Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.

eMethods. Statistical Analysis

We used multiple imputation[1,2] for variables with missing data such as NDI, parity, pre-gestational BMI, smoking (Table 1), as well as 7-minute Apgar score (0.3% missing), and NICU admission (0.3%). An underlying assumption in the application of multiple imputation techniques is that data are missing at random (MAR), meaning that given all observed variables, the probability of a variable being missing is independent from the unobserved data. This assumption cannot be tested with the observed data, and generally must be assessed based on clinical knowledge.[3,4] We note, however, that the frequency of missingness on all variables is extremely low ($\leq 0.5\%$), with the exception of pre-pregnancy BMI, and therefore any departure from the MAR assumption for these rarely missing variables should result in little or no bias in estimation. Although the frequency of missing data for pre-pregnancy BMI was not low (8.8%), the observed distribution of pre-pregnancy BMI categories among individuals with no missing data was consistent with expectation, suggesting missingness being unrelated to unobserved BMI (MAR). In addition, BMI missingness was unrelated to SARS-CoV-2 status (Table 1) and to all perinatal complications of interest (eTable 3).

eResults 1. Comparing Individuals Who Tested Negative With Individuals Who Were Not Tested

When we compared the 1,332 individuals with a positive test to the 14,763 with a negative test we observed similar differences in clinical characteristics (eTable 4). We combined these two groups given the similarity in distributions of clinical characteristics. In addition, the 14,763 with a negative test and the 27,791 who were not tested were very similar in regard to clinical characteristics (eTable 4). These justify our grouping of those who tested negative with those who were not tested give the similar distributions of the clinical characteristics.

eResults 2. Need for Respiratory Support Among Hospitalizations in Individuals With and Without SARS-CoV-2

Among the 307 hospitalizations anchored to a positive SARS-CoV-2 test that occurred in individuals with SARS-CoV-2, 225 hospitalizations occurred around the time of delivery and 82 did not; whereas among the 24,489 hospitalizations observed among individuals without SARS-CoV-2 infection, 21,132 occurred around the time of delivery and 3,357 that did not. Overall, the need of respiratory support was higher among 307 hospitalizations anchored to a positive SARS-CoV-2 test than among the 24,489 hospitalizations observed among individuals without SARS-CoV2 infection (n=76 [24.8%] vs. n=2,551 [10.4%]; p value <0.0001). The need for respiratory support among hospitalizations that did not occur around the time of delivery was also higher in hospitalizations that were anchored to a SARS-CoV-2 positive test than in hospitalizations of individuals without SARS-CoV2 infection (n=50 [61.0%] vs. n=255 [7.6%]; p value <0.0001). Whereas the need of respiratory support among hospitalizations that occurred around the time of delivery was similar in hospitalizations that were anchored to a SARS-CoV-2 positive test and in hospitalizations of individuals without SARS-CoV2 infection (n=26 [11.6%] vs. n=2,296 [10.9%]; p value = 0.74)."

