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Universal Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Testing for Obstetric Inpatient Units Across the United States

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Background. The purpose of this study was to estimate prevalence of asymptomatic severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection among patients admitted to obstetric inpatient units throughout the United States as detected by universal screening. We sought to describe the relationship between obstetric inpatient asymptomatic infection rates and publicly available surrounding community infection rates.

Methods. A cross-sectional study in which medical centers reported rates of positive SARS-CoV-2 testing in asymptomatic pregnant and immediate postpartum patients over a 1–3-month time span in 2020. Publicly reported SARS-CoV-2 case rates from the relevant county and state for each center were collected from the COVID Act Now dashboard and the COVID Tracking Project for correlation analysis.

Results. Data were collected from 9 health centers, encompassing 18 hospitals. Participating health centers were located in Alabama, California, Illinois, Louisiana, New Jersey, North Carolina, Pennsylvania, Rhode Island, Utah, and Washington State. Each hospital had an active policy for universal SARS-CoV-2 testing on obstetric inpatient units. A total of 10 147 SARS-CoV-2 tests were administered, of which 124 were positive (1.2%). Positivity rates varied by site, ranging from 0–3.2%. While SARS-CoV-2 infection rates were lower in asymptomatic obstetric inpatient groups than the surrounding communities, there was a positive correlation between positivity rates in obstetric inpatient units and their surrounding county ($P = .003$, $r = .782$) and state ($P = .007$, $r = .708$).

Conclusions. Given the correlation between community and obstetric inpatient rates, the necessity of SARS-CoV-2–related healthcare resource utilization in obstetric inpatient units may be best informed by surrounding community infection rates.

Keywords. COVID-19; SARS-CoV-2; pregnancy; testing; screening.

Since December 2019, when severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection was first observed in Wuhan, China, there have been more than 237.5 million confirmed cases worldwide, including over 4.9 million deaths [1]. Within the United States alone, there have been more than 44.0 million infected persons and over 710 000 deaths [1]. Coronavirus disease 2019 (COVID-19) has placed an unsustainable burden on our healthcare system. Hospitals, essential services, and communities have been challenged by delayed access to diagnostic testing, limited number of healthcare providers, and inadequate supply of personal protective equipment (PPE). Additionally, the diverse presentations of COVID-19 and a significant proportion of asymptomatic disease transmission, as well as a relatively varied incubation period, make it more difficult to assess patients in a timely manner and contain spreading infection [2].

Pregnant patients are frequent utilizers of healthcare facilities, and those who are asymptomatic carriers of SARS-CoV-2 may unknowingly spread infection to their families, to other patients, and to healthcare workers or hospital staff, especially at the time of delivery [3]. If asymptomatic patients test positive at the time of hospital admission, potential spread to healthcare providers, support people, and other patients could be significantly reduced by implementing appropriate hospital isolation practices, PPE, and early interdisciplinary care for the patient

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and neonate. In an effort to minimize the spread of infection from asymptomatic pregnant patients, many healthcare facilities around the world have implemented universal testing of all pregnant people admitted to obstetric inpatient units. Reports from several of these facilities have shown that asymptomatic infection occurred in 43.5–92% of all SARS-CoV-2–positive pregnant individuals [4].

Although prior studies demonstrate the benefit of universal testing, most have limited generalizability due to their restricted geographic representation. The purpose of this study was to provide a multicenter overview of the practice of universal screening of pregnant people admitted to obstetric inpatient units in the United States. We aimed to estimate the overall prevalence of asymptomatic SARS-CoV-2 infection among pregnant people, as well as to understand the association between certain demographic characteristics and infection rates within the asymptomatic obstetric population, and whether this correlates with infection rates from symptom-based testing in the surrounding communities.

METHODS

This cross-sectional study was conducted in 9 centers, including 18 hospitals, across 10 states within the United States (Figure 1). Pregnant and postpartum people admitted to obstetric inpatient units were included. The observational study was compliant with STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) guidelines.

