The window after recovering from SARS-CoV-2 infection when people could donate serum that has sufficiently high antibody levels may be limited. Implications for health care personnel with antibodies assigned to care for infected patients depend on whether decline in these antibodies increases risk of reinfection and disease, which remains unknown, especially given the lack of data on memory B-cell and T-cell responses. Limitations of this study include its single-center setting, small sample size, convenience sampling, and lack of information on timing of infection to evaluate antibody kinetics.

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Table. Seropositivity at 60 Days, Symptom Prevalence, and Mean Signal-to-Threshold Values of Anti–SARS-CoV-2 Immunoglobulin Antibodies Among 19 Health Care Personnel Seropositive at Baseline

<table>
<thead>
<tr>
<th>No. (%)</th>
<th>SARS-CoV-2 ELISA results</th>
<th>Symptomaticb</th>
<th>Asymptomaticb</th>
<th>Signal-to-threshold value, mean (median)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total reactive at baseline</td>
<td>19 (100)</td>
<td>11/19 (58)</td>
<td>8/19 (42)</td>
<td>2.8 (1.9)</td>
</tr>
<tr>
<td>Total at 60 days</td>
<td></td>
<td></td>
<td></td>
<td>1.3 (1.0)</td>
</tr>
<tr>
<td>Reactive</td>
<td>8/19 (42)</td>
<td>6/8 (75)</td>
<td>2/8 (25)</td>
<td>4.8 (5.4)</td>
</tr>
<tr>
<td>Nonreactive</td>
<td>11/19 (58)</td>
<td>5/11 (45)</td>
<td>6/11 (55)</td>
<td>1.4 (1.2)</td>
</tr>
</tbody>
</table>

Abbreviations: ELISA, enzyme-linked immunosorbent assay; SARS-CoV-2, severe acute respiratory syndrome coronavirus 2.

* A specimen was considered reactive if, on confirmatory testing, at a background corrected optical density above the threshold at a serum dilution of 1:100, it had a signal-to-threshold ratio greater than 1, which indicated anti–SARS-CoV-2 antibody presence.

b Symptomatic denotes those with symptoms of a viral respiratory illness, including fever, cough, shortness of breath, myalgias, sore throat, vomiting, diarrhea, dysgeusia, or anosmia, between February 1, 2020, and the baseline visit in April 2020. Others were classified as asymptomatic.

Association of SARS-CoV-2 Test Status and Pregnancy Outcomes

Associations of coronavirus disease 2019 (COVID-19) and pregnancy outcomes remain unclear because most studies are case reports or case series without contemporary comparators.

We compared pregnant persons in labor who were infected with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) compared with those uninfected.

Methods | We identified all persons presenting in labor at Karolinska University Hospital, Stockholm, Sweden, from March 25 to July 24, 2020. From March 25, reverse transcriptase–polymerase chain reaction (RT-PCR) testing of nasopharyngeal swabs was performed on all persons in labor.
regardless of symptoms. If test results were positive, patients were asked to describe any symptoms, which were documented in the medical record. If a patient tested positive during pregnancy (inpatient visit) but negative when presenting in labor, she was considered exposed (n = 11). During the study period, 3 patients tested positive for antibodies against SARS-CoV-2 during pregnancy and were not tested with RT-PCR; they were considered exposed. Maternal and neonatal data were collected from the Swedish Pregnancy Register2 and medical records.

Patients testing positive were matched to those testing negative on multiple pregnancies and a propensity score (estimated with logistic regression) including age, parity, early-pregnancy body mass index, educational level, birth country, smoking, living with partner, and prepregnancy comorbidity.

Using generalized estimating equation models with robust sandwichestimatorsclusteredonthe matchingsetinSAS version 9.4, we estimated prevalence ratios assuming a Poisson distribution to test associations between SARS-CoV-2 infection and adverse pregnancy, delivery, and neonatal outcomes. A sensitivity analysis excluding those testing positive in pregnancy was conducted. Two-sided P < .05 indicated statistical significance.

