

Pre-term births in Tennessee decreased during pandemic

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Statewide stay-at-home orders put in place as Tennessee fought to control the spread of coronavirus last March were associated with a 14% lower rate of preterm birth, according to a research letter published today in *JAMA Pediatrics*.

Preterm infants have higher morbidity and mortality risks than babies born at term.

Senior author Stephen Patrick, MD, director of the Vanderbilt Center for Child Health Policy and a neonatologist at the Monroe Carell Jr. Children's Hospital at Vanderbilt and his colleagues had observed in March that there appeared to be fewer infants than usual in the NICU at the children's hospital. Along with colleagues at Tennessee Department of Health and the Centers for Disease Control and Prevention, the team aimed to test if these anecdotal observations were related to the statewide lockdown order.

The study is the first in the US to confirm the trend that more persons staying at home, essentially on forced bed rest, reduced the number of late pre-

term infants (34-35 weeks).

"Preterm [birth](#) affects 1-in-10 infants nationwide, taking a substantial toll on children, families and communities," Patrick said. "Our study, coupled with similar studies from Europe, provide initial evidence that COVID-19 stay at home orders were associated with reductions in spontaneous preterm birth. While encouraging, we need to ensure other pregnancy complications, like stillbirth, did not increase during this time period."

Statewide stay-at-home orders in Tennessee were announced March 22 and expired on April 30. Researchers from Vanderbilt University Medical Center, the Tennessee Department of Health and the CDC collaborated to determine if the odds of pre-term birth during the stay-at-home orders in Tennessee were lower as compared with the same periods in 2015-2019 in Tennessee.

There were 49,845 births among Tennessee residents during the study period. The pre-term birth rate during the 2020 stay-at-home order was lower than rates in previous years (10.2% vs. 11.3%); late pre-term (35-36 weeks gestation) birth rates were also lower (5.8% vs. 6.5%).

"The overall decrease in preterm birth we saw during Tennessee COVID-19 Stay-at-Home Order was driven by reductions among infants born late preterm, 35-36 weeks gestation," said lead author Elizabeth Harvey, Ph.D., MPH, Maternal and Child Health Epidemiologist at CDC Division of Reproductive Health.

"Although we saw less infants born preterm, we also saw [infants](#) born during this time required more respiratory assistance at birth, which may suggest they were sicker and warrants further investigation," she added.

Future research could explore whether other US states observed similar reductions, Patrick said,

and how obstetric interventions for fetal and maternal complications, or lack thereof, may have contributed.

More information: *JAMA Pediatrics* (2021). [DOI: 10.1001/jamapediatrics.2020.6512](https://doi.org/10.1001/jamapediatrics.2020.6512)

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