Participating Centers

Participating centers were located in widespread geographic regions of the United States, including Alabama, California, Illinois, Louisiana, New Jersey, North Carolina, Pennsylvania, Rhode Island, Utah, and Washington. Each center voluntarily agreed to participate in this study. These centers were selected because they had implemented universal screening of all pregnant people admitted to obstetric inpatient units early in the pandemic. Each center submitted universal screening data for hospitals in their health systems for a total inclusion cohort of 18 hospitals across the 9 centers.

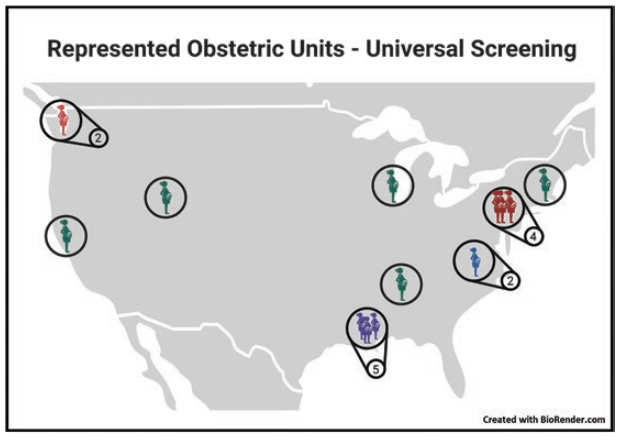

Figure 1. Map schematic demonstrating the wide range of geographic locations reporting results of universal SARS-CoV-2 testing of asymptomatic patients admitted to obstetric inpatient units in this study. Each pregnant figure represents a hospital where data were collected. Large circles indicate the 9 health centers and numbers in small circles specify numbers of participating hospitals within each health center. Abbreviation: SARS-CoV-2, severe acute respiratory syndrome coronavirus 2.

Procedures

Standardized data collection was performed at each hospital. Variables collected included center name, hospital name, annual hospital delivery volume, type of hospital (eg, university-affiliated, academic, community), total number of hospitals within a center performing universal testing, county and state prevalence statistics for positive SARS-CoV-2 testing and COVID-19–related deaths during the same study period, dates related to mandated closure policies in the county, type of test performed, who performed the specimen collection, and if point-of-care tests (POCTs; results in <30 minutes) or in-house laboratory-based tests were offered, and dates that universal testing started in addition to policies regarding who was universally tested. Hospital type was self-designated by the center investigator. Many centers used multiple testing platforms due to testing supply shortages during this time in the pandemic. Specific testing platforms used at each center for individual patients were not available. Summary data were provided to the central database for all tested patients. These data included self-reported race, ethnicity, insurance status, age, body mass index (BMI) at admission, gestational age, type of SARS-CoV-2 test performed, results of SARS-CoV-2 testing, presence or absence of symptoms of COVID-19, admission to the intensive care unit during pregnancy or postpartum for COVID-19 complications, and if delivery occurred during the admission in which a positive SARS-CoV-2 test was obtained. Data from universal testing at hospitals represent the total number of individual tests done at each hospital, not necessarily the number of unique patients who were tested. For prolonged hospitalizations, we included repeat testing for patients who had multiple tests during their hospital stay.

Study data were collected and managed using Research Electronic Data Capture (REDCap; Nashville, TN) hosted at Duke University [5, 6]. Each center also completed a REDCap survey providing summary counts for each variable collected. Data were then compiled and analyzed at Duke University. No protected health information was included. The study was Institutional Review Board approved or determined exempt at each center.

Statistical Analyses

Descriptive statistics were used to summarize the proportion of SARS-CoV-2 tests that were positive relative to the total tests performed. The rates of SARS-CoV-2–positive tests were determined for each hospital as well as for the surrounding county and state during the same time period as reported by

the publicly available COVID Act Now dashboard (https://covidactnow.org) and the COVID Tracking Project (https://covidtracking.com/ [7, 8]. Data were first stratified to determine whether there were differences in the rate of positive tests based on US geographic regions, as well as between hospitals within the same health system. The correlation between positive tests at each hospital and positive community rates was then determined using GraphPad Prism version 9.0 (GraphPad Software, San Diego, CA). The association between demographic and additional patient-level characteristics and positivity rate was evaluated if characteristics were correlated with a higher risk for a positive SARS-CoV-2 test, both nationally and by region, in pregnant people admitted to labor and delivery.

