

Supplementary Online Content

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eFigure 6. Multiple Logistic Regression Forest Plot of Neurodevelopmental Diagnosis Within 12 Months in Offspring Associated With Period of Birth (Pandemic vs 2019)

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

eMethods. Analysis

In sensitivity analyses, we repeated the primary outcome analyses confining the analyses to only those offspring who had a 12-month visit within our hospital system (with a 60-day window before or after the 12-month mark), to understand whether associations could be confounded by differential in-person follow-up among exposed or unexposed offspring. We also performed a sensitivity analysis including only offspring with an 18-month visit within our hospital system, again with a 60-day window before and after the 18-month mark.

To examine the robustness of multiple regression results by applying an alternative approach to potential confounding variables, we also applied exact matching to match each SARS-CoV-2-exposed offspring with at least one SARS-CoV-2-unexposed offspring on the same features used in regression models (i.e., race, ethnicity, maternal age, insurance type, hospital type, and preterm delivery). Where regression models estimate an average treatment effect, the matched cohort provides an approximation of the average treatment (i.e., exposure) effect among exposed individuals. We used the R *matchit* (v4.4.0) package for these analyses, allowing as many exact matches among controls as available – i.e., 1:n matching – to maximize precision in estimates of effect. Allowing more than 1 match for each exposed case where available (rather than 1:1) allows greater power to detect association given the larger available pool of controls. To quantify the effect of misclassification of exposure on estimates of association³⁰, we used the R *episensr* package (v1.1.0).

eResults. Sensitivity Analyses

In sensitivity analyses, we also fit logistic regression models with the cohort restricted to offspring with at least one follow-up visit within our hospital system at 12 months (Supplemental Table 4; n=383 SARS-CoV-2 exposed and 6635 unexposed, including 26/383 (6.8%) and 309/6635 (4.7%) with a neurodevelopmental diagnosis, respectively). These models supported the robustness of the primary analysis, yielding results of similar magnitude to those of the full cohort: adjusted OR was 1.76 (1.00-2.94), p=.04 for males, 0.82 (0.36-1.66, p=.61) for females, and 1.31 (0.83-1.99, p=.22) for both sexes combined (Supplemental Figures 2A, B, and C).

To further examine the robustness of these associations, we used exact matching on the same features as regression – maternal age, race, ethnicity, insurance status; hospital type; and preterm status—to examine the association between offspring SARS-CoV-2 exposure and neurodevelopmental diagnosis. Among males, matching 397 COVID-exposed offspring with 6055 COVID-unexposed offspring, OR for any neurodevelopmental disorder at 12 months was 1.88 (95% CI 1.05-3.37; p=.04), and for female offspring matching 382 COVID-exposed to 5803 COVID-unexposed, OR was 1.22 (0.51-2.47, p=.6). For the cohort as a whole, matching 779 COVID-exposed offspring with 11858 COVID-unexposed offspring, OR was 1.56 (95% CI 0.95-2.41; p=.06). Applying coarsened exact matching rather than exact matching did not was consistent with initial results; see Supplemental Table 5. These sensitivity analyses demonstrated consistent direction of effect across both matched analyses and logistic regression models.

We also tested for the presence of secular trends in diagnosis of neurodevelopmental disorders by comparing 12-month outcomes among children born during the pandemic to two pre-pandemic cohorts. These analyses were all conducted based on birth during versus pre-pandemic, and did not take into account maternal SARS-CoV-2 status. Compared to 2018 (Supplemental Table 7, all children followed up pre-pandemic), a modest but not statistically significant increase in rates of neurodevelopmental diagnoses

(Supplemental Table 8) was identified among males (adjusted OR 1.11, 95% CI 0.89-1.39), $p=.37$) as well as females (adjusted OR 1.28, 95% CI 0.99-1.66), $p=.06$); analyses pooling both sexes also failed to meet statistical significance adjusted OR=1.18, 95% CI 0.99-1.39, $p=.06$; Supplemental Figures 5A, B, and C). Compared to the 2019 pre-pandemic cohort (Supplemental Table 9), all children born pre-pandemic but all with 12-month follow-up intra-pandemic), for children born during the pandemic, adjusted OR for neurodevelopmental diagnoses at 12 months among male offspring was 1.24, 95% CI 0.99-1.56, $p=.06$; for females, 1.26, 95% CI 0.98-1.62, $p=.08$; analyses pooling both sexes, 1.24, 95% CI 1.05-1.47, $p=.01$ (Supplemental Figures 6A, B, and C).

eTable 1. Comparison of Features of Offspring by Availability of Maternal SARS-CoV-2 PCR Results During Pregnancy