The study was approved by the Swedish Ethical Review Authority, who deemed that informed consent was not required.

Results | Among 2682 patients presenting in labor, 156 (5.8%) were SARS-CoV-2 positive (142 [91%] at admission and 14 [9%] during pregnancy). Gradients were observed across educational level (<10 years, 14.2%; 10-12 years, 6.6%; and ≥12 years, 4.0%) and birth country (Nordic, 3.9%; rest of Europe, 5.7%; and Africa/Middle East, 10.0%). Sixty-five percent testing positive were asymptomatic. We matched 155 patients testing positive to 604 testing negative.

After matching, the groups were well balanced on all covariates (Table). Patients testing positive were more likely to have preeclampsia (7.7% vs 4.3%; prevalence ratio, 1.84; 95% CI, 1.004-3.36) and less likely to undergo induction of labor (18.7% vs 29.6%; prevalence ratio, 0.64; 95% CI, 0.45-0.90) (Figure). Other maternal outcomes, including mode of delivery,

<table>
<thead>
<tr>
<th>Table. Characteristics of SARS-CoV-2–Positive Pregnant Patients and Matched SARS-CoV-2–Negative Pregnant Patients*</th>
</tr>
</thead>
<tbody>
<tr>
<td>SARS-CoV-2 test status, No. (%)</td>
</tr>
<tr>
<td>Maternal age, mean (SD), y</td>
</tr>
<tr>
<td>13–24</td>
</tr>
<tr>
<td>25–29</td>
</tr>
<tr>
<td>30–34</td>
</tr>
<tr>
<td>≥35</td>
</tr>
<tr>
<td>Nulliparous</td>
</tr>
<tr>
<td>Multiple pregnancies</td>
</tr>
<tr>
<td>Prepregnancy comorbidityb</td>
</tr>
<tr>
<td>BMI, mean (SD)</td>
</tr>
<tr>
<td>&lt;18.5</td>
</tr>
<tr>
<td>18.5–&lt;25</td>
</tr>
<tr>
<td>25–&lt;30</td>
</tr>
<tr>
<td>≥30</td>
</tr>
<tr>
<td>Missing</td>
</tr>
<tr>
<td>Educational level, y</td>
</tr>
<tr>
<td>≤9</td>
</tr>
<tr>
<td>10-12</td>
</tr>
<tr>
<td>&gt;12</td>
</tr>
<tr>
<td>Missing</td>
</tr>
<tr>
<td>Smoking status</td>
</tr>
<tr>
<td>Nonsmoker</td>
</tr>
<tr>
<td>Smoker</td>
</tr>
<tr>
<td>Missing</td>
</tr>
<tr>
<td>Country of birth</td>
</tr>
<tr>
<td>Nordic</td>
</tr>
<tr>
<td>Europe (non-Nordic)</td>
</tr>
<tr>
<td>Middle East/Africa</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td>Missing</td>
</tr>
<tr>
<td>Living with partner</td>
</tr>
</tbody>
</table>

Abbreviations: BMI, body mass index (calculated as weight in kilograms divided by height in meters squared); SARS-CoV-2, severe acute respiratory syndrome coronavirus 2.

* Direct matching on multiple birth and on a propensity score including maternal age, parity, early-pregnancy BMI, educational level, country of birth, smoking status, living with partner, and prepregnancy comorbidity.

b Diabetes, hypertension, cardiovascular disease, kidney disease, or lung disease.
postpartum hemorrhage, and preterm birth, did not significantly differ between groups. Infants did not differ regarding 5-minute Apgar score and birth weight for gestational age (Figure). All results were similar in the sensitivity analysis, although the association with preeclampsia was nonsignificant (prevalence ratio, 1.70; 95% CI, 0.89-3.25).