eTable 1. *ICD-10* Diagnostic Codes

Conditions	ICD-10 diagnostic codes
COVID-19	U07.1
Chronic hypertension	I10x, I11x, I12x, I13x, I15x, O10x
Pre-gestational asthma	J45.2x, J44x, J45x, J82x, J96.00x, J96.90x, J96.10x, J96.11x, J96.12x, J96.20x, J96.21x, J96.22x, J80x, R06.03x, J98.01x, R06.2x, J67.8x, B44.81x
Pre-gestational asthma	L22x, L20.0x, L20.81x, L20.82x, L20.84x, L20.89x, L20.9x, L24.0x, L24.1x, L25.3x, L24.5x, L23.5x, L23.1x, L25.5x, L23.7x, L24.7x, L57.8x, L55.0x, L55.9x, L56.0x, L56.1x, L56.2x, L56.3x, L55.1x, L56.8x, L56.9x, L25.0x, L24.3x, L23.2x, L23.0x, L24.81x, L25.2x, L25.8x, L23.4x, L23.89x, L24.89x, L25.9x, L23.9x, L24.9x, L30.0x, L30.2x, L30.8x, L30.9x, L25.4x, L23.6x, L24.6x, H01.11x, H10x, H16.26x, L25.1x, L23.3x, L24.4x, T80.52XAx, Z88x, T50.905Ax, T78.41XAx, T41.0X5Ax, T41.1X5Ax, T41.205Ax, T41.295Ax, T41.3X5Ax, T41.45XAx, T88.59XAx, T38.3X5Ax, T88.52XAx, T50.995Ax, T36.0X5Ax, T36.1X5Ax, T36.2X5Ax, T36.3X5Ax, T36.4X5Ax, T36.5X5Ax, T36.6X5Ax, T36.7X5Ax, T36.8X5Ax, T36.95XAx, T37.0X5Ax, T37.1X5Ax, T37.2X5Ax, T37.3X5Ax, T37.4X5Ax, T37.5X5Ax, T37.8X5Ax, T37.95XAx, T38.0X5Ax, T38.1X5Ax, T38.2X5Ax, T38.4X5Ax, T38.5X5Ax, T38.6X5Ax, T38.7X5Ax, T38.805Ax, T38.815Ax, T38.895Ax, T38.905Ax, T38.995Ax, T39.015Ax, T39.095Ax, T39.1X5Ax, T39.2X5Ax, T39.315Ax, T39.395Ax, T39.4X5Ax, T39.8X5Ax, T39.95XAx, T40.0X5Ax, T40.2X5Ax, T40.3X5Ax, T40.5X5Ax, T40.605Ax, T40.695Ax, T40.7X5Ax, T40.905Ax, T40.995Ax, T41.5X5Ax, T42.0X5Ax, T42.1X5Ax, T42.2X5Ax, T42.3X5Ax, T42.4X5Ax, T42.5X5Ax, T42.6X5Ax, T42.75XAx, T42.8X5Ax, T43.015Ax, T43.025Ax, T43.1X5Ax, T43.205Ax, T43.215Ax, T43.225Ax, T43.295Ax, T43.3X5Ax, T43.4X5Ax, T43.505Ax, T43.595Ax, T43.605Ax, T43.615Ax, T43.625Ax, T43.635Ax, T43.695Ax, T43.8X5Ax, T43.95XAx, T44.0X5Ax, T44.1X5Ax, T44.2X5Ax, T44.3X5Ax, T44.4X5Ax, T44.5X5Ax, T44.6X5Ax, T44.7X5Ax, T44.8X5Ax, T44.905Ax, T44.995Ax, T45.0X5Ax, T45.1X5Ax, T45.2X5Ax, T45.3X5Ax, T45.4X5Ax, T45.515Ax, T45.525Ax, T45.605Ax, T45.615Ax, T45.625Ax, T45.695Ax, T45.7X5Ax, T45.8X5Ax, T45.95XAx, T46.0X5Ax, T46.1X5Ax, T46.2X5Ax, T46.3X5Ax, T46.4X5Ax, T46.5X5Ax, T46.6X5Ax, T46.7X5Ax, T46.8X5Ax, T46.905Ax, T46.995Ax, T47.0X5Ax, T47.1X5Ax, T47.2X5Ax, T47.3X5Ax, T47.4X5Ax, T47.5X5Ax, T47.6X5Ax, T47.7X5Ax, T47.8X5Ax, T47.95XAx, T48.0X5Ax, T48.1X5Ax, T48.205Ax, T48.295Ax, T48.3X5Ax, T48.4X5Ax, T48.5X5Ax, T48.6X5Ax, T48.905Ax, T48.995Ax, T49.0X5Ax, T49.1X5Ax, T49.2X5Ax, T49.3X5Ax, T49.4X5Ax, T49.5X5Ax, T49.6X5Ax, T49.7X5Ax, T49.8X5Ax, T49.95XAx, T50.0X5Ax, T50.1X5Ax, T50.2X5Ax, T50.3X5Ax, T50.4X5Ax, T50.5X5Ax, T50.6X5Ax, T50.7X5Ax, T50.8X5Ax, T50.A15Ax, T50.A25Ax, T50.A95Ax, T50.B15Ax, T50.B95Ax, T50.Z15Ax, T50.Z95Ax, Z28.04x, T88.2XXAx, T78.2XXAx, T88.6XXAx, J30x, Z91.01x, L27.2x, T78.00XAx, T78.01XAx, T78.02XAx, T78.03XAx, T78.04XAx, T78.05XAx, T78.06XAx, T78.07XAx, T78.08XAx, T78.09XAx, Z91.02x, T65.811Ax, T65.812Ax, T65.813Ax, T65.814Ax, Z91.040x, D69.0x, Z91.038x, Z91.041x, Z91.048x, Z91.09x, J67x, J82x, B44.81x, K20.8x, K52.2x, M13.8x, T78.40XAx, T78.49XAx, H60.5x, H65.11x, H65.4x, H65.9x, L50.0x, L50.1x, L50.9x, T78.2XXAx, T80.51XAx, T80.59XAx, T78.3XXAx, D80x, D81.4x, D81.0x, D81.1x, D81.2x, D81.6x, D81.7x, D81.89x, D81.9x, D82x, D83x, D84x, D89.8x, D89.3x, D89.9x, M35.9x, G04.8x, L51x, L12.3x, M71.50x, M71.1x, T80.29XAx, T88.0XXAx, N98.0x, R50.83x
Pre-gestational autoimmune diseases	L63x, L65x, L64x, L66.0x, L66.2x, L66.8x, L66.9x, L81x, L57.3x, L95.9x, L95.0x, L95.8x, L90.5x, L92.1x, L94.2x, L98.8x, L92.3x, L94.2x, L94.4x, L44.8x, L44.9x, L45x, L98.8x, L99x, E08.628, E09.628, L98.9x, L80x, L10x, L12.0x, L12.8x, L12.9x, L13.9x, E10x, E27.1x, E27.2x, E27.3x, E27.4x, E89.6x, E31.0x, E05.0x, E06.3x, E05.2x, E05.3x, E05.4x, E05.8x, E05.9x, K50x, K51x, K52x, D69.41x, K71x, K75.2x, K75.3x, K75.8x, K75.9x, K76.4x, K75.4, K73.1, K73.2, K73.8, K90.1x, K90.2x, K91.2x, K90.3x, K90.4x, K90.89x, K90.9x, K74.3x, K74.4x, K74.5x, D59.0x, D59.1x, Z86.2x, D68.311,

	D69.3x, D69.51x, D69.59x, D69.6x, D89.1x, G73.3x, G61.81x, G04.02x, G04.32x, G04.02x, M30.3x, P94.0x, G35x, G70.0x, G61.0x, H44.11x, H35.06x, H30.9x, H30.2x, H30.8x, H20.9x, H05.12x, H44.13x, H81.0x, D89.82x, D89.89x, D80x, D83x, D82x, D81.4x, D81.0x, D81.1x, D81.2x, D81.6x, D81.7x, D81.89x, D81.9x, D84x, D89.81x, D89.3x, D89.89x, M35.9x, D89.9x, N05.0x, N05.1x, N05.6x, N05.7x, N05.8x, N06.0x, N06.1x, N06.6x, N06.7x, N06.8x, N07.0x, N07.1x, N07.6x, N07.7x, N07.8x, N14x, N15.0x, N15.8x, N05.9x, N06.9x, N07.9x, N15.9x, M06.9x, M05.4x, M05.5x, M05.7x, M05.8x, M05.9x, M06.0x, M06.2x, M06.3x, M06.8x, M05.2x, M05.3x, M05.6x, M06.1x, M08.0x, M08.2x, M08.3x, M08.4x, M08.8x, M08.9x, I00x, I01x, I02x, I05x, I06x, I08x, I07x, I09x, L90.0x, L94.0x, L94.1x, L94.3x,M35.5x, M35.1x, M35.8x, M35.9x, M36.8x, M31.0x, M31.0x,M33.9x, M33.0x, M33.1x, M36.0x, M33.2x, M31.0x, H01.12x, L93x, M32x, M34x, M45x, M08.1x, M48.8x, M46.9x, D72.41x, M34.81x, M61.1x, M60.1x, M35.0x, M84.8x, M84.9x, M85.1x, M85.8x, M89.2x, M89.3x, M89.5x, M89.8x, M94.1x, M94.35x, M94.8x, M35.3x, L40x, L41x, L42x, L30.5x, L44.0x, L44.8x, L45x, L49.5x, M02.3x, M02.3x, M01x, D86x, G02x, J99x, M32.13x, M33.01x, M33.11x, M33.21x, M33.91x, M35.02x, M30.0x, M30.2x, M30.8x, M31.7x, M30.1x, M31.3x, M31.6x, M31.5x, M31.4x, I77.6x, I77.3x, I77.89x, I73.0x, M35.2x, M35.2x, K90.0x, J84.11x, J84.2x, L43x, L44.1x, L44.x, L44.3x, L44.9x, L66.1x, H46.9x, H46.0x, H46.8x, L51.1x, L51.3x, M31.1x, K83.0x, K80.3x, M05.0x, M06.4x
Gestational hypertension	O13x, O16x
Pre-eclampsia/ Eclampsia	O14x, O15x
Proteinuria	O12.1x, O12.2x
Thrombocytopenia	D69.4x, D69.5x, D69.6x
Pulmonary edema	J81x
Venous Thromboembolism	I26.0x, I26.9x, I80.1x, I80.2x, I80.3x, I80.8x, I80.9x, I82.0x, I82.1x, I82.2x, I82.3x, I82.4x, I82.6x, I82.8x, I82.9x, O08.2x, O22.3x, O22.5x, O87.1x, O88.2x, I81x I82.A1x, I82.B1x, I82.C1x
Stillbirth	O36.4XX0, O36.4XX1, O36.4XX2, O36.4XX3, O36.4XX4, O36.4XX5, O36.4XX9, P95, Z37.1, Z37.4, Z37.7
Cesarean delivery	O82, O90.0, O75.82, P03.4
Cesarean delivery (PX)	10D00Z0, 10D00Z1, 10D00Z2
Transient tachypnea	P22.1
Pre-gestational diabetes	From registry
Gestational diabetes	From registry
Maternal assisted ventilation	EHR inpatient flow sheet
Infant assisted ventilation	EHR inpatient flow sheet
Surfactant administration	Manual review
Spontaneous delivery	O60.1x
PPROM	O42.x (excludes O42.00, O42.02, O42.10, O42.12, O42.90, O42.92) P01.1
Induced labor (PX)	3E033VJ, 3E0P7GC, 0U7C7ZZ, 0U7C7DZ
SMM	
Acute myocardial infarction	I21.xx, I22.x
Aneurysm	I71.xx, I79.0
Acute renal failure	N17.x, O90.4