Characteristic	SARS-COV-2 PCR available N=18355	SARS-COV-2 PCR not available N=2054	p-value ¹
Delivery hospital type, n (%)			0.36
Academic medical center	10,809 (59)	1,231 (60)	
Community hospital	7,546 (41)	823 (40)	
Maternal age, Median (IQR)	33.0 (30.0 – 36.0)	33.0 (30.0 – 36.0)	0.24
Maternal race, n (%)			0.44
Asian	1,809 (9.9)	216 (11)	
Black or African American	1,635 (8.9)	184 (9.0)	
Other	1,714 (9.3)	186 (9.1)	
Unknown	479 (2.6)	66 (3.2)	
White	12,718 (69)	1,402 (68)	
Maternal ethnicity, n (%)			0.12
Hispanic	2,617 (14)	284 (14)	
Not Hispanic	15,213 (83)	1,695 (83)	
Unavailable	517 (2.8)	74 (3.6)	
Unknown	8	1	
Offspring sex, n (%)			0.24
Female	8,956 (49)	1,030 (50)	
Male	9,399 (51)	1,024 (50)	
Maternal public insurance, n (%)	3,593 (20)	376 (18)	0.17
Delivery method, n (%)			0.30
C-Section	6,031 (33)	698 (34)	
Vaginal	12,324 (67)	1,356 (66)	
Pre-term birth, n (%)			0.93
Preterm	1,857 (10)	209 (10)	
Term	16,498 (90)	1,845 (90)	
Delivery admission length of stay (days), Median (IQR)	3.00 (2.00 – 4.00)	3.00 (2.00 – 4.00)	0.026
Multiple births, n (%)	1,170 (6.4)	156 (7.6)	0.033
Pandemic delivery period, n (%)			<0.001
2020-1 Mar - May 2020	2,139 (12)	1,917 (93)	
2020-2 Jun - Aug 2020	4,411 (24)	20 (1.0)	
2020-3 Sep - Nov 2020	3,926 (21)	20 (1.0)	
2020-4 Dec 2020 - Feb 2021	3,522 (19)	25 (1.2)	
2021-5 Mar - May 2021	4,357 (24)	72 (3.5)	

¹Pearson's Chi-squared test; Wilcoxon rank sum test

eTable 2. Neurodevelopmental Diagnostic Codes Observed Among SARS-CoV-2 Exposed and Unexposed Offspring at 12 Months (Top) and 18 Months (Bottom)

ICD-10-CM code	ICD-10-CM description	Pregnancy SARS-COV-2 Negative			Pregnancy SARS-COV-2 Positive		
		All offspring	Male offspring	Female offspring	All offspring	Male offspring	Female offspring
F82	Specific developmental disorder of motor function	175	85	90	20	12	8
F80.9	Developmental disorder of speech and language, unspecified	75	52	23	5	<5	<5
F89	Unspecified disorder of psychological development	80	44	36	<5	<5	<5
F80.1	Expressive language disorder	42	32	10	<5	<5	0
F88	Other disorders of psychological development	13	9	<5	<5	<5	<5
F80.2	Mixed receptive-expressive language disorder	<5	<5	<5	<5	<5	0
F80.0	Phonological disorder	<5	0	<5	0	0	0
F80.4	Speech and language development delay due to hearing loss	<5	<5	0	0	0	0
F80.89	Other developmental disorders of speech and language	<5	<5	0	0	0	0

ICD-10-CM code	ICD-10-CM description	Pregnancy SARS-COV-2 Negative			Pregnancy SARS-COV-2 Positive		
		All offspring	Male offspring	Female offspring	All offspring	Male offspring	Female offspring
F80.1	Expressive language disorder	248	168	80	9	7	<5
F80.9	Developmental disorder of speech and language, unspecified	211	144	67	23	15	8
F82	Specific developmental disorder of motor function	219	104	115	21	13	8
F89	Unspecified disorder of psychological development	103	58	45	<5	<5	<5
F88	Other disorders of psychological development	17	11	6	<5	<5	<5
F80.2	Mixed receptive-expressive language disorder	13	9	<5	<5	<5	0
F80.89	Other developmental disorders of speech and language	<5	<5	0	0	0	0
F80.4	Speech and language development delay due to hearing loss	<5	<5	0	0	0	0
F80.0	Phonological disorder	<5	<5	<5	0	0	0
F81.9	Developmental disorder of scholastic skills, unspecified	<5	<5	0	0	0	0

eTable 3. Sociodemographic and Baseline Clinical Characteristics of Mothers Who Were SARS-CoV-2 Positive or Negative Included in the Pandemic Cohort (March 2020 to May 2021)

Characteristic	Pregnancy SARS-COV-2 Negative N=16715	Pregnancy SARS-COV-2 Positive N=835	p-value ¹
Maternal age, Median (IQR)	33.0 (30.0 – 36.0)	31.0 (27.0 – 35.0)	<0.001
Maternal race, n (%)			<0.001
Asian	1,716 (10)	44 (5.3)	
Black or African American	1,427 (8.5)	128 (15)	
Other	1,434 (8.6)	227 (27)	
Unknown	417 (2.5)	44 (5.3)	
White	11,721 (70)	392 (47)	
Maternal ethnicity, n (%)			<0.001
Hispanic	2,212 (13)	328 (39)	
Not Hispanic	14,029 (84)	480 (57)	
Unavailable	466 (2.8)	27 (3.2)	
Unknown	8	0	
Maternal public insurance, n (%)	3,081 (18)	415 (50)	<0.001
Delivery hospital type, n (%)			<0.001
Academic medical center	9,651 (58)	583 (70)	
Community hospital	7,064 (42)	252 (30)	
Delivery method, n (%)			0.66
C-Section	5,243 (31)	268 (32)	
Vaginal	11,472 (69)	567 (68)	
Delivery admission length of stay (days), Median (IQR)	3.00 (2.00 – 3.00)	3.00 (2.00 – 4.00)	0.68
Pre-term birth, n (%)			0.024
Preterm	1,300 (7.8)	83 (9.9)	
Term	15,415 (92)	752 (90)	

