiveness of using population-level health and socioeconomic indicators to determine risk of COVID-19 mortality is understudied. To test the hypothesis that health and socioeconomic indicators can accurately model risk of COVID-19 mortality, researchers extracted county-level estimates of 14 indicators associated with COVID-19 mortality from public data sources. They then modeled the proportion of county-level COVID-19 mortality explained by identified health/socioeconomic indicators, and assessed the estimated effect of each predictor.

The authors found evidence for a spatial relationship between COVID-19 mortality and 9 health and socioeconomic indicators. The prevalence of chronic kidney disease and the proportion of population resident in nursing homes had the largest individual effect on COVID-19 mortality. Although the research suggests a correlation between health/socioeconomic indicators and COVID-19 mortality, the study was limited by lags in reporting COVID-19 cases and deaths and may have been underestimated.

According to the authors, “Our findings here show that differential risks of severe outcomes from COVID-19 across populations can be in part estimated from the structures and contexts in which the outbreak occurs, for example, a population’s quality of health, its access to healthcare and the disparities therein. With the availability of vaccines, these population level indicators can serve as criteria for prioritizing geographical allocation of vaccines”.

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