Discussion | SARS-CoV-2 test positivity in individuals in labor was associated with a higher prevalence of preeclampsia and lower prevalence of induction of labor. COVID-19 is primarily a respiratory infection but also has systemic effects that may resemble preeclampsia. The absence of an increased prevalence of preterm birth is concordant with results of 2 previous studies using comparators. The lack of difference in Apgar scores and birth weight for gestational age between groups is similar to that in a US study.4

In light of other accumulating data, it is already clear that COVID-19 is less severe in pregnancy than the 2 previous coronavirus infections: severe acute respiratory syndrome-related coronavirus (SARS) and Middle East respiratory syndrome-related coronavirus (MERS). Nevertheless, there are reports of pregnant persons requiring critical care, and there have been other reports of both mother and infant deaths in association with COVID-19.6

Strengths of this study include the universal testing, providing pregnancy comparators with negative test results. Limitations include uncertainty regarding generalizability to other countries with different obstetric care, timing of the RT-PCR test, and limited statistical power for rare outcomes and for a stratified analysis by symptoms.

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Figure. Maternal Outcomes by SARS-CoV-2 Test Results

<table>
<thead>
<tr>
<th>SARS-CoV-2 test status, No. (%) of women</th>
<th>More prevalent in negative women</th>
<th>More prevalent in positive women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive women (n = 155)</td>
<td>Adjusted prevalence ratio (95% CI)</td>
<td>Adjusted prevalence ratio (95% CI)</td>
</tr>
<tr>
<td>Negative matched women (n = 604)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Maternal outcomes

- Preeclampsia: 12 (7.7) vs 26 (4.3), adjusted prevalence ratio (95% CI) 1.84 (1.00-3.36)
- Gestational diabetes: 14 (9.0) vs 79 (13.1), 0.67 (0.40-1.12)
- Preterm birth (<37 wk): 14 (9.0) vs 45 (7.5), 1.21 (0.68-2.15)
- Induction of labor: 29 (18.7) vs 179 (29.6), 0.64 (0.45-0.90)
- Epidural analgesia: 63 (47.0) vs 267 (51.4), 0.92 (0.76-1.13)

Mode of delivery

- Spontaneous vaginal: 107 (69.0) vs 419 (69.4), 1.00 (0.89-1.11)
- Instrumental: 12 (9.0) vs 26 (5.0), 1.76 (0.93-3.32)
- Cesarean delivery: 36 (23.2) vs 159 (26.3), 0.88 (0.65-1.19)
- Planned: 21 (13.5) vs 85 (14.1), 0.96 (0.62-1.48)
- Emergency: 15 (9.7) vs 74 (12.3), 0.79 (0.48-1.33)

Postpartum hemorrhage

- >500 mL: 37 (23.9) vs 188 (31.1), 0.77 (0.57-1.06)
- >1000 mL: 10 (6.5) vs 50 (8.3), 0.80 (0.42-1.51)

Breastfeeding at discharge: 126 (81.3) vs 499 (82.6), 0.99 (0.90-1.07)

Infant outcomes

- 5-min Apgar score <7: 4 (2.5) vs 17 (2.8), 0.94 (0.32-2.73)
- Large for gestational age: 16 (10.1) vs 53 (8.7), 1.16 (0.69-1.98)
- Small for gestational age: 22 (13.9) vs 64 (10.5), 1.37 (0.88-2.14)
- Major birth defect: 2 (1.3) vs 15 (2.5)
- Stillbirth: 1 (0.6) vs 4 (0.7)