¹Wilcoxon rank sum test; Pearson's Chi-squared test

Table 1 in the main text reports offspring characteristics, while this table reports features of mothers.

eTable 4. Sociodemographic and Baseline Clinical Characteristics of Offspring of Mothers Who Were SARS-CoV-2 Positive or Negative Included in the Pandemic Cohort (March 2020 to May 2021), Restricted to Offspring With at Least 1 Follow-up Visit at 12 Months ± 60 Days

Characteristic ¹	No Pediatric Follow-up Visit at 12-months +/- 60 days N=11337	Pediatric Follow-up Visit at 12-months +/- 60 days N=7018 ¹	p-value ¹
Delivery hospital type, n (%)			0.55
Academic medical center	6,657 (59)	4,152 (59)	
Community hospital	4,680 (41)	2,866 (41)	
Maternal age, Mean (SD)	32.9 (4.9)	33.1 (4.9)	0.004
Maternal race, n (%)			<0.001
Asian	1,059 (9.3)	750 (11)	
Black or African American	1,178 (10)	457 (6.5)	
Other	952 (8.4)	762 (11)	
Unknown	291 (2.6)	188 (2.7)	
White	7,857 (69)	4,861 (69)	
Maternal ethnicity, n (%)			<0.001
Hispanic	1,492 (13)	1,125 (16)	
Not Hispanic	9,520 (84)	5,693 (81)	
Unavailable	318 (2.8)	199 (2.8)	
Unknown	7	1	
Offspring sex, n (%)			0.030
Female	5,603 (49)	3,353 (48)	
Male	5,734 (51)	3,665 (52)	
Maternal public insurance, n (%)	2,096 (18)	1,497 (21)	<0.001
Pre-term birth, n (%)			<0.001
Preterm	1,078 (9.5)	779 (11)	
Term	10,259 (90)	6,239 (89)	
Delivery admission length of stay (days), Median (IQR)	3.00 (2.00 – 4.00)	3.00 (2.00 – 4.00)	0.050
Multiple births, n (%)	687 (6.1)	483 (6.9)	0.027

¹Pearson's Chi-squared test; Wilcoxon rank sum test

eTable 5. Coarsened Exact Matching of Mothers With or Without SARS-CoV-2 Exposure

Coarsened exact match analysis	Odds ratio	95% Confidence interval	p-value
Matched offspring - 12m Male	1.83	(0.97-3.16)	0.04
Matched offspring - 12m Female	1.22	(0.51-2.47)	0.62
Matched offspring - 12m ALL	1.56	(0.95-2.41)	0.06

eTable 6. Sociodemographic and Baseline Clinical Characteristics of Offspring With Mothers Who Were SARS-CoV-2 Positive or Negative Included in the Pandemic Cohort (March 2020 to May 2021), Restricted to Offspring With at Least 1 Follow-up Visit at 18 Months ± 60 Days

Characteristic ¹	No Pediatric Follow-up Visit at 18-months +/- 60 days N=9180 ¹	Pediatric Follow-up Visit at 18-months +/- 60 days N=4827 ¹	p-value ¹
Delivery hospital type, n (%)			<0.001
Academic medical center	5,341 (58)	2,957 (61)	
Community hospital	3,839 (42)	1,870 (39)	
Maternal age, Mean (SD)	32.8 (4.9)	33.1 (4.9)	0.002
Maternal race, n (%)			<0.001
Asian	895 (9.7)	509 (11)	
Black or African American	926 (10)	329 (6.8)	
Other	792 (8.6)	557 (12)	
Unknown	254 (2.8)	115 (2.4)	
White	6,313 (69)	3,317 (69)	
Maternal ethnicity, n (%)			<0.001
Hispanic	1,216 (13)	814 (17)	
Not Hispanic	7,694 (84)	3,867 (80)	
Unavailable	267 (2.9)	145 (3.0)	
Unknown	3	1	
Offspring sex, n (%)			0.020
Female	4,574 (50)	2,305 (48)	
Male	4,606 (50)	2,522 (52)	
Maternal public insurance, n (%)	1,650 (18)	1,047 (22)	<0.001
Pre-term birth, n (%)			0.015
Preterm	886 (9.7)	529 (11)	
Term	8,294 (90)	4,298 (89)	
Delivery admission length of stay (days), Median (IQR)	3.00 (2.00 – 4.00)	3.00 (2.00 – 4.00)	0.26
Multiple births, n (%)	547 (6.0)	342 (7.1)	0.009

¹Pearson's Chi-squared test; Wilcoxon rank sum test

eTable 7. Sociodemographic and Baseline Clinical Characteristics of Offspring Who Were Born During the Pandemic (March 2020 to May 2021), Compared With Those Born in 2018

