

Social determinants of health tied to atherosclerotic CVD risk

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Both individual- and area-level social determinants of health (SDOH) are associated with atherosclerotic cardiovascular disease (ASCVD) risk,

according to a study [published](#) in *JAMA Network Open*.

Mengying Xia, M.P.H., from Columbia University in New York City, and colleagues examined the association of SDOH at both individual and area levels with ASCVD risks. The analysis included 26,316 participants (aged 40 to 79 years without a history of ASCVD) from four large U.S. cohort studies, with baseline data collected from 1995 to 2007 and a median follow-up of 13.0 years.

The researchers found that 44.7 percent had at least one adverse individual-level SDOH, and 41.5 percent had at least one adverse area-level SDOH. At both the individual and area levels, SDOH, including low education, low income, and unemployment, were associated with an increased risk for ASCVD. Model discrimination did not change by adding area-level SDOH alone to the pooled cohort equations (PCEs) but modestly improved [calibration](#).

There were modest improvements in both discrimination and calibration when adding both individual- and area-level SDOH to the PCEs among non-Hispanic Black individuals (change in C index, 0.0051; change in scaled integrated Brier score [IBS], 0.396 percent), as well as improvement in calibration in White individuals (change in scaled IBS, 0.274 percent).

"Both individual- and area-level SDOH may be considered in future development of ASCVD risk assessment tools, particularly among Black individuals," the authors write.

More information: Mengying Xia et al, Cardiovascular Risk Associated With Social Determinants of Health at Individual and Area Levels, *JAMA Network Open* (2024). [DOI:](#)

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