- Direct matching on multiple births and on a propensity score including maternal age, parity, early-pregnancy body mass index, educational level, country of birth, smoking status, living with partner, and prepregnancy comorbidity (yes/no).
- Variables in the regression models were age (continuous), body mass index (<30/30), country of birth (Nordic/non-Nordic), parity (nulliparous/parous), living with partner (yes/no), and prepregnancy comorbidity.
- Analyses performed on all deliveries except elective cesarean.
- Data were missing for n = 3 (1.9%) in the group with positive test results and n = 28 (4.6%) in the group with negative ones.
- Missing data for n = 21 (13.5%) in the group with positive test results and n = 88 (14.6%) in the group with negative ones.
- Missing data for n = 4 (2.5%) in the group with positive test results and n = 20 (3.3%) in the group with negative ones.
- Defined as greater than 90th (large) or less than 10th (small) percentile by gestational age and sex. Birth weight was missing for n = 5 (3.2%) in the group with positive test results and n = 39 (6.4%) in the group with negative ones.
- Death before delivery from 22 weeks 0 days.
Methods | We performed a retrospective, population-based cohort study of US allopathic and osteopathic physicians practicing in 2014 per the National Plan and Provider Enumeration System, excluding other clinicians (eg, nurses, dentists) and physicians activating or deactivating their records between 2014 and 2018. Specialties were grouped by Medicare Data on Provider Practice and Specialty taxonomy classifications: primary care, medical specialty, surgical specialty, obstetrics/gynecology, hospital-based specialty, and psychiatry. National Plan and Provider Enumeration System and Open Payments identifiers were linked by text string using cross-referenced files from the beginning and end of the period.

Open Payments data on general (nonresearch) industry payments between January 2014 and December 2018 (excluding 2013 because of partial-year reporting) were matched to the 2014 physician cohort. Payments were aggregated per physician annually, then categorized by cumulative aggregate value ($<10 000; $10 001-$25 000; $25 001-$50 000; $50 001-$100 000; $100 001-$500 000; and >$500 000). Values were adjusted to the 2018 Consumer Price Index.3

Outcomes included proportion of physicians receiving payments, and total and median/mean annual per-physician payment values. Total-value trends were tested using linear regression. Trends in proportions of physicians receiving payments and annual per-physician payment values were tested using logistic and linear generalized estimating equations, respectively, controlling for physician-level correlation, with year as the independent variable. Analyses were stratified by specialty group and aggregate value of payment category. Two-sided P values (α < .05) were applied to tests using SPSS version 26 (IBM Inc). This study was exempted from review by the Mount Sinai institutional review board.

Results | Of the 2014 cohort of 878 308 physicians, 458 269 (52.2%) received at least 1 payment in 2014, declining to 394 991 (45.0%) in 2018 (Table 1), representing a relative overall decrease of −13.8% and relative annual decrease of −3.5% (95% CI, −3.5% to −3.4%). From 2014 to 2018, these physicians received 49.8 million payments totaling $9.3 billion. The total value was highest in medical and surgical specialties ($3.4 billion in aggregate, respectively). The annual proportion of physicians receiving payments decreased over time across all specialties. However, total and annual payment values remained stable across specialties except for primary care, for which total value decreased.

In 2014-2018, 90.1% of physicians who accepted payments received less than $10 000 (Table 2). Among physicians receiving lesser aggregate payments, annual values decreased over time (yearly change: for ≤$10 000, −$11 [95% CI, −$12 to −$11]; for $10 001-$25 000, −$100 [95% CI, −$117 to −$84]; and for $25 001-$50 000, −$135 [95% CI, −$199 to −$71]; P < .001). Those receiving more than $50 000 accounted for 3.4% of physicians receiving payments but 82% of the total value. For these physicians, annual payment values increased or remained stable over time (yearly

Trends in Industry Payments to Physicians in the United States From 2014 to 2018
Open Payments, a federal transparency program reporting industry-physician financial relationships since 2013, was established out of concern for undue industry influence on health care decision-making and costs. The effect of Open Payments is not fully understood. We sought to determine trends in physician-level payments to evaluate whether the implementation of Open Payments has been associated with a decrease in the prevalence or value of physicians’ interactions with industry.

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Acquisition, analysis, or interpretation of data: Ahlberg, Neovius, Saltvedt, Söderling, Brandkvist, Stephansson.

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