Characteristic	Births in 2018 N=13952	Pandemic births N=18355	p-value ¹
Delivery hospital type, n (%)			<0.001
Academic medical center	8,954 (64)	10,809 (59)	
Community hospital	4,998 (36)	7,546 (41)	
Maternal age, Mean (SD)	33.0 (4.9)	33.0 (4.9)	0.74
Maternal race, n (%)			<0.001
Asian	1,544 (11)	1,809 (9.9)	
Black or African American	1,320 (9.5)	1,635 (8.9)	
Other	1,335 (9.6)	1,714 (9.3)	
Unknown	430 (3.1)	479 (2.6)	
White	9,323 (67)	12,718 (69)	
Maternal ethnicity, n (%)			<0.001
Hispanic	2,032 (15)	2,617 (14)	
Not Hispanic	11,284 (81)	15,213 (83)	
Unavailable	636 (4.6)	517 (2.8)	
Unknown	0	8	
Offspring sex, n (%)			0.22
Female	6,904 (49)	8,956 (49)	
Male	7,048 (51)	9,399 (51)	
Maternal public insurance, n (%)	2,714 (19)	3,593 (20)	0.78
Delivery method, n (%)			0.87
C-Section	4,596 (33)	6,031 (33)	
Vaginal	9,356 (67)	12,324 (67)	
Pre-term birth, n (%)			0.003
Preterm	1,555 (11)	1,857 (10)	
Term	12,397 (89)	16,498 (90)	
Delivery admission length of stay (days), Median (IQR)	3.00 (2.00 – 4.00)	3.00 (2.00 – 4.00)	<0.001
Multiple births, n (%)	1,065 (7.6)	1,170 (6.4)	<0.001

¹Pearson's Chi-squared test; Wilcoxon rank sum test

eTable 8. Neurodevelopmental Diagnostic Codes of Offspring Who Were Born During the Pandemic (March 2020 to May 2021), Compared With Those Born in 2018 or 2019

ICD-10CD	Description	Live births in 2018			Live births in 2019		
		All offspring	Male offspring	Female offspring	All offspring	Male offspring	Female offspring
F82	Specific developmental disorder of motor function	108	50	58	118	56	62
F80.9	Developmental disorder of speech and language, unspecified	54	33	21	55	35	20
F80.1	Expressive language disorder	35	25	10	39	23	16
F89	Unspecified disorder of psychological development	23	16	7	23	15	8
F88	Other disorders of psychological development	13	8	5	8	7	<5
F80.0	Phonological disorder	<5	0	<5	<5	<5	0
F80.2	Mixed receptive-expressive language disorder	0	0	0	<5	0	<5
F80.89	Other developmental disorders of speech and language	<5	<5	0	<5	<5	0
F80.4	Speech and language development delay due to hearing loss	<5	<5	<5	<5	<5	0
F80.81	Childhood onset fluency disorder	<5	<5	0	0	0	0

eTable 9. Sociodemographic and Baseline Clinical Characteristics of Offspring Who Were Born During the Pandemic (March 2020 to May 2021), Compared With Those Born in 2019

Characteristic	Births in 2019 N=15386	Pandemic births N=18355	p-value ¹
Delivery hospital type, n (%)			<0.001
Academic medical center	9,672 (63)	10,809 (59)	
Community hospital	5,714 (37)	7,546 (41)	
Maternal age, Mean (SD)	33.1 (4.9)	33.0 (4.9)	0.30
Maternal race, n (%)			<0.001
Asian	1,740 (11)	1,809 (9.9)	
Black or African American	1,367 (8.9)	1,635 (8.9)	
Other	1,510 (9.8)	1,714 (9.3)	
Unknown	464 (3.0)	479 (2.6)	
White	10,305 (67)	12,718 (69)	
Maternal ethnicity, n (%)			0.081
Hispanic	2,308 (15)	2,617 (14)	
Not Hispanic	12,610 (82)	15,213 (83)	
Unavailable	462 (3.0)	517 (2.8)	
Unknown	6	8	
Offspring sex, n (%)			0.094
Female	7,648 (50)	8,956 (49)	
Male	7,738 (50)	9,399 (51)	
Delivery Method, n (%)			0.74
C-Section	5,029 (33)	6,031 (33)	
Vaginal	10,357 (67)	12,324 (67)	
Pre-term birth, n (%)			0.005
Preterm	1,701 (11)	1,857 (10)	
Term	13,685 (89)	16,498 (90)	
Delivery admission length of stay (days), Median (IQR)	3.00 (2.00 – 4.00)	3.00 (2.00 – 4.00)	<0.001
Multiple births, n (%)	1,071 (7.0)	1,170 (6.4)	0.031

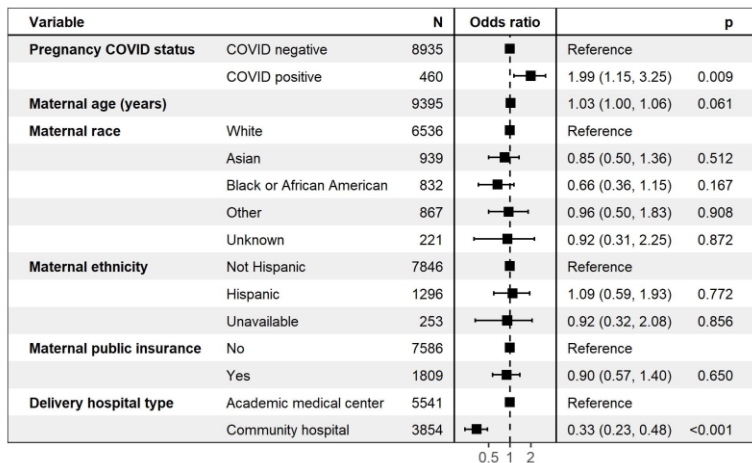
¹Pearson's Chi-squared test; Wilcoxon rank sum test