RESULTS

The time period over which universal testing data were collected and submitted from each hospital ranged from 30 to 104 days (Table 1). In all, 63.3% of tests were POCTs performed upon admission and 30.3% were in-house laboratory tests that were ordered at admission (Supplementary Table 1).

A total of 10 147 SARS-CoV-2 tests were administered to asymptomatic people admitted to obstetric inpatient units, of which 124 were positive (1.2%). The test positivity rate varied across sites, ranging from 0 to 3.2%. All obstetric inpatient units in this study had lower positivity rates than their surrounding communities. The timings of public schools and business closings were similar across sites, while the testing date ranges varied in the time elapsed since closing.

Demographic characteristics of patients who were tested for SARS-CoV-2 at each hospital varied across sites and are reported in Table 2. The total numbers differed significantly by site; therefore, a weighted positivity average of 1.2% (95% confidence interval: 0.5–2.0%) was generated.

Asymptomatic SARS-CoV-2 rates in obstetric inpatient units were positively correlated with the rates in their respective surrounding counties ($r = 0.782$, $P < .05$) and states ($r = 0.708$, $P < .05$), with higher rates of SARS-CoV-2 infection recorded in asymptomatic inpatient pregnant patients in communities with higher SARS-CoV-2 positivity rates (Figure 2).

DISCUSSION

In this multisite study including various geographic regions across the United States, SARS-CoV-2 infection prevalence in asymptomatic women admitted to obstetric inpatient units at

Table 1. Obstetric Unit Positive Rate vs County and State Publicly Reported Infection Rates

Center	Hospital	Obstetric Unit Positive Rate, %	County Positive Rate, %	State Positive Rate, %	Date Range Included (No. of Days)	Date of Public School Closing	Earliest Date of Mandated Business Closing
University of Pennsylvania Health System	HUP	3.2	23.4	16.0	27 April 2020–27 May 2020 (30)	16 March 2020	16 March 2020
	Penn-Princeton	2.6	22.7	14.5		18 March 2020	16 March 2020
	Pennsylvania Hospital	1.8	23.7	16.0		16 March 2020	16 March 2020
	Chester	2.5	22.4	16.0		16 March 2020	16 March 2020
Ochsner	All hospitals	0.9	…	7.8	3 April 2020–16 July 2020 (104)	16 March 2020	16 March 2020
	Baptist	…	11.3	…	3 April–16 July 2020 (104)	…	…
	West Bank	…	13.9	…		…	…
	Kenner	…	13.9	…		…	…
	Baton Rouge	…	18.0	…		…	…
	St Anne	…	14.6	…		…	…
University of Washington	Montlake/Northwest	0	4.3	4.5	15 April 2020–16 June 2020 (62)	11 March 2020	16 March 2020
Duke University	Duke University Hospital	2.1	12.5	7.0	23 April 2020–7 July 2020 (75)	20 March 2020	29 March 2020
	Duke Regional Hospital	1.2	12.5	7.0	20 April 2020–7 July 2020 (78)	20 March 2020	29 March 2020
Northwestern	Prentice Women's Hospital	1.3	22.9	13.0	8 April 2020–31 May 2020	17 March 2020	16 March 2020
UCSF	UCSF	0.6	2.4	5.2	23 April 2020–30 June 2020 (68)	16 March 2020	16 March 2020
Brown	Women & Infants	1.1	5.9	2.0	1 June 2020–31 July 2020 (60)	13 March 2020	16 March 2020
Utah	Utah	1.4	6.0	4.1	30 April 2020–31 May 2020 (58)	13 March 2020	17 March 2020
UAB	UAB	0.2	5.4	7.9	1 May 2020–31 May 2020 (30)	19 March 2020	20 March 2020

Abbreviations: HUP, Hospital of the University of Pennsylvania; UAB, University of Alabama at Birmingham; UCSF, University of California, San Francisco.