Acute respiratory distress syndrome	J80, J95.1, J95.2, J95.3, J95.82x, J96.0x, J96.2x R09.2
Amniotic fluid embolism	O88.1x
Cardiac arrest/ventricular fibrillation	I46.x, I49.0x
Conversion of cardiac rhythm (PX)	5A2204Z, 5A12012
Disseminated intravascular coagulation	D65, D68.8, D68.9, O72.3
Eclampsia	O15.x
Heart failure/arrest during surgery or procedure	I97.12x, I97.13x, I97.710, I97.711
Puerperal cerebrovascular disorders	I60.xx- I68.xx, O22.51, O22.52, O22.53, I97.81x, I97.82x, O87.3
Pulmonary edema / Acute heart failure	J81.0, I50.1, I50.20, I50.21, I50.23, I50.30, I50.31, I50.33, I50.40, I50.41, I50.43, I50.9
Severe anesthesia complications	O74.0, O74.1, O74.2, O74.3, O89.0x, O89.1, O89.2
Sepsis	O85, O86.04, T80.211A, T81.4XXA, T81.44xx, R65.20, A40.x, A41.x, A32.7
Shock	O75.1, R57.x, R65.21, T78.2XXA, T88.2 XXA, T88.6 XXA, T81.10XA, T81.11XA, T81.19XA
Sickle cell disease with crisis	D57.0x, D57.21x, D57.41x, D57.81x
Air and thrombotic embolism	I26.x, O88.0x, O88.2x, O88.3x, O88.8x
Blood products transfusion (PX)	30233H1, 30233L1, 30233K1, 30233M1, 30233N1, 30233P1, 30233R1, 30233T1, 30233H0, 30233L0, 30233K0, 30233M0, 30233N0, 30233P0, 30233R0, 30233T0, 30230H1, 30230L1, 30230K1, 30230M1, 30230N1, 30230P1, 30230R1, 30230T1, 30230H0, 30230L0, 30230K0, 30230M0, 30230N0, 30230P0, 30230R0, 30230T0, 30240H1, 30240L1, 30240K1, 30240M1, 30240N1, 30240P1, 30240R1, 30240T1, 30240H0, 30240L0, 30240K0, 30240M0, 30240N0, 30240P0, 30240R0, 30240T0, 30243H1, 30243L1, 30243K1, 30243M1, 30243N1, 30243P1, 30243R1, 30243T1, 30243H0, 30243L0, 30243K0, 30243M0, 30243N0, 30243P0, 30243R0, 30243T0, 30250H1, 30250L1, 30250K1, 30250M1, 30250N1, 30250P1, 30250R1, 30250T1, 30250H0, 30250L0, 30250K0, 30250M0, 30250N0, 30250P0, 30250R0, 30250T0, 30253H1, 30253L1, 30253K1, 30253M1, 30253N1, 30253P1, 30253R1, 30253T1, 30253H0, 30253L0, 30253K0, 30253M0, 30253N0, 30253P0, 30253R0, 30253T0, 30260H1, 30260L1, 30260K1, 30260M1, 30260N1, 30260P1, 30260R1, 30260T1, 30260H0, 30260L0, 30260K0, 30260M0, 30260N0, 30260P0, 30260R0, 30260T0, 30263H1, 30263L1, 30263K1, 30263M1, 30263N1, 30263P1, 30263R1, 30263T1, 30263H0, 30263L0, 30263K0, 30263M0, 30263N0, 30263P0, 30263R0, 30263T0
Hysterectomy (PX)	0UT90ZZ, 0UT94ZZ, 0UT97ZZ, 0UT98ZZ, 0UT9FZZ
Temporary tracheostomy (PX)	0B110Z, 0B110F, 0B113, 0B114
Ventilation (PX)	5A1935Z, 5A1945Z, 5A1955Z

	With SARS-CoV-2 N= 1332	Without SARS-CoV-2 N= 42554		Hazard ratio (95% CI)		
	n (%)	n (%)		Crude	Model 1[a]	Model 2[b]
Severe Maternal Morbidity						
Diagnosed < 28 weeks' gestation	13 (1.0)	107 (0.3)		20.5 (10.9, 38.8)	17.4 (9.05, 33.5)	16.7 (8.63, 32.3)
Diagnosed ≥ 28 weeks' gestation	63 (4.7)	1322 (3.1)		2.19 (1.69, 2.84)	2.09 (1.61, 2.72)	2.14 (1.64, 2.79)
Gestational diabetes						
Diagnosed < 28 weeks' gestation	16 (1.2)	2925 (6.9)		0.76 (0.47, 1.26)	0.78 (0.47, 1.28)	0.77 (0.47, 1.27)
Diagnosed ≥ 28 weeks' gestation	29 (2.2)	1058 (2.5)		1.46 (1.02, 2.09)	1.49 (1.04, 2.14)	1.42 (0.98, 2.06)
Venous thromboembolism						
Diagnosed < 21 weeks' gestation	2 (0.2)	59 (0.1)		24.5 (5.81, 104)	21.9 (5.02, 95.7)	20.5 (4.71, 89.6)
Diagnosed ≥ 21 weeks' gestation	2 (0.2)	71 (0.2)		1.63 (0.40, 6.60)	1.70 (0.43, 6.75)	1.80 (0.44, 7.38)

eTable 2. Crude and Adjusted Hazard Ratio or Relative Risk of Perinatal Complications Stratified by Intervals of Gestational Age in Association With SARS-Cov-2 Test Status During Pregnancy Among Individuals Who Delivered Between March 2020 and March 2021