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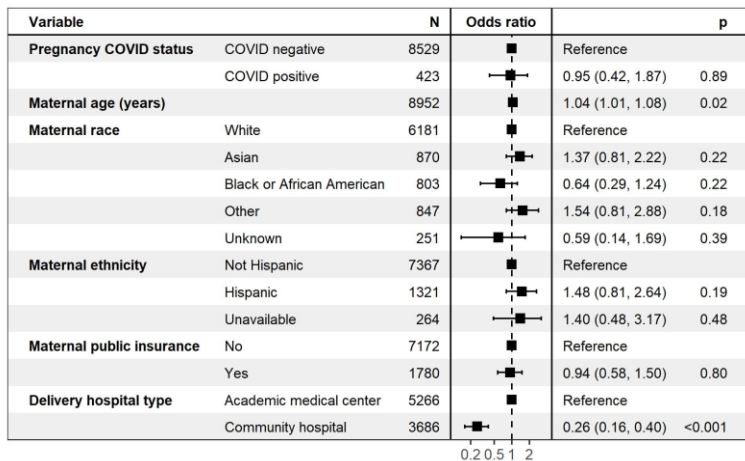
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eFigure 1. Multiple Logistic Regression Forest Plot of Neurodevelopmental Diagnosis Within 12 Months in Offspring Associated With Maternal COVID-19 Status, Without Adjustment for Preterm Birth

A. Male offspring



B. Female offspring



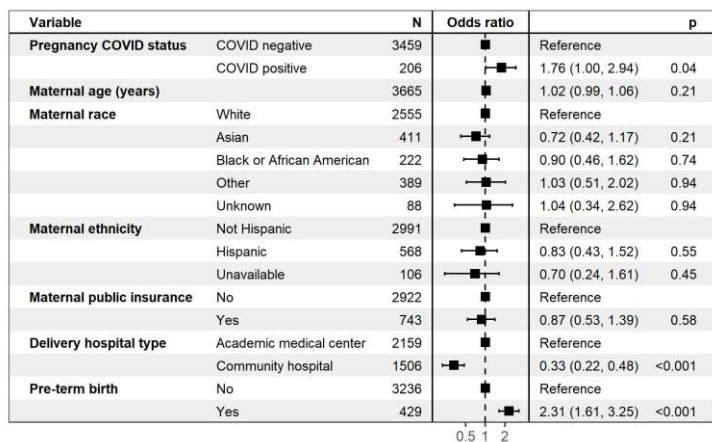
C. All offspring

Variable	N	Odds ratio	p
Pregnancy COVID status	COVID negative	17464	Reference
	COVID positive	883	1.49 (0.96, 2.22) 0.064
Maternal age (years)	18347	1.04 (1.01, 1.06) 0.004	
Maternal race	White	12717	Reference
	Asian	1809	1.05 (0.73, 1.48) 0.775
	Black or African American	1635	0.65 (0.41, 1.00) 0.065
	Other	1714	1.21 (0.77, 1.89) 0.409
	Unknown	472	0.75 (0.33, 1.51) 0.462
Maternal ethnicity	Not Hispanic	15213	Reference
	Hispanic	2617	1.27 (0.83, 1.90) 0.263
	Unavailable	517	1.13 (0.55, 2.04) 0.721
Maternal public insurance	No	14758	Reference
	Yes	3589	0.92 (0.66, 1.26) 0.600
Delivery hospital type	Academic medical center	10807	Reference
	Community hospital	7540	0.30 (0.22, 0.40) <0.001
Offspring sex	Female	8952	Reference
	Male	9395	1.25 (1.00, 1.55) 0.046

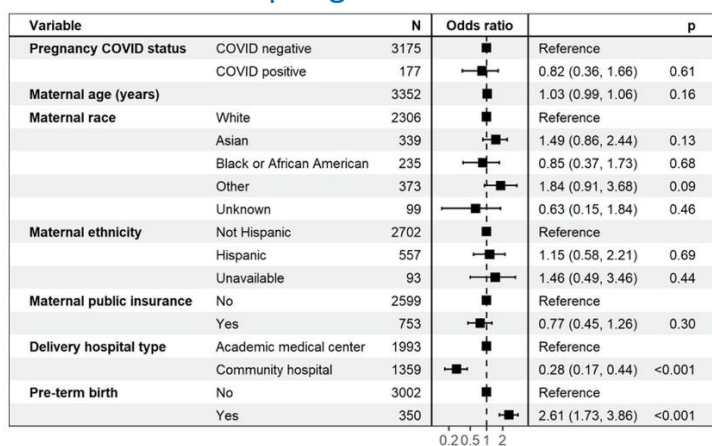
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eFigure 2. Multiple Logistic Regression Forest Plot of Neurodevelopmental Diagnosis Within 12 Months in Offspring Associated With Maternal COVID-19 Status, With Cohort Restricted to Offspring With at Least 1 Follow-up Visit at 12 Months \pm 60 Days

