

Pregnant women who live in areas with high social vulnerability at greater risk

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Premature or preterm birth—defined as delivery before the 37th week of pregnancy—and complications that result are the leading cause of death of babies in the United States. Babies born prematurely are at greater risk of experiencing serious short-term and long-term health problems.

In a new study to be presented today at the Society for Maternal-Fetal Medicine's (SMFM) [annual meeting](#), The Pregnancy Meeting, researchers will unveil findings that suggest that an individual's risk of [preterm birth](#) increases as the [social vulnerability](#) in the area they live in during pregnancy increases. The research was funded by grants from the National Institute on Minority Health and Health Disparities and the National Institute of Environmental Health Sciences.

The study analyzed electronic medical records of 50,998 women in the University of North Carolina health system from 2014-2020. Each woman's home address was geocoded and assigned to a census tract, and then linked at the census tract level to the Centers for Disease Control and Prevention's (CDC) publicly available Social

Vulnerability Index (SVI).

The SVI includes 15 different measures of social vulnerability and groups them into four categories, called "themes." These are: 1) Socioeconomic, 2) Household Composition and Disability, 2) Minority Status and Language, and 4) Housing Type and Transportation.

Typically, the SVI is used to help communities determine how prepared they are to meet population needs during natural and human disasters.

Of the 50,998 women analyzed, 8.6 percent delivered before 37 weeks of pregnancy, 2.8 percent delivered before 34 weeks of pregnancy, and 1.0 percent delivered before 28 weeks of pregnancy.

Applying CDC's SVI, the study found that women who delivered prematurely were more likely to live in an area with a higher overall SVI and higher social vulnerability in each SVI theme. More specifically, the association between preterm birth and SVI were largest in themes 1 (Socioeconomic) and 2 (Household Composition and Disability).

"Our research has shown a new use for the CDC's SVI tool and how it can help to identify women who are at a greater risk of delivering their baby prematurely," said one of the study's lead authors, Matthew Givens, MD, a resident physician in obstetrics and gynecology at the University of North Carolina at Chapel Hill. "It may also help individual communities identify areas of relative weakness to improve pregnancy outcomes."

"This research highlights the influence of multiple aspects of one's neighborhood environment during pregnancy," said another of the study's lead authors, Tracy A. Manuck, MD, a maternal-fetal medicine subspecialist, director of the Prematurity Prevention Program, and associate professor at the

University of North Carolina at Chapel Hill. "If individual communities can identify areas of relative weakness where additional support is needed, it may improve [pregnancy](#) outcomes. This is important since studies on prematurity show it's not just an issue that affects the infant. Because of the potential for long-term health problems, preterm births can affect the entire family and community for years to come."

Provided by Society for Maternal-Fetal Medicine

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