Table 2. Demographic Characteristics of Pregnant People Tested for SARS-CoV-2 by Hospital

	HUP (n = 342)	Princeton (n = 229)	Pennsylvania (n = 451)	Chester (n = 275)	Ochsner (All Hospitals) (n = 2841)	University of Washington (n = 388)	Duke University (n = 667)	Duke Regional (n = 515)	Northwestern (n = 1733)	UCSF (n = 533)	Brown (n = 1408)	Utah (n = 351)	UAB (n = 424)	Total (N = 10 157)
Age (med), years	29	33	32	30	28	32	31	30	33	36.7	31	30	28	31
GA (med), weeks	39	39.2	39.1	39.1	39	39	40	40	39	39	…	39.2	38.6	39.1
BMI (med), kg/m^2	31.1	30	30.3	30.2	31	29	32	31.8	…	28	…	29.9	31	30.3
Race, n (%)														
American Indian	0 (0)	0 (0)	0 (0)	0 (0)	9 (0.3)	5 (1.3)	2 (0.3)	2 (0.4)	6 (0.3)	4 (0.7)	0 (0)	5 (1.4)	0 (0)	33 (0.3)
Asian	29 (8.5)	48	46 (10.2)	18 (6.5)	65 (2.3)	54 (13.9)	46 (6.9)	25 (4.9)	98 (5.7)	140 (26.3)	25 (1.8)	7 (2.0)	6 (1.4)	607 (6.0)
Hawaii/PI	0 (0)	0 (0)	1 (0.2)	0 (0)	6 (0.2)	2 (0.5)	1 (0.1)	1 (0.2)	0 (0)	5 (0.9)	1 (0.1)	11 (3.1)	0 (0)	28 (0.3)
Black	219 (64.0)	22 (9.6)	136 (30.2)	33 (12.0)	1150 (40.8)	44 (11.3)	202 (30.3)	128 (24.9)	159 (9.2)	42 (7.9)	138 (9.8)	11 (3.1)	158 (37.3)	2442 (24.0)
White	86 (25.1)	140 (61.1)	262 (58.1)	220 (80.0)	1466 (52.0)	223 (57.4)	259 (38.8)	276 (53.6)	695 (40.1)	233 (43.7)	838 (59.5)	188 (53.6)	180 (42.4)	5066 (49.9)
Multiple	2 (0.6)	0 (0)	6 (1.3)	1 (0.4)	0 (0)	2 (0.5)	60 (9.0)	29 (5.6)	14 (0.8)	0 (0)	79 (5.6)	2 (0.6)	0 (0)	195 (1.9)
Unknown	6 (1.8)	19 (8.3)	0 (0)	3 (1.1)	52 (1.8)	58 (14.9)	97 (14.5)	54 (10.5)	761 (43.9)	49 (9.2)	292 (20.7)	127 (36.2)	17 (4.0)	1535 (15.1)
Other	0 (0)	0 (0)	0 (0)	0 (0)	93 (3.3)	0 (0)	0 (0)	0 (0)	0 (0)	60 (11.3)	35 (2.5)	0 (0)	63 (14.9)	251 (2.5)
Ethnicity, n (%)														
Hispanic	19 (5.5)	30 (13.1)	53 (11.7)	65 (23.6)	…	35 (9.0)	148 (22.2)	52 (10.1)	269 (15.5)	126 (23.6)	281 (20.0)	108 (30.8)	58 (13.7)	1244 (17.0)
Non-Hispanic	323 (94.4)	194 (84.7)	395 (87.6)	208 (75.6)	…	305 (78.6)	517 (77.5)	463 (89.9)	928 (53.5)	371 (69.6)	1007 (71.5)	239 (68.1)	297 (70.1)	5247 (71.7)
Unknown	0 (0)	5 (2.2)	3 (0.6)	2 (0.7)	…	48 (12.4)	2 (0.3)	0 (0)	536 (30.9)	36 (6.8)	120 (8.5)	4 (1.1)	69 (16.3)	825 (11.3)
Insurance, n (%)														
Private	138 (40.4)	212 (92.6)	313 (69.4)	176 (64.0)	1616 (57.4)	268 (69.1)	329 (49.3)	294 (57.1)	…	452 (84.8)	62 (4.4)	223 (63.5)	136 (32.1)	4219 (48.6)
Government	200 (58.5)	11 (4.8)	132 (29.3)	78 (28.4)	891 (31.6)	109 (33.2)	318 (47.7)	180 (35.0)	258 (14.9)	79 (14.8)	49 (3.5)	95 (27.1)	221 (52.1)	2621 (30.2)
None	4 (1.2)	6 (2.6)	6 (1.3)	21 (0.76)	309 (11.0)	11 (2.8)	20 (3.0)	41(8.0)	…	0 (0)	0 (0)	22 (6.3)	4 (0.9)	444 (5.1)
Unknown	0 (0)	0 (0)	0 (0)	0 (0)	25 (0.8)	0 (0)	0 (0)	0 (0)	…	2 (3.8)	1297 (92.1)	11 (3.1)	63 (14.9)	1398 (16.1)