A. Male offspring



B. Female offspring



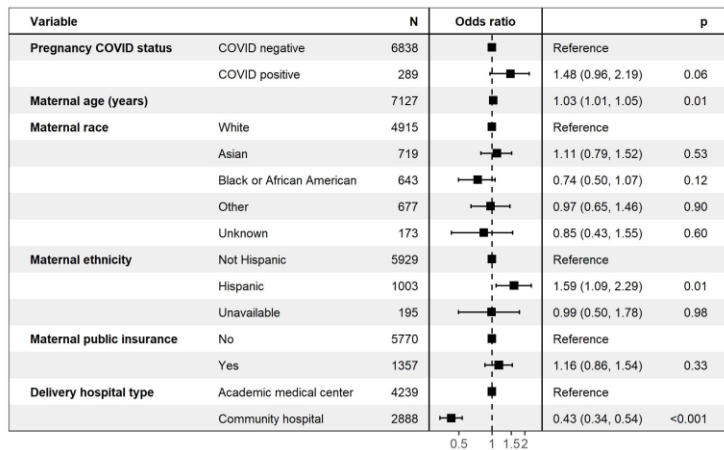
C. All offspring

Variable		N	Odds ratio		p
Pregnancy COVID status	COVID negative	6634		Reference	
	COVID positive	383		1.31 (0.83, 1.99)	0.22
Maternal age (years)		7017		1.02 (1.00, 1.05)	0.06
Maternal race	White	4861		Reference	
	Asian	750		0.98 (0.67, 1.39)	0.92
	Black or African American	457		0.88 (0.53, 1.39)	0.59
	Other	762		1.36 (0.84, 2.19)	0.21
	Unknown	187		0.81 (0.35, 1.65)	0.60
Maternal ethnicity	Not Hispanic	5693		Reference	
	Hispanic	1125		0.97 (0.61, 1.51)	0.89
	Unavailable	199		0.97 (0.47, 1.79)	0.93
Maternal public insurance	No	5521		Reference	
	Yes	1496		0.82 (0.58, 1.16)	0.27
Delivery hospital type	Academic medical center	4152		Reference	
	Community hospital	2865		0.31 (0.23, 0.41)	<0.001
Offspring sex	Female	3352		Reference	
	Male	3665		1.21 (0.97, 1.52)	0.09
Pre-term birth	No	6238		Reference	
	Yes	779		2.40 (1.84, 3.11)	<0.001

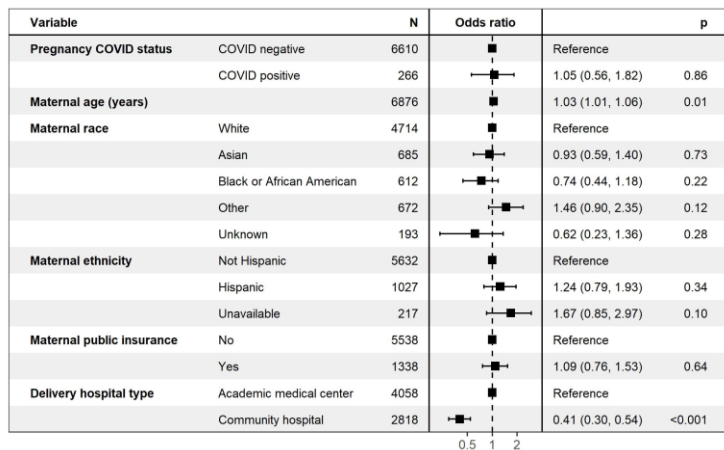
0.5 1 2

eFigure 3. Multiple Logistic Regression Forest Plot of Neurodevelopmental Diagnosis Within 18 Months in Offspring Associated With Maternal COVID-19 Status, Without Adjustment for Preterm Birth

A. Male offspring



B. Female offspring



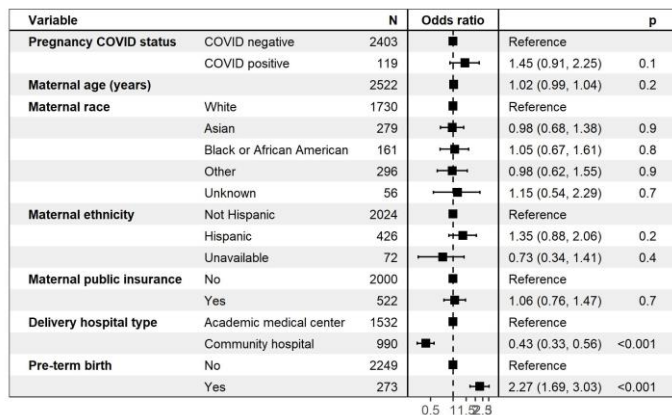
C. All offspring

Variable		N	Odds ratio		p
Pregnancy COVID status	COVID negative	13448		Reference	
	COVID positive	555		1.32 (0.93, 1.82)	0.10
Maternal age (years)		14003		1.03 (1.01, 1.05)	<0.001
Maternal race	White	9629		Reference	
	Asian	1404		1.04 (0.80, 1.33)	0.78
	Black or African American	1255		0.74 (0.54, 0.99)	0.05
	Other	1349		1.15 (0.84, 1.57)	0.37
	Unknown	366		0.77 (0.45, 1.25)	0.31
Maternal ethnicity	Not Hispanic	11561		Reference	
	Hispanic	2030		1.44 (1.08, 1.91)	0.01
	Unavailable	412		1.27 (0.79, 1.92)	0.30
Maternal public insurance	No	11308		Reference	
	Yes	2695		1.13 (0.90, 1.41)	0.28
Delivery hospital type	Academic medical center	8297		Reference	
	Community hospital	5706		0.42 (0.35, 0.50)	<0.001
Offspring sex	Female	6876		Reference	
	Male	7127		1.59 (1.37, 1.87)	<0.001