Number of events reported among individuals who were SARS-CoV-2 positive are those that occurred after a SARS-CoV-2 positive test. In this group the numbers of events that occurred before a SARS-CoV-2 positive test were: 6 with early diagnosis and 1 with late diagnosis for severe maternal morbidities, 58 with early diagnosis and 25 with late diagnosis for gestational diabetes, and 5 with early diagnosis for venous thromboembolism.
[a] Model 1 adjusted for age, neighborhood deprivation index, pre-pregnancy BMI
[b] Model 2 adjusted for variable in Model 1 + race/ethnicity, pre-gestational diabetes, chronic hypertension and smoking during pregnancy
Given the small number of individuals who were American Indian/Alaskan Native, multiracial or had missing race/ethnicity data, we collapsed them in one group in the regression models.
Severe Maternal Morbidity includes at least one of the following morbidities occurring at any time during pregnancy: acute myocardial infarction, aneurysm, acute renal failure, adult respiratory distress syndrome, amniotic fluid embolism, cardiac arrest/ventricular fibrillation, conversion of cardiac rhythm, disseminated intravascular coagulation, eclampsia, heart failure/arrest during surgery or procedure, puerperal cerebrovascular disorders, pulmonary edema/acute heart failure, severe anesthesia complications, sepsis, shock, sickle cell disease with crisis, air and thrombotic embolism, blood products transfusion, hysterectomy, temporary tracheostomy, or ventilation.[5]

eTable 3. Frequency of Outcomes by Prepregnancy BMI Missing Status		
Outcomes	**Pre-pregnancy BMI**	
	Missing	
	Yes	No
	N (%)	N (%)
Severe Maternal Morbidity	134 (3.5)	1371 (3.4)
Preterm birth, <37 weeks' gestation	343 (8.8)	3238 (8.1)
Spontaneous preterm birth, <37 weeks' gestation	173 (4.5)	1522 (3.8)
Medically indicated preterm birth, <37 weeks' gestation	170 (4.4)	1716 (4.3)
Early preterm birth, 22-31 weeks' gestation	68 (1.8)	457 (1.1)
Moderate preterm birth, 32-33 weeks' gestation	33 (0.9)	332 (0.8)
Late preterm birth, 34-36 weeks' gestation	233 (6.0)	2349 (5.9)
Gestational hypertension	222 (5.7)	1268 (3.2)
Pre-eclampsia/ Eclampsia	54 (1.4)	627 (1.6)
Gestational diabetes	254 (6.6)	3774 (9.4)
Venous thromboembolism	6 (0.2)	128 (0.3)
Stillbirth	43 (1.1)	238 (0.6)
Cesarean delivery	1009 (26.0)	10762 (26.9)
Newborn's Transient tachypnea	141 (3.7)	1247 (3.1)
Newborn's Respiratory Support		
Non-Invasive	219 (5.7)	2037 (5.1)
Invasive	4 (0.1)	48 (0.1)
Any of the above respiratory support	219 (5.7)	2048 (5.1)
Newborn's Surfactant Administration	23 (0.6)	235 (0.6)
Apgar Score< 7	49 (1.3)	463 (1.2)
Small for gestational age	334 (8.7)	2945 (7.4)
Large for gestational age	237 (6.2)	2871 (7.2)
Neonatal intensive care unit admission	378 (9.9)	3477 (8.7)

eTable 4. Characteristics of Individuals Who Delivered Between March 2020 and March 2021 by Testing Status for SARS-Cov-2 During Pregnancy

	Total N= 43886	SARS-CoV-2 positive test N= 1332	SARS-CoV-2 negative test N= 14763	Not Tested N= 27791		SMD Positive vs. Negative SARS-CoV-2 test	SMD Not tested vs. Negative SARS-CoV-2
Age, mean (SD), years	30.7 (5.2)	28.8 (5.5)	30.9 (5.2)	30.7 (5.2)		-0.395	-0.051
Age, n (%), years							
<25	5546 (12.6)	313 (23.5)	1714 (11.6)	3519 (12.7)		0.316	0.032
25-29	11590 (26.4)	426 (32.0)	3735 (25.3)	7429 (26.7)		0.148	0.033
30-34	16298 (37.1)	361 (27.1)	5588 (37.9)	10349 (37.2)		-0.231	-0.014
35-54	10452 (23.8)	232 (17.4)	3726 (25.2)	6494 (23.4)		-0.192	-0.044
Race/ethnicity, n (%)							
American Indian/ Alaska Native	151 (0.3)	2 (0.2)	54 (0.4)	95 (0.3)		-0.0425	-0.004
Asian/Pacific Islander	11368 (25.9)	201 (15.1)	3926 (26.6)	7241 (26.1)		-0.2861	-0.0122
Black	2874 (6.5)	91 (6.8)	963 (6.5)	1820 (6.5)		0.0124	0.001
Hispanic	12457 (28.4)	698 (52.4)	4149 (28.1)	7610 (27.4)		0.5114	-0.0161
White	14829 (33.8)	304 (22.8)	4895 (33.2)	9630 (34.7)		-0.2317	0.0316
Other/Unknown	2207 (5.0)	36 (2.7)	776 (5.3)	1395 (5.0)		-0.1309	-0.0107
Neighborhood Deprivation Index, n (%)							
First quartile	10898 (24.8)	139 (10.4)	3667 (24.8)	7092 (25.5)		-0.385	0.016
Second quartile	10926 (24.9)	254 (19.1)	3666 (24.8)	7006 (25.2)		-0.140	0.009
Third quartile	11008 (25.1)	397 (29.8)	3729 (25.3)	6882 (24.8)		0.120	-0.011
Fourth quartile	10834 (24.7)	535 (40.2)	3547 (24.0)	6752 (24.3)		0.351	0.006
Missing	220 (0.5)	7 (0.5)	154 (1.0)	59 (0.2)		-0.059	-0.105
Parity, n (%)							
0	19561 (44.6)	508 (38.1)	6582 (44.6)	12471 (44.9)		-0.131	0.006
1	15206 (34.6)	450 (33.8)	5176 (35.1)	9580 (34.5)		-0.027	-0.012
2+	8993 (20.5)	371 (27.9)	2956 (20.0)	5666 (20.4)		0.184	0.009
Missing	126 (0.3)	3 (0.2)	49 (0.3)	74 (0.3)		-0.020	-0.012
Pre-gestational diabetes, n (%)	594 (1.4)	19 (1.4)	217 (1.5)	358 (1.3)		-0.004	-0.016