Abbreviations: GA, gestational age; HUP, Hospital of the University of Pennsylvania; med, median; PI, Pacific Islander; SARS-CoV-2, severe acute respiratory syndrome coronavirus 2; UAB, University of Alabama at Birmingham; UCSF, University of California, San Francisco.

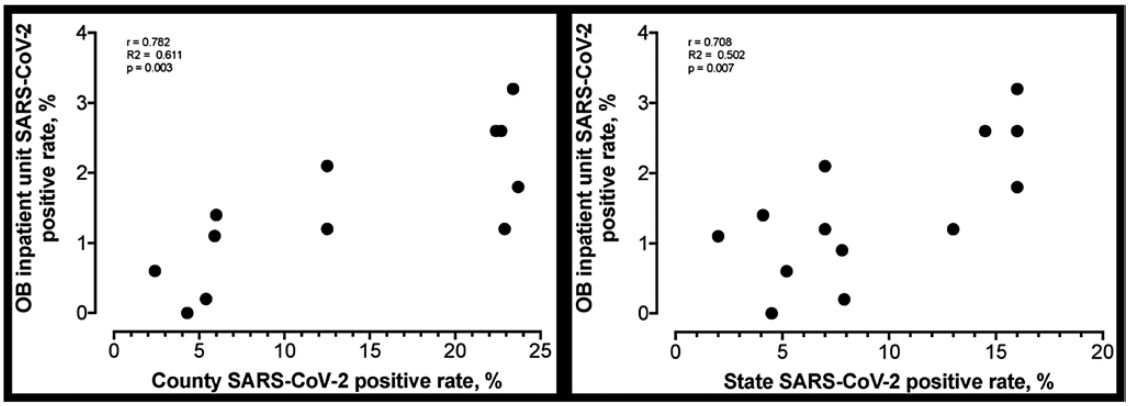

Figure 2. Asymptomatic obstetric inpatient SARS-CoV-2 infection rates were correlated with both surrounding county- and surrounding state-reported SARS-CoV-2 infection rates for the matched time frame of testing (correlation coefficients of 0.78 and 0.71, respectively). While absolute values of infection rates were invariably lower in the asymptomatic obstetric inpatient groups, the relative positivity rates between different hospitals and the different geographic regions were maintained. Abbreviations: OB, obstetric; SARS-CoV-2, severe acute respiratory syndrome coronavirus 2.

the 9 centers (18 hospitals) was low, ranging from 0 to 3.2%. In the early stages of the COVID-19 pandemic, several reports from health centers across the world that implemented universal testing showed high rates of asymptomatic SARS-CoV-2 positivity in pregnant inpatients. A case-series of pregnant people admitted to Hospital Pedro Hispano in Portugal found 11.7% of the patients tested positive for COVID-19, of whom 91.7% were asymptomatic at the time of admission [9]. A study in Italy found that, with universal testing of pregnant people admitted for childbirth, the prevalence rate of COVID-19 was 6 times higher than the rate when testing for only symptomatic pregnant people admitted for childbirth [10]. When universal testing was performed in 2 New York City hospitals, the authors found that more than 1 in 8 asymptomatic pregnant people were infected with SARS-CoV-2 [11]. These studies with substantially high positivity rates of pregnant people were predominantly reporting on short time frames during surges of disease activity.

