

# High blood pressure complications in US pregnancies have nearly doubled

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Nearly twice as many pregnancies were complicated by high blood pressure in 2018 than in 2007, and women living in rural areas continue to have higher rates of high blood pressure compared to their urban counterparts, according to preliminary research to be presented at the American Heart Association's Scientific Sessions 2020.

Pre-pregnancy hypertension is a well-established risk to the health of both mothers and infants, and mortality rates of mothers are increasing in the U.S. with significant rural-urban disparities. The goal of the study, "Trends and Disparities in Pre-pregnancy Essential Hypertension Among Women in Rural and Urban United States, 2007-2018," was to detail trends in maternal pre-pregnancy high blood pressure so geographically targeted prevention and policy strategies can be developed.

"We were surprised to see the dramatic increase in the percentage over the last 10 years of women entering pregnancy with hypertension. It was also shocking to see women as young as 15 to 24 years old with high blood pressure, and the statistics were worse in [rural areas](#), leading us to

be concerned these numbers may, in part, be driven by hospital closures and difficulty accessing care," said the study's lead author Natalie A. Cameron, M.D., a resident in the department of medicine at Northwestern University's Feinberg School of Medicine in Chicago.

Researchers collected maternal data from almost 50 million live births in women ages 15 to 44, between 2007 and 2018, from the national CDC Natality Database. They calculated rates of pre-pregnancy hypertension per 1,000 [live births](#) overall and by the type of community the women lived in (rural or urban). The annual percentage change was calculated to compare yearly rates between rural and urban settings.

Results from the analysis indicate:

- The rate of pre-pregnancy hypertension per 1,000 births nearly doubled in both rural (13.7 to 23.7) and urban (10.5 to 20) women.
- In both rural and urban areas, hypertension rates were lower among [younger women](#) (ages 15-19) than in [older women](#) (40-44), yet all age groups experienced similar rate increases between 2007 and 2018.
- The greatest annual percentage change of pre-pregnancy hypertension was nearly 10% for women in rural areas and 9% for women in [urban areas](#).

"These data demonstrate unacceptable increases in the number of [women](#) with hypertension that need to be addressed urgently," says Cameron. "Preventive care must start before pregnancy. This is especially important in rural communities where there is a far greater burden of high blood pressure and much higher risks to the health of mother and baby. We also must address the structural and systemic racism that can be barriers to high quality care."

Important limitations of this work include the lack of data on continuous blood pressure measurements, as well as other [important factors](#) that can be related to [high blood pressure](#) such as body mass index.

**More information:** Session: LF.AOS,487;  
Scientific presentation #209 is being presented at  
9:00 a.m. CT, Friday, Nov. 13, 2020:  
[www.abstractsonline.com/pp8/?& ...  
4/presentation/35102](http://www.abstractsonline.com/pp8/?&...4/presentation/35102)

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