Chronic hypertension, n (%)	8598 (19.6)	301 (22.6)	2986 (20.2)	5311 (19.1)	0.058	-0.028
Asthma, n (%)	5107 (11.6)	160 (12.0)	1861 (12.6)	3086 (11.1)	-0.018	-0.047
Allergies, n (%)	10302 (23.5)	318 (23.9)	3624 (24.5)	6360 (22.9)	-0.016	-0.039
Autoimmune diseases, n (%)	6639 (15.1)	203 (15.2)	2308 (15.6)	4128 (14.9)	-0.011	-0.022
Pre-pregnancy body mass index, n (%)						
Underweight	775 (1.8)	17 (1.3)	246 (1.7)	512 (1.8)	-0.032	0.0134
Normal weight	14632 (33.3)	331 (24.8)	4873 (33.0)	9428 (33.9)	-0.181	0.0194
Overweight	12421 (28.3)	376 (28.2)	4290 (29.1)	7755 (27.9)	-0.018	-0.026
Obese	12181 (27.8)	504 (37.8)	4251 (28.8)	7426 (26.7)	0.193	-0.046
Missing	3877 (8.8)	104 (7.8)	1103 (7.5)	2670 (9.6)	0.013	0.077
Singleton, n (%)	43254 (98.6)	1311 (98.4)	14534 (98.4)	27409 (98.6)	-0.002	0.015
Female infant sex, n (%)	21279 (48.8)	635 (48.0)	7154 (48.5)	13490 (48.5)	-0.017	-0.0003
Gestational age at delivery, mean (SD), weeks	38.6 (2.2)	38.4 (2.2)	38.5 (2.3)	38.7 (2.1)	-0.044	0.108
Gestational age at delivery, n (%), weeks						
<21	109 (0.2)	5 (0.4)	41 (0.3)	63 (0.2)	0.017	-0.010
22-31	525 (1.2)	15 (1.1)	252 (1.7)	258 (0.9)	-0.049	-0.068
32-33	365 (0.8)	14 (1.1)	132 (0.9)	219 (0.8)	0.016	-0.012
34-36	2582 (5.9)	109 (8.2)	910 (6.2)	1563 (5.6)	0.078	-0.023
37+	40305 (91.8)	1189 (89.3)	13428 (91.0)	25688 (92.4)	-0.057	0.054
Smoking during pregnancy, n (%)						
Never	42130 (96.0)	1272 (95.5)	14161 (95.9)	26697 (96.1)	0.030	-0.009
Ever	1678 (3.8)	60 (4.5)	577 (3.9)	1041 (3.7)	-0.021	0.007
Missing	78 (0.2)	0 (0)	25 (0.2)	53 (0.2)	0	0

SARS-CoV-2: severe acute respiratory syndrome coronavirus 2;

SMD: standardized mean difference;

Pre-gestational body mass index was categorized according to the World Health Organization recommendations on racial/ethnic specific BMI cutoffs: non-Asian individuals as underweight [<18.5 kg/m^2], normal weight [18.5-24.9 kg/m^2], overweight [25.0-29.9 kg/m^2], obese [30.0 kg/m^2]; and Asians as underweight [<18.5 kg/m^2], normal weight [18.5-22.9 kg/m^2], overweight [23.0-27.4 kg/m^2], and obese [≥27.5 kg/m^2].[6]

Given the small number of individuals who were American Indian/Alaskan Native, multiracial or had missing race/ethnicity data, we collapsed them in one group in the regression models.

eTable 5. Distribution of Conditions Included in the Severe Maternal Morbidity by SARS-Cov-2 During Pregnancy

	Total N= 43886	With SARS-CoV-2 N= 1325	Without SARS-CoV-2 N= 42561	SMD
	n (%)	n (%)	n (%)	
No Severe Maternal Morbidity	42374 (96.6)	1249 (94.3)	41125 (96.6)	-0.1135
One diagnosis of SMM				
Acute renal failure	82 (0.2)	0 (0)	82 (0.2)	-0.0621
Amniotic fluid embolism	1 (0)	0 (0)	1 (0)	-0.0069
Aneurysm	8 (0)	0 (0)	8 (0)	-0.0194
Acute respiratory distress syndrome	37 (0.1)	28 (2.1)	9 (0)	0.2047
Blood products transfusion	706 (1.6)	21 (1.6)	685 (1.6)	-0.002
Cardiac arrest/ventricular fibrillation	1 (0)	0 (0)	1 (0)	-0.0069
Puerperal cerebrovascular disorders	39 (0.1)	0 (0)	39 (0.1)	-0.0428
Conversion of cardiac rhythm	2 (0)	0 (0)	2 (0)	-0.0097
Disseminated intravascular coagulation	163 (0.4)	0 (0)	163 (0.4)	-0.0877
Eclampsia	32 (0.1)	2 (0.2)	30 (0.1)	0.0242
Hysterectomy	4 (0)	0 (0)	4 (0)	-0.0137
Acute myocardial infraction	1 (0)	1 (0.1)	0 (0)	0.0389
Pulmonary edema/acute heart failure	21 (0)	0 (0)	21 (0.1)	-0.0314
Sepsis	176 (0.4)	12 (0.9)	164 (0.4)	0.065
Shock	9 (0)	0 (0)	9 (0)	-0.0206
Thrombotic embolism	23 (0.1)	0 (0)	23 (0.1)	-0.0329
Two diagnoses of SMM on the same day	149 (0.3)	10 (0.8)	139 (0.3)	0.0584
3-4 diagnoses of SMM on the same day	48 (0.1)	2 (0.2)	46 (0.1)	0.0119
5 or more diagnoses of SMM on the same day	10 (0)	0 (0)	10 (0)	-0.0217