Additionally, the considerably higher positivity rate from New York City hospitals compared with hospitals in this study may be attributed to when in the pandemic universal screening was employed at each hospital in relation to when mandated closure policies took place in the community. Universal testing at the 2 New York City hospitals was performed for 2 weeks starting when the stay-at-home order was first placed for nonessential workers. While the counties in this study had similar dates of mandated closure policies (Table 1), universal testing and data collection did not occur until at least 2 weeks after stay-at-home orders had been in place for all counties. Given the time between mandated closure policies and the initiation of universal testing at the hospitals in this study, the low positivity rates in the obstetric inpatient population at these hospitals potentially reflect the effect of mandated closures in lowering transmission of infection, although the correlation with community infection rates was maintained.

Reports published after the initial surge of the disease and the implementation of community closures and interventions showed lower asymptomatic infection rates, similar to the positivity rates demonstrated in this multicenter study. Kaiser Permanente Southern California hospitals administered universal testing for pregnant people who were admitted to the hospital between 6 April 2020 and 11 May 2020. Of the 3923 women who underwent SARS-CoV-2 testing, a total of 17 (0.43%; 95% confidence interval: 0.23–0.63%) women tested positive, all of whom were asymptomatic at admission [12]. From 2 April 2020 to 29 April 2020, patients admitted for childbirth at 3 Yale New Haven hospitals in southern Connecticut were screened and tested for SARS-CoV-2 [13]. The overall prevalence of positive test results in asymptomatic patients was 2.9% (22/756) [13]. Our study enhances the findings of these previous studies by showing a broad representation of racial, socioeconomic, and geographic diversity at hospitals across the country, all of which demonstrate low asymptomatic rates in the obstetric inpatient population.

In general, the rate of positive SARS-CoV-2 tests detected with universal screening upon hospital admission is lower in obstetric inpatient patients at each hospital in this study than in their respective surrounding community, although obstetric inpatient positivity rates were correlated with surrounding community rates (Figure 2). During the study period, community testing strategies generally focused on testing symptomatic people or individuals with known exposure, thereby yielding a higher positivity rate than at each hospital in this study. It is also possible that pregnant people adhere to recommended safety measures to prevent infection at a greater rate, and with particular vigilance leading up to delivery, than the general community. Differences in positivity rates between multi-hospital systems within the same county were observed in Pennsylvania and North Carolina. These differences between hospitals likely relate to higher rates at tertiary referral hospitals. The lower positivity rates from universal

screening in the admitted obstetric inpatient population as compared with their respective surrounding communities may also be due to incomplete sampling of the pregnant population. There may have been a small number of patients who had repeat testing due to prolonged hospitalizations, and therefore each individual test within this dataset is not unique. Notably, there are pregnant patients who are tested for SARS-CoV-2 in the outpatient setting, where not all positive cases require admission to the hospital and thus were not captured in this study sample that focused on inpatient universal screening.

A limitation of this study is the difference in timing and duration in which universal screening was implemented at each of the locations at the time of reporting for this study. To minimize the potential impact of this variability, we compared obstetric inpatient positivity rates to surrounding community positivity rates that were collected from the matched time period. The data are limited because they were collected prior to the Alpha and Delta surges and the availability of vaccinations. There is also variability in the testing platforms used at each institution, and differences between inpatient and outpatient testing platforms utilized during the same study period. Various testing platforms have differences in sensitivities, especially in the asymptomatic patient. If a testing platform with a lower sensitivity for detection of SARS-CoV-2 was utilized for testing obstetric inpatients, then this could underestimate infection prevalence.

This study provides a broad, national multicenter assessment of the relationship between infection rates detected by a policy of universal obstetric inpatient unit screening as compared with publicly reported surrounding community rates of SARS-CoV-2 infection. We have included both community and academic hospitals to increase generalizability. The necessity of SARS-CoV-2–related healthcare resource utilization may be informed by surrounding community infection rates. In communities where SARS-CoV-2 infection rates remain high, it is advisable for hospitals to continue universal testing because there are likely higher positivity rates of asymptomatic pregnant people being admitted to obstetric inpatient units. In contrast, universal testing may be an unnecessary use of resources at hospitals located in communities with low infection rates. This correlation may be further influenced by ongoing vaccine availability, distribution, and acceptance within both healthcare practitioner and patient populations.

