Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

in procedures for any month of 2020 compared with previous years based on referral source. We identified significant increases in March by indication (patient choice only [40 vs mean 25 for 2017−2019] and not for pregnancy loss or anomaly). Procedure volume increased significantly in gestations of 15 weeks or more in March and April 2020 (mean 60 in 2017−2019 vs 97 in 2020; 61% increase), mainly from procedures at 20 weeks or more (mean 26 compared with 63, respectively; 145% increase). Of 105 patients (all in April and May) who had COVID-19 testing, none had a positive result.

CONCLUSION: During the initial COVID-19 surge, our Northern California tertiary reproductive health referral center experienced a significant increase in abortion referrals in February and March 2020, correlating with a significant overall increase in procedures during March and April 2020, the initial peak months of COVID-19 cases in the United States. These data come from a region with relatively low COVID-19 infection rates during the months analyzed; it is possible that service availability in areas with higher infection burden was affected differently. The increase in referrals and procedures during the initial surge of this pandemic may just be an extreme of the normal variations we experience from month to month and year to year; we will not be able to discern this limitation until we have data for another 1 to 2 years. At a minimum, for now, we can conclude that the need for tertiary-level abortion care does not decline during the pandemic. Legislation aimed at restricting abortion access during the pandemic are contrary to patient need. ■

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Prioritization of pregnant individuals in state plans for coronavirus disease 2019 vaccination

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OBJECTIVE: The US Centers for Disease Control and Prevention (CDC) considers pregnant people to be at high-risk for severe disease and death from coronavirus disease 2019 (COVID-19), and the Advisory Committee on Immunization Practices (ACIP) recommends that pregnant individuals should be prioritized for vaccination in Phase 1c of vaccine allocation.[1] However, various state vaccination plans have not been uniform in the adoption of the ACIP priority group recommendations. Prior research found 15 states included pregnancy among other COVID-19 priority groups,[2] but planning has been highly dynamic in recent weeks. The objectives of this study were to determine how many states prioritize pregnant individuals for COVID-19 vaccination and assess the current eligibility of pregnant people to receive COVID-19 vaccinations across the United States.

STUDY DESIGN: We searched for information about the priority groups for COVID-19 vaccinations from all 50 states in the United States and the District of Columbia on March 6, 2021. Our analysis included information from official government websites. This study did not require institutional review board approval because it examined data from publicly available sources and used no patient information.

RESULTS: As of March 6, 2021, most states (36 of 51; 73%) classified pregnant individuals as a priority group for COVID-19 vaccination; in just under 50% of the states (24 of 51), pregnant people are currently eligible for vaccination (Table). The 36 states prioritizing pregnancy encompass 76% of the US population. Of these states, 23 refer to the CDC's classification of pregnant people as being at an elevated risk for severe COVID-19 illness. Several states (9 of 51; 18%) prioritize groups at elevated risk for severe COVID-19 illness because of preexisting health conditions but have not specifically enumerated pregnant people as a priority group. Four states have designed their prioritization plan around an

TABLE
State prioritization of pregnant individuals for coronavirus disease 2019 vaccination

State	Priority (phase)[a]	Current eligibility[b]	Population[c]	Source
Alabama	Yes (1c)	No	4,903,185	https://www.alabamapublichealth.gov/covid19vaccine/distribution.html
Alaska	Yes (1b)	Yes	731,545	http://dhss.alaska.gov/dph/epi/id/pages/COVID-19/vaccine.aspx
Arizona[d]	No	No	7,278,717	https://azgovernor.gov/governor/news/2021/03/state-adopts-unique-hybrid-model-covid-19-vaccine-prioritization
Arkansas	Yes (1c)	No	3,017,804	https://www.healthy.arkansas.gov/programs-services/topics/covid-19-vaccination-plan
California	Yes (1c)	No	39,512,223	https://covid19.ca.gov/vaccines/#California's-vaccination-plan
Colorado	Yes (1b)	Yes	5,758,736	https://covid19.colorado.gov/for-coloradans/vaccine/vaccine-for-coloradans
Connecticut	No	No	3,565,287	https://portal.ct.gov/vaccine-portal/COVID-19-Vaccination-Phases
Delaware	No	No	973,764	https://coronavirus.delaware.gov/vaccine/vaccination-timeline/#phase-1b
Florida	No	No	21,477,737	https://floridahealthcovid19.gov/covid-19-vaccines-in-florida/
Georgia	No	No	10,617,423	https://dph.georgia.gov/covid-vaccine
Hawaii	No	No	1,415,872	https://hawaiicovid19.com/vaccine/#first-vaccines
Idaho	No	No	1,787,065	https://healthandwelfare.idaho.gov/covid-19-vaccination
Illinois	Yes (1b+)	Yes	12,671,821	https://www.dph.illinois.gov/covid19/vaccine-distribution
Indiana	No	No	6,732,219	https://www.coronavirus.in.gov/vaccine/index.htm
Iowa	Yes (1b)	Yes	3,155,070	https://idph.iowa.gov/Emerging-Health-Issues/Novel-Coronavirus/Vaccine/Information-for-the-Public
Kansas	Yes (3)	No	2,913,314	https://www.kansasvaccine.gov/157/Availability
Kentucky	Yes (1c)	Yes	4,467,673	https://govstatus.egov.com/ky-covid-vaccine
Louisiana	Yes (1b)	Yes	4,648,794	https://ldh.la.gov/index.cfm/faq/category/138
Maine	No	No	1,344,212	https://www.maine.gov/covid19/vaccines/phases
Maryland	No	No	6,045,680	https://covidlink.maryland.gov/content/vaccine/
Massachusetts	Yes (2)	Yes	6,892,503	https://www.mass.gov/info-details/covid-19-vaccinations-for-individuals-with-certain-medical-conditions
Michigan	Yes (1c)	No	9,986,857	https://www.michigan.gov/documents/coronavirus/MI_COVID-19_Vaccination_Prioritization_Guidance_2152021_716344_7.pdf
Minnesota	Yes (1b)	No	5,639,632	https://www.health.state.mn.us/diseases/coronavirus/vaccine/phase1b1c2.pdf
Mississippi	Yes	Yes	2,976,149	https://msdh.ms.gov/msdhsite/_static/14,22816,420,976.html
Missouri	Yes (1b)	Yes	6,137,428	https://covidvaccine.mo.gov/priority/Phase1b/#phase1b-2