SARS-CoV-2: severe acute respiratory syndrome coronavirus 2
SMD: standardized mean difference

eTable 6. List Of Severe Maternal Morbidity Diagnoses Among Those With SARS-Cov-2 and 2 or More Severe Maternal Morbidity Diagnoses on the Same Day

Diagnosis 1	Diagnosis 2	Diagnosis 3	Diagnosis 4	N (%)
Adult respiratory distress syndrome	Sepsis			6 (50.0)
Adult respiratory distress syndrome	Thrombotic embolism			1 (8.3)
Adult respiratory distress syndrome	Blood products transfusion			1 (8.3)
Blood products transfusion	Disseminated intravascular coagulation			1 (8.3)
Blood products transfusion	Hysterectomy			1 (8.3)
Adult respiratory distress syndrome	Ventilation	Acute renal failure		1 (8.3)
Adult respiratory distress syndrome	Ventilation	Shock	Puerperal cerebrovascular disorders	1 (8.3)

eTable 7. Crude and Adjusted Hazard Ratio or Relative Risk Of Perinatal Complications in Association With SARS-Cov-2 Occurring at Less Than 21 Weeks' Gestation or at 21 Weeks' or More Gestation Among Individuals Who Delivered Between March 2020 and March 2021

	With SARS-CoV-2		Without SARS-CoV-2	Hazard ratio (95% CI)			
	<21 weeks' gestation N= 221	≥21 weeks' gestation N= 1111	N= 42554	Model 1[a]		Model 2[b]	
	n (%)	n (%)	n (%)	With SARS-CoV-2 <21 weeks' gestation vs. Without SARS-CoV-2	With SARS-CoV-2 ≥21 weeks' gestation vs. Without SARS-CoV-2	With SARS-CoV-2 <21 weeks' gestation vs. Without SARS-CoV-2	With SARS-CoV-2 ≥21 weeks' gestation vs. Without SARS-CoV-2
Severe Maternal Morbidity	9 (4.1)	67 (6.3)	1429 (3.4)	1.29 (0.64, 2.61)	2.67 (2.06, 3.47)	1.36 (0.67, 2.75)	2.71 (2.08, 3.52)
Preterm birth, <37 weeks' gestation	27 (12.2)	116 (10.4)	3438 (8.1)	1.48 (1.01, 2.19)	2.25 (1.86, 2.72)	1.55 (1.05, 2.28)	2.26 (1.87, 2.73)
Spontaneous preterm birth, <37 weeks' gestation	10 (4.5)	44 (4)	1641 (3.9)	1.16 (0.62, 2.15)	1.72 (1.26, 2.35)	1.20 (0.64, 2.23)	1.76 (1.29, 2.40)
Medically indicated preterm birth, <37 weeks' gestation	17 (7.7)	72 (6.5)	1797 (4.2)	1.79 (1.09, 2.92)	2.82 (2.22, 3.58)	1.89 (1.16, 3.09)	2.80 (2.21, 3.55)
Early preterm birth, 22-31 weeks' gestation	4 (1.8)	11 (1)	510 (1.2)	1.43 (0.53, 3.85)	3.74 (2.04, 6.85)	1.39 (0.51, 3.73)	3.57 (1.95, 6.55)
Moderate preterm birth, 32-33 weeks' gestation	3 (1.4)	11 (1)	351 (0.8)	1.57 (0.50, 4.91)	2.33 (1.24, 4.38)	1.73 (0.55, 5.41)	2.36 (1.26, 4.43)
Late preterm birth, 34-36 weeks' gestation	16 (7.2)	93 (8.4)	2473 (5.8)	1.23 (0.75, 2.03)	2.12 (1.72, 2.62)	1.30 (0.79, 2.14)	2.14 (1.74, 2.64)
Gestational hypertension	7 (3.2)	27 (2.4)	1456 (3.4)	1.65 (0.99, 2.78)	0.91 (0.67, 1.23)	1.76 (1.06, 2.92)	0.91 (0.66, 1.25)
Pre-eclampsia/ Eclampsia	3 (1.4)	17 (1.5)	661 (1.6)	0.82 (0.26, 2.53)	1.63 (0.98, 2.69)	0.87 (0.28, 2.71)	1.62 (0.98, 2.68)
Gestational diabetes	20 (9.1)	25 (2.3)	3983 (9.4)	1.11 (0.72, 1.72)	1.09 (0.74, 1.62)	1.14 (0.73, 1.78)	0.99 (0.67, 1.48)
Venous thromboembolism	2 (0.9)	2 (0.2)	130 (0.3)	4.73 (1.12, 20.0)	2.18 (0.54, 8.79)	4.90 (1.16, 20.7)	2.24 (0.55, 9.17)
				Relative Risk (95% CI)			
Stillbirth	6 (2.7)	3 (0.3)	272 (0.6)	3.89 (1.73, 8.74)	0.38 (0.12, 1.20)	3.88 (1.71, 8.80)	0.37 (0.12, 1.18)
Cesarean delivery	53 (24)	304 (27.4)	11414 (26.8)	0.92 (0.73, 1.15)	1.03 (0.94, 1.13)	0.93 (0.74, 1.17)	1.03 (0.94, 1.14)
Newborn's Transient tachypnea	5 (2.3)	39 (3.5)	1344 (3.2)	0.68 (0.28, 1.62)	1.02 (0.75, 1.40)	0.69 (0.29, 1.65)	1.04 (0.76, 1.42)
Newborn's Respiratory Support							

				Model 1ᵃ		Model 2ᵇ	
Non-Invasive	15 (7)	67 (6.1)	2174 (5.1)	1.28 (0.78, 2.09)	1.10 (0.87, 1.39)	1.33 (0.81, 2.17)	1.11 (0.87, 1.40)
Invasive	0 (0)	2 (0.2)	50 (0.1)				
Any of the above respiratory support	15 (7)	68 (6.1)	2184 (5.2)	1.27 (0.78, 2.08)	1.11 (0.88, 1.40)	1.32 (0.81, 2.16)	1.12 (0.88, 1.41)
Newborn's Surfactant Administration	1 (0.5)	9 (0.8)	248 (0.6)	0.71 (0.10, 5.04)	1.20 (0.61, 2.33)	0.66 (0.09, 4.63)	1.13 (0.58, 2.21)
Apgar Score< 7	1 (0.6)	16 (1.4)	497 (1.2)	0.42 (0.06, 2.98)	1.14 (0.69, 1.87)	0.45 (0.06, 3.16)	1.17 (0.71, 1.92)
Small for gestational age	13 (6.1)	73 (6.6)	3193 (7.6)	0.83 (0.49, 1.41)	0.92 (0.74, 1.15)	0.91 (0.54, 1.54)	0.97 (0.77, 1.21)
Large for gestational age	18 (8.4)	97 (8.8)	2993 (7.1)	1.08 (0.69, 1.69)	1.10 (0.91, 1.33)	1.08 (0.70, 1.69)	1.08 (0.89, 1.31)
Neonatal intensive care unit admission	24 (11.2)	104 (9.4)	3740 (8.9)	1.19 (0.81, 1.73)	0.99 (0.82, 1.19)	1.25 (0.86, 1.81)	1.00 (0.83, 1.20)

