

# Study finds worse outcomes for heart attack survivors living in disadvantaged neighborhoods

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Where you live may predict your long-term survival after experiencing a first heart attack. Socioeconomic factors—such as income, education,

employment, community safety and more—have long been associated with cardiovascular health, but less is known about how neighborhood factors impact outcomes after myocardial infarction (MI), particularly among younger individuals. In an article published in *JAMA Cardiology*, researchers from Brigham and Women's Hospital and colleagues studied the health records of 2,002 patients who experienced an MI at or before age 50. They found that even after adjusting for other health risk factors, neighborhood-level socioeconomic disadvantage was associated with a 57 percent higher rate of cardiovascular mortality over an approximate 11-year follow-up period.

"Our study demonstrates the association between socioeconomic disadvantage and long-term outcomes for those who experience a heart attack at a young age," said Adam Berman, MD, a cardiology fellow at the Brigham and the first author of the paper. "When we care for our patients, we not only have to think about their [medical conditions](#) but also the environments in which they live and the resources at their disposal."

The researchers used the Mass General Brigham's YOUNG-MI Registry to analyze patients' [health outcomes](#) according to their census block groups, which are geographically compact regions that provide insight into patients' immediate surroundings with more granularity than zip code-level data. For each census block group, the researchers determined the Area Deprivation Index (ADI), a standardized score that combines 17 census measures of employment, income, housing, and education. Patients in the most disadvantaged neighborhoods were more likely to be Black or Latinx, have public insurance or no insurance, and have higher rates of cardiovascular risk factors such as hypertension and diabetes.

"Our study shows that socioeconomic disadvantage may be especially important among young individuals, and that it has long term implications on [cardiovascular health](#)," said Ron Blankstein, MD, a

preventive cardiologist at the Brigham, professor of Medicine at Harvard Medical School, and study senior author.

The researchers noted that one limitation of the study is that the majority of the patients lived in Massachusetts, which has a robust medical insurance safety net, a reality that may limit the study's generalizability to other areas around the country. In addition, 74 percent of the population studied was white. Still, the researchers were able to detect significant associations between ADI scores and [mortality rates](#), with higher neighborhood disadvantage associated with 32 percent higher all-cause mortality and 57 percent higher cardiovascular mortality even after accounting for relevant comorbidities.

"While our findings may be limited in terms of generalizability to other states and practice settings, they may actually be amplified in other geographic areas with weaker social safety nets," Berman said. "This highlights the importance of future research in this area, not only to identify the problem, but to implement interventions on a policy level to narrow these disparities and improve outcomes in communities with fewer resources."

**More information:** Berman, AN et al. "Association of Socioeconomic Disadvantage with Long-term Mortality After Myocardial Infarction" *JAMA Cardiology* (2021). [DOI: 10.1001/jamacardio.2021.0487](https://doi.org/10.1001/jamacardio.2021.0487)

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