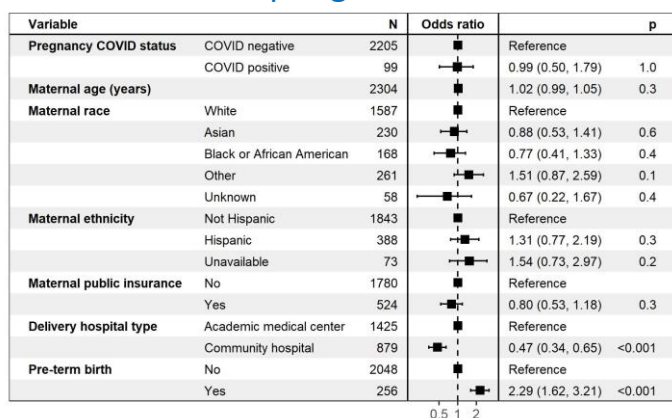
0.5 1 1.5

eFigure 4. Multiple Logistic Regression Forest Plot of Neurodevelopmental Diagnosis Within 18 Months in Offspring Associated With Maternal COVID-19 Status, With Cohort Restricted to Offspring With at Least 1 Follow-up Visit at 18 Months ± 60 Days

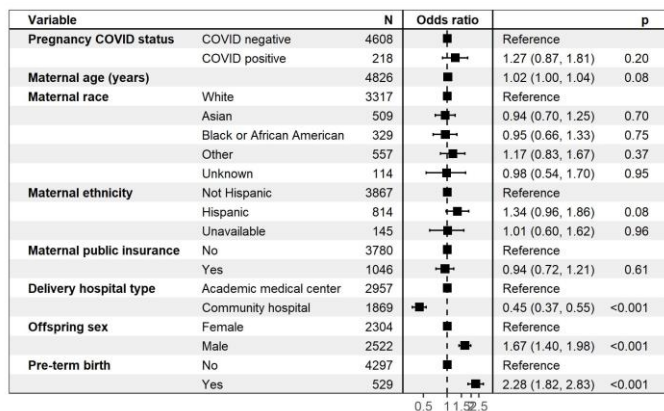
A. Male offspring



B. Female offspring

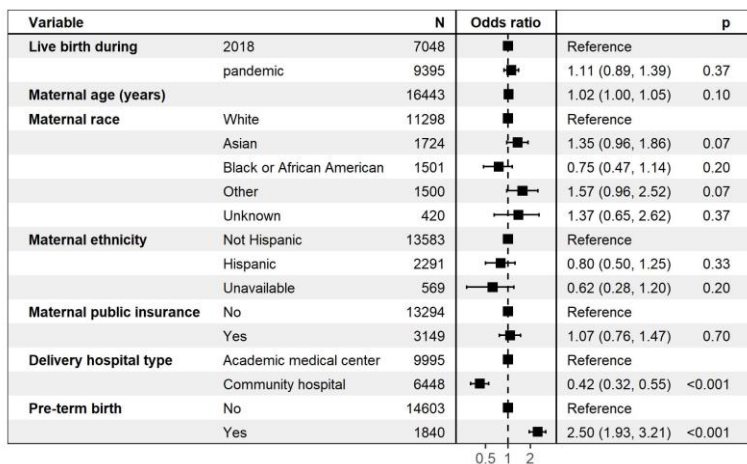


C. All offspring

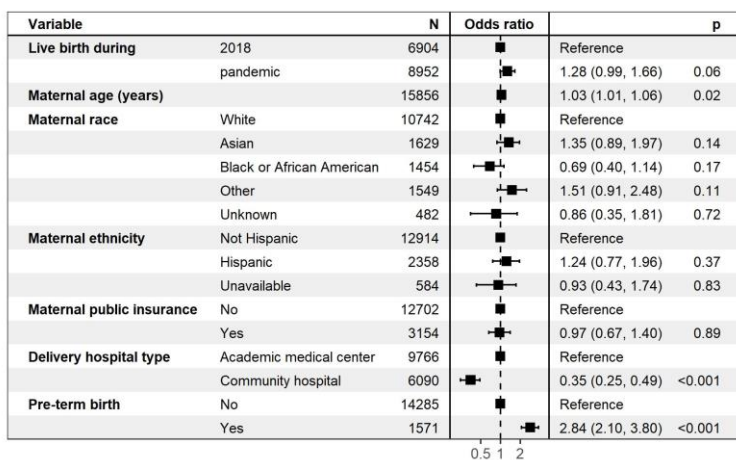


eFigure 5. Multiple Logistic Regression Forest Plot of Neurodevelopmental Diagnosis Within 12 Months in Offspring Associated With Period of Birth (Pandemic vs 2018)