Number of events reported among individuals who were SARS-CoV-2 positive are those that occurred after a SARS-CoV-2 positive test. In this group the numbers of events that occurred before a SARS-CoV-2 positive test were: 7 (0.5%) for severe maternal morbidities, 7 (0.5%) for gestational hypertension; 5 (0.4%) for pre-eclampsia/eclampsia, 83 (6.2%) for gestational diabetes, and 5 (0.4%) for venous thromboembolism.

ᵃ Model 1 adjusted for age, neighborhood deprivation index, pre-pregnancy BMI
ᵇ Model 2 adjusted for variable in Model 1 + race/ethnicity, pre-gestational diabetes, chronic hypertension and smoking during pregnancy

Severe Maternal Morbidity includes at least one of the following morbidities occurring at any time during pregnancy: acute myocardial infarction, aneurysm, acute renal failure, acute respiratory distress syndrome, amniotic fluid embolism, cardiac arrest/ventricular fibrillation, conversion of cardiac rhythm, disseminated intravascular coagulation, eclampsia, heart failure/arrest during surgery or procedure, puerperal cerebrovascular disorders, pulmonary edema/acute heart failure, severe anesthesia complications, sepsis, shock, sickle cell disease with crisis, air and thrombotic embolism, blood products transfusion, hysterectomy, temporary tracheostomy, or ventilation.[5]
Newborn's respiratory support was classified as: 1) non-invasive, if nasal cannula or nasal continuous positive airway pressure were used; or 2) invasive, if conventional or high-frequency mechanical ventilation were used.

eTable 8. Crude and Adjusted Hazard Ratio or Relative Risk of Perinatal Complications in Association With SARS-Cov-2 Detected in Inpatient or Outpatient Settings During Pregnancy Among Individuals Who Delivered Between March 2020 and March 2021

	With SARS-CoV-2		Without SARS-CoV-2	Hazard ratio (95% CI)			
	Detected in inpatient settings N= 240	Detected in outpatient settings N= 1092	N= 42554	Model 1[a]		Model 2[b]	
	n (%)	n (%)	n (%)	With SARS-CoV-2 detected in inpatient settings vs. Without SARS-CoV-2	With SARS-CoV-2 detected in outpatient settings vs. Without SARS-CoV-2	With SARS-CoV-2 detected in inpatient settings vs. Without SARS-CoV-2	With SARS-CoV-2 detected in outpatient settings vs. Without SARS-CoV-2
Severe Maternal Morbidity	11 (4.6)	65 (6)	1429 (3.4)	2.29 (1.16, 4.52)	2.41 (1.86, 3.12)	2.40 (1.21, 4.75)	2.45 (1.89, 3.19)
Preterm birth, <37 weeks' gestation	25 (10.4)	118 (10.8)	3438 (8.1)	2.83 (1.85, 4.33)	1.94 (1.60, 2.34)	2.90 (1.90, 4.42)	1.96 (1.63, 2.37)
Spontaneous preterm birth, <37 weeks' gestation	12 (5)	42 (3.9)	1641 (3.9)	2.71 (1.48, 4.96)	1.41 (1.03, 1.93)	2.80 (1.53, 5.13)	1.45 (1.06, 1.98)
Medically indicated preterm birth, <37 weeks' gestation	13 (5.4)	76 (7)	1797 (4.2)	3.01 (1.70, 5.33)	2.47 (1.96, 3.12)	3.11 (1.76, 5.49)	2.49 (1.97, 3.14)
Early preterm birth, 22-31 weeks' gestation	4 (1.7)	11 (1)	510 (1.2)	3.86 (1.41, 10.5)	2.33 (1.28, 4.27)	3.80 (1.38, 10.4)	2.24 (1.23, 4.09)
Moderate preterm birth, 32-33 weeks' gestation	1 (0.4)	13 (1.2)	351 (0.8)	1.22 (0.17, 8.74)	2.23 (1.25, 3.98)	1.32 (0.18, 9.60)	2.30 (1.29, 4.10)
Late preterm birth, 34-36 weeks' gestation	20 (8.3)	89 (8.2)	2473 (5.8)	2.93 (1.83, 4.67)	1.79 (1.44, 2.21)	3.01 (1.89, 4.79)	1.82 (1.47, 2.25)
Gestational hypertension	6 (2.5)	28 (2.6)	1456 (3.4)	1.64 (0.81, 3.32)	0.94 (0.70, 1.26)	1.73 (0.87, 3.41)	0.94 (0.69, 1.29)
Pre-eclampsia/ Eclampsia	2 (0.8)	18 (1.7)	661 (1.6)	1.17 (0.29, 4.65)	1.44 (0.89, 2.35)	1.25 (0.31, 5.07)	1.45 (0.89, 2.36)
Gestational diabetes	8 (3.3)	37 (3.4)	3983 (9.4)	1.16 (0.61, 2.23)	1.09 (0.79, 1.51)	1.25 (0.65, 2.39)	1.02 (0.73, 1.42)
Venous thromboembolism	0 (0)	4 (0.4)	130 (0.3)	0.00 (0.00, 0.00)	3.50 (1.25, 9.82)	0.00 (0.00, 0.00)	3.60 (1.27, 10.2)
				Relative Risk (95% CI)			
				Model 1	Model 2	Model 1	Model 2
Stillbirth	2 (0.8)	7 (0.6)	272 (0.6)	1.17 (0.29, 4.69)	0.91 (0.43, 1.94)	1.16 (0.29, 4.66)	0.89 (0.42, 1.91)
Cesarean delivery	51 (21.3)	306 (28)	11414 (26.8)	0.81 (0.63, 1.02)	1.06 (0.96, 1.16)	0.81 (0.64, 1.03)	1.06 (0.96, 1.17)
Newborn's Transient tachypnea	8 (3.4)	36 (3.3)	1344 (3.2)	0.97 (0.49, 1.93)	0.96 (0.70, 1.34)	0.99 (0.50, 1.95)	0.98 (0.71, 1.36)

