

COVID-Vaccinated Mothers Less Likely to Have Premature Birth Than Unvaccinated Mothers

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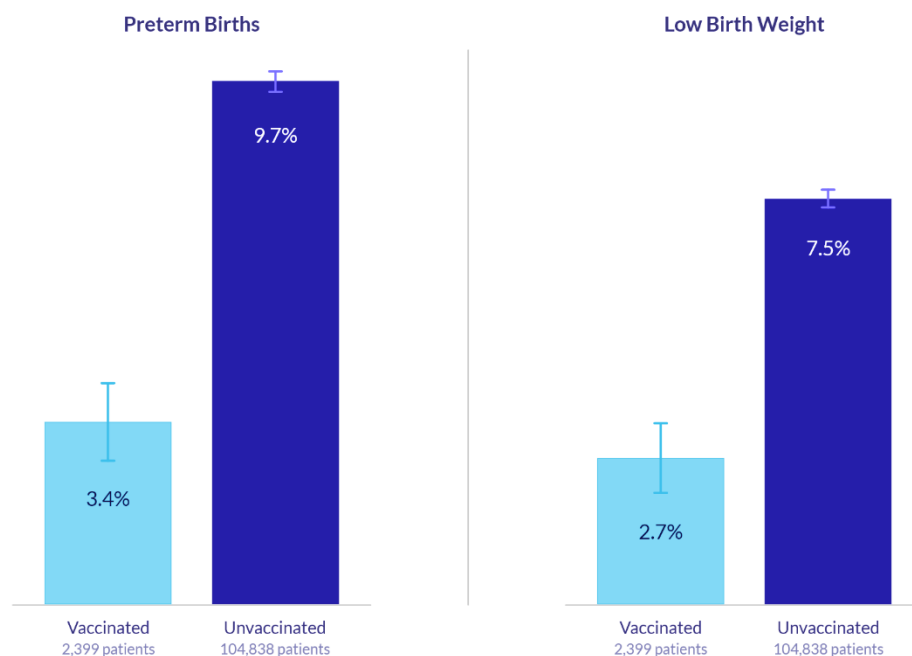
Abstract: Preterm birth and low birth weight are less prevalent among babies born to mothers who received the SARS-CoV-2 vaccine.

In a previous EHRN study, we found mothers that tested positive for COVID-19 experienced greater rates of preterm birth and low birth weight than mothers that tested negative for COVID-19. Other early studies of COVID-19 vaccination in pregnancy point to the vaccine's safety.¹ With the increase in availability of the COVID-19 vaccine, we analyzed a large population of COVID-vaccinated mothers' risk of preterm birth or low birth weight compared to babies born to unvaccinated mothers. Nearly all women who were vaccinated in their first trimester have not yet given birth, therefore this study looked only at second and third trimester vaccination outcomes.

The data showed that 82 of 2,399 (3.4%) babies born to vaccinated mothers were preterm, while 10,154 of 104,838 (9.7%) babies born to unvaccinated mothers were preterm. 64 of 2,399 (2.7%) babies born to vaccinated mothers had a low birth weight, and 7,839 of 104,838 (7.5%) of babies born to unvaccinated mothers had a low birth weight. CDC-reported baselines for preterm birth and low birth weight are 10% and 8.3%, respectively²⁻³.

Preterm and Low Birth Weight by Vaccination Status

95% Confidence Interval |——|



Preterm and Low Birth Weight by Vaccination Status 2021. Epic Health Research Network (EHRN.org)

Figure 1. The proportion of babies born preterm or with low birth weight by vaccination status.

While we did see lower incidence of low birth weight and preterm births in babies born to vaccinated patients, vaccination status may indicate greater access to prenatal care or higher engagement with healthcare overall. Other factors associated with getting a COVID vaccine, such as education level and underlying health conditions, might also influence our results.⁴

These data come from Cosmos, a HIPAA Limited Data Set of more than 114 million patients contributed by Epic customers. This study was completed by two teams, each comprised of a clinician and two research scientists, who worked independently analyzing the data. The two teams came to similar conclusions. Data are pooled from 125 healthcare organizations representing 641 hospitals that span 50 states.

References

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Data Definitions

Term	Definition
Vaccinated Mother	A birthing patient who had not been diagnosed with or tested positive for COVID-19 and received a SARS-CoV-2 vaccine on or after the EUA for that vaccine. Pfizer: December 11, 2020 Moderna: December 18, 2020 Janssen: February 27, 2021
Population of Babies	Single births to patients with an estimated last menstrual period between March 20, 2020, and July 10, 2020.
Preterm	Birth occurring before 37 weeks' gestation.
Low Birth Weight	Birth weight < 2500g.