Supplementary Data

Supplementary materials are available at *Clinical Infectious Diseases* online. Consisting of data provided by the authors to benefit the reader, the posted materials are not copyedited and are the sole responsibility of the authors, so questions or comments should be addressed to the corresponding author.

Notes

Data availability. Data will not be publicly shared.

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Potential conflicts of interest. B. L. H. reports serving on Merck's Scientific Advisory Board. A. K. reports receiving National Institutes of Health (NIH) K23 AI153390-01 for time support and serving as co-investigator on an Merck Investigator Studies Program (MISP) grant for Merck and Company, Inc; reports consulting fees from GlaxoSmithKline (GSK) (Research Consultant for maternal immunization-related projects) and Pfizer (Consultant on Maternal Immunization Uptake Project); reports participating on the Washington Department of Health SARS-COV-2 Vaccine Science Advisory Workgroup and serving as a Centers for Disease Control and Prevention (CDC) Advisory Committee on Immunization Practices (ACIP) Ebola Vaccine Work Group, American College of Obstetricians and Gynecologists (ACOG) representative. T. M. reports payments made to their institution for a SARS-CoV-2 vaccine trial in pregnancy from Pfizer; personal payments for 2 topics on a trial of labor after cesarean delivery from UptoDate; personal consulting fees from Pfizer for participation on a medical advisory board to provide feedback on a protocol to study a SARS-CoV-2 vaccine in pregnancy; serving on the Society for Maternal-Fetal Medicine Board of Directors (unpaid). M. E. N. reports grants from Natera, paid to their institution; royalties from Elsevier for textbook sales; consulting fees from Invitae; honoraria for lecturing and course direction for Fetal and Women's Imaging from World Class CME; and participation in a Gastroschisis outcome study for the University of Wisconsin. S. S. reports personal payments for lectures, presentations, speaker's bureaus, manuscript writing, or educational events from UCLA Grand Rounds for Obstetrics and Gynecology (GR-OBGYN) and Rutgers GR-OBGYN; reports personal payments for expert testimony from Huff Powell Bailey and Gerson, Willoughby and Getz LLC; and reports a leadership role with the Society for Maternal Fetal Medicine. A. T. reports support from Pfizer, NIH, and CDC, paid to their institution; and reports serving on a Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) National Advisory Council. J. G. reports serving as Safety Coordinator for the 2020 Clinical Immunization Safety Assessment (CISA) 04-COVID Maternal Study 1 December 2020–30 November 2023 awarded by the CDC. S. M. L. reports research funding for SARS-CoV-2 in pregnancy research not related to this manuscript to their institution from Merck and CDC. R. S. reports support for the Study of Pregnancy and Neonatal Health (SPAN) from the University of Iowa Institutional Review Board—Improving Women's and Children's Health via Biobanking and Electronic Registry (iELEVATE); support for Clinical Evaluation of the GestAssured^{TM} Test Kit from Pregnancy as a Window to the Future: Outcomes of Antihypertensive Therapy and Superimposed Preeclampsia in Pregnant Women with Mild Chronic Hypertension (CHAP Maternal Follow-up Study); participation on a Data Safety and Monitoring Board (DSMB); and serving as Chair, Alabama Maternal Mortality Review Committee. E. S. M. reports support from Pfizer for Site Principal Investigator for a phase 2/3 randomized controlled trial of COVID vaccine in pregnant people. E. F. W. reports the following support: Comparing Glycemic Profiles in Pregnancy and Maternal and Child Health Outcomes (U01-RFA-DK-18-018/019); Prenatal marijuana: Impact on Infant Neurobehavior, Stress, & Epigenetic Mechanisms (R01-DA044504-01); The Prenatal and Childhood Mechanisms of Health Disparities: Population Health Disparities: Protocol Development and Initial Recruitment and Retention (NIH-NICHD-DIPHR-2018-12); reports payment for serving as UpToDate Diabetes Section Editor; served as an expert for 1 case for CRICO; serves on a DSMB (unpaid); reports a leadership role with the Society of Maternal Fetal Medicine Board of Directors. All other authors report no potential conflicts. All authors have submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Conflicts that the editors consider relevant to the content of the manuscript have been disclosed

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