Newborn's Respiratory Support							
Non-Invasive	14 (5.9)	68 (6.3)	2174 (5.1)	1.06 (0.64, 1.77)	1.14 (0.90, 1.44)	1.10 (0.66, 1.83)	1.15 (0.91, 1.46)
Invasive	1 (0.4)	1 (0.1)	50 (0.1)	2.95 (0.42, 20.5)	0.66 (0.09, 4.93)	3.02 (0.42, 21.8)	0.60 (0.08, 4.59)
Any of the above respiratory support	14 (5.9)	69 (6.4)	2184 (5.2)	1.06 (0.64, 1.76)	1.15 (0.91, 1.46)	1.09 (0.66, 1.82)	1.16 (0.92, 1.47)
Newborn's Surfactant Administration	2 (0.8)	8 (0.7)	248 (0.6)	1.24 (0.31, 4.93)	1.09 (0.54, 2.22)	1.20 (0.30, 4.81)	1.03 (0.50, 2.08)
Apgar Score< 7	5 (2.1)	12 (1.1)	497 (1.2)	1.64 (0.68, 3.93)	0.89 (0.50, 1.57)	1.72 (0.71, 4.12)	0.91 (0.52, 1.62)
Small for gestational age	16 (6.7)	70 (6.5)	3193 (7.6)	0.93 (0.58, 1.50)	0.90 (0.72, 1.13)	0.99 (0.62, 1.58)	0.95 (0.76, 1.20)
Large for gestational age	29 (12.2)	86 (7.9)	2993 (7.1)	1.55 (1.10, 2.18)	1.00 (0.81, 1.23)	1.54 (1.10, 2.14)	0.99 (0.80, 1.21)
Neonatal intensive care unit admission	21 (8.8)	107 (9.9)	3740 (8.9)	0.93 (0.61, 1.40)	1.04 (0.87, 1.25)	0.96 (0.64, 1.45)	1.05 (0.88, 1.27)

Number of events reported among individuals who were SARS-CoV-2 positive are those that occurred after a SARS-CoV-2 positive test. In this group the numbers of events that occurred before a SARS-CoV-2 positive test were: 7 (0.5%) for severe maternal morbidities, 7 (0.5%) for gestational hypertension; 5 (0.4%) for pre-eclampsia/eclampsia, 83 (6.2%) for gestational diabetes, and 5 (0.4%) for venous thromboembolism.

[a] Model 1 adjusted for age, neighborhood deprivation index, pre-pregnancy BMI

[b] Model 2 adjusted for variable in Model 1 + race/ethnicity, pre-gestational diabetes, chronic hypertension and smoking during pregnancy

Severe Maternal Morbidity includes at least one of the following morbidities occurring at any time during pregnancy: acute myocardial infarction, aneurysm, acute renal failure, acute respiratory distress syndrome, amniotic fluid embolism, cardiac arrest/ventricular fibrillation, conversion of cardiac rhythm, disseminated intravascular coagulation, eclampsia, heart failure/arrest during surgery or procedure, puerperal cerebrovascular disorders, pulmonary edema/acute heart failure, severe anesthesia complications, sepsis, shock, sickle cell disease with crisis, air and thrombotic embolism, blood products transfusion, hysterectomy, temporary tracheostomy, or ventilation.[5]

Newborn's respiratory support was classified as: 1) non-invasive, if nasal cannula or nasal continuous positive airway pressure were used; or 2) invasive, if conventional or high-frequency mechanical ventilation were used.

eTable 9. Adjusted Hazard Ratios for Perinatal Complications Severe Maternal Morbidity In Association With SARS-CoV-2 Among Individuals With and Without Comorbidities

	Severe Maternal Morbidity	Preterm birth	Spontaneous preterm birth	Medically indicated preterm birth	Early preterm	Moderate preterm birth	Late preterm birth
	HR (95% CI)	HR (95% CI)	HR (95% CI)	HR (95% CI)	HR (95% CI)	HR (95% CI)	HR (95% CI)
With Pre-pregnancy Obesity[a] (N=13261)	3.17 (2.22, 4.52)	1.93 (1.49, 2.50)	1.19 (0.71, 2.00)	2.51 (1.85, 3.41)	1.72 (0.71, 4.18)	2.55 (1.23, 5.27)	1.84 (1.37, 2.48)
Without Pre-pregnancy Obesity[a] (N=30625)	1.97 (1.37, 2.84)	2.22 (1.75, 2.82)	1.94 (1.37, 2.76)	2.61 (1.88, 3.62)	3.32 (1.70, 6.46)	1.69 (0.65, 4.42)	2.07 (1.58, 2.71)
P for interaction	0.14	0.29	0.12	0.70	0.15	0.46	0.51
With Chronic Hypertension[b] (N=8598)	3.27 (2.06, 5.21)	2.41 (1.84, 3.17)	1.43 (0.80, 2.58)	3.09 (2.27, 4.21)	3.24 (1.49, 7.03)	3.15 (1.46, 6.83)	2.23 (1.63, 3.04)
Without Chronic Hypertension[b] (N=35288)	2.22 (1.66, 2.98)	1.90 (1.52, 2.37)	1.68 (1.22, 2.31)	2.19 (1.60, 2.98)	2.12 (1.04, 4.31)	1.61 (0.71, 3.68)	1.82 (1.41, 2.33)
P for interaction	0.39	0.23	0.62	0.14	0.46	0.27	0.39
With Pre-gestational Diabetes[c] (N=594)	1.72 (0.19, 15.4)	3.27 (1.56, 6.86)	3.76 (0.39, 36.2)	3.56 (1.60, 7.90)	NA	7.05 (1.00, 49.8)	3.36 (1.45, 7.81)
Without Pre-gestational Diabetes[c] (N=43292)	2.46 (1.92, 3.16)	2.06 (1.72, 2.45)	1.59 (1.20, 2.11)	2.55 (2.03, 3.19)		2.09 (1.17, 3.74)	1.93 (1.58, 2.35)
P for interaction	0.76	0.54	0.70	0.71		0.68	0.49

[a] adjusted for age, neighborhood deprivation index, pre-gestational diabetes, chronic hypertension, smoking during pregnancy and race/ethnicity
[b] adjusted for age, neighborhood deprivation index, pre-pregnancy BMI, pre-gestational diabetes, smoking during pregnancy and race/ethnicity
[c] adjusted for age, neighborhood deprivation index, obesity, chronic hypertension, smoking during pregnancy and race/ethnicity
NA= Not applicable because there were no early preterm in the group with pre-gestational diabetes

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