A. Male offspring



B. Female offspring



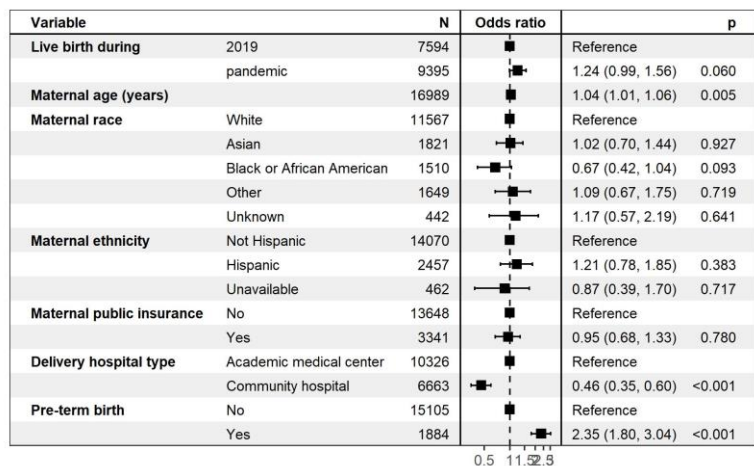
C. All offspring

Variable		N	Odds ratio		p
Live birth during	2018	13952		Reference	
	pandemic	18347		1.18 (0.99, 1.39)	0.060
Maternal age (years)		32299		1.03 (1.01, 1.04)	0.004
Maternal race	White	22040		Reference	
	Asian	3353		1.35 (1.04, 1.73)	0.020
	Black or African American	2955		0.73 (0.51, 1.01)	0.064
	Other	3049		1.54 (1.08, 2.17)	0.015
	Unknown	902		1.11 (0.63, 1.82)	0.698
Maternal ethnicity	Not Hispanic	26497		Reference	
	Hispanic	4649		0.98 (0.70, 1.35)	0.903
	Unavailable	1153		0.76 (0.44, 1.21)	0.273
Maternal public insurance	No	25996		Reference	
	Yes	6303		1.02 (0.80, 1.30)	0.859
Delivery hospital type	Academic medical center	19761		Reference	
	Community hospital	12538		0.39 (0.31, 0.48)	<0.001
Offspring sex	Female	15856		Reference	
	Male	16443		1.28 (1.08, 1.51)	0.004
Pre-term birth	No	28888		Reference	
	Yes	3411		2.63 (2.16, 3.18)	<0.001

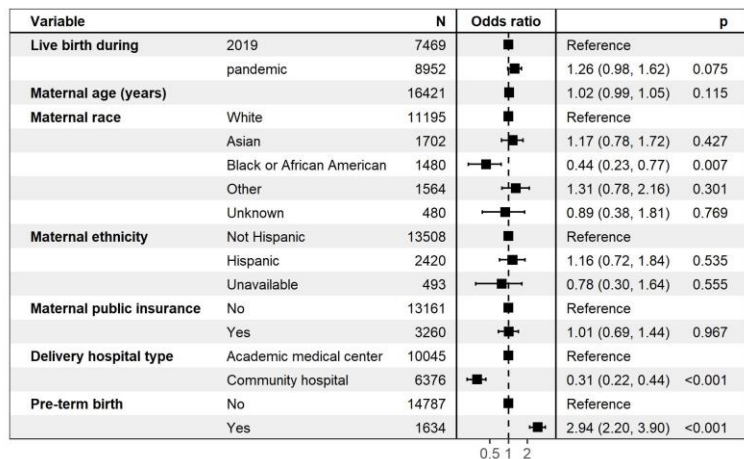
0.5 1 2

eFigure 6. Multiple Logistic Regression Forest Plot of Neurodevelopmental Diagnosis Within 12 Months in Offspring Associated With Period of Birth (Pandemic vs 2019)

A. Male offspring



B. Female offspring



C. All offspring

Variable		N	Odds ratio	p
Live birth during	2019	15063	Reference	
	pandemic	18347	1.24 (1.05, 1.47)	0.010
Maternal age (years)		33410	1.03 (1.01, 1.05)	0.002
Maternal race	White	22762	Reference	
	Asian	3523	1.08 (0.82, 1.40)	0.569
	Black or African American	2990	0.57 (0.39, 0.80)	0.002
	Other	3213	1.20 (0.84, 1.69)	0.313
	Unknown	922	1.04 (0.61, 1.68)	0.878
Maternal ethnicity	Not Hispanic	27578	Reference	
	Hispanic	4877	1.18 (0.85, 1.62)	0.305
	Unavailable	955	0.83 (0.46, 1.38)	0.504
Maternal public insurance	No	26809	Reference	
	Yes	6601	0.98 (0.76, 1.25)	0.870
Delivery hospital type	Academic medical center	20371	Reference	
	Community hospital	13039	0.39 (0.32, 0.49)	<0.001
Offspring sex	Female	16421	Reference	
	Male	16989	1.21 (1.03, 1.43)	0.024
Pre-term birth	No	29892	Reference	
	Yes	3518	2.59 (2.13, 3.14)	<0.001

0.5 1 1.5 2