Crane. Prioritization of pregnant individuals in state plans for coronavirus disease 2019 vaccination. Am J Obstet Gynecol 2021. *(continued)*

TABLE
State prioritization of pregnant individuals for coronavirus disease 2019 vaccination *(continued)*

State	Priority (phase)[a]	Current eligibility[b]	Population[c]	Source
Montana	No	No	1,068,778	https://dphhs.mt.gov/publichealth/cdepi/diseases/coronavirusmt/covid19vaccineavailability
Nebraska	No	No	1,934,408	https://dhhs.ne.gov/Pages/COVID-19-Vaccine-Information.aspx#SectionLink2
Nevada	Yes	Yes	3,080,156	https://www.immunizenevada.org/county-specific-covid-19-vaccine-plan
New Hampshire	Yes (1b)	Yes	1,359,711	https://www.dhhs.nh.gov/dphs/cdcs/covid19/documents/covid19-vaccine-allocation-plan-summary.pdf
New Jersey	Yes (1b)	Yes	8,882,190	https://covid19.nj.gov/faqs/nj-information/slowing-the-spread/who-is-eligible-for-vaccination-in-new-jersey-who-is-included-in-the-vaccination-phases
New Mexico	Yes (1b)	Yes	2,096,829	https://cv.nmhealth.org/wp-content/uploads/2021/02/2021.1.28-DOH-Phase-Guidance.pdf
New York	Yes (1b)	Yes	19,453,561	https://covid19vaccine.health.ny.gov/phased-distribution-vaccine#phase-1a—phase-1b
North Carolina	Yes (group 4)	No	10,488,084	https://covid19.ncdhhs.gov/vaccines/providers/covid-19-vaccine-management-system-cvms
North Dakota	Yes (1b)	Yes	762,062	https://www.health.nd.gov/covid-19-vaccine-priority-groups
Ohio	Yes (1c)	Yes	11,689,100	https://coronavirus.ohio.gov/wps/portal/gov/covid-19/covid-19-vaccination-program
Oklahoma	No	No	3,956,971	https://oklahoma.gov/covid19/vaccine-information.html
Oregon	Yes (1b)	Yes	4,217,737	https://sharedsystems.dhsoha.state.or.us/DHSForms/Served/le3527A.pdf
Pennsylvania	Yes (1a)	Yes	12,801,989	https://www.health.pa.gov/topics/disease/coronavirus/Vaccine/Pages/Distribution.aspx
Rhode Island	Yes	No	1,059,361	https://health.ri.gov/publications/guidelines/COVID19-underlying-conditions.pdf
South Carolina	Yes (1b)	No	5,148,714	https://scdhec.gov/covid19/covid-19-vaccine
South Dakota	Yes (1d)	Yes	884,659	https://doh.sd.gov/documents/COVID19/Vaccine/COVIDVaccineAvailability_Distribution.pdf
Tennessee	Yes (1c)	No	6,829,174	https://covid19.tn.gov/covid-19-vaccines/vaccine-phases/#1c
Texas	Yes (1b)	Yes	28,995,881	https://www.dshs.texas.gov/coronavirus/immunize/vaccine.aspx#eligible
Utah	No	No	3,205,958	https://coronavirus.utah.gov/vaccine-distribution/#eligibility
Vermont	Yes (5A)	No	623,989	https://www.healthvermont.gov/covid-19/vaccine/about-covid-19-vaccines-vermont#conditions
Virginia	Yes (1b)	Yes	8,535,519	https://www.vdh.virginia.gov/covid-19-vaccine/#phase1b
Washington	Yes (1b)	No	7,614,893	https://www.doh.wa.gov/Emergencies/COVID19/VaccineInformation/AllocationandPrioritization
Washington D.C.	Yes (1c)	Yes	705,749	https://coronavirus.dc.gov/vaccine

Crane. Prioritization of pregnant individuals in state plans for coronavirus disease 2019 vaccination. Am J Obstet Gynecol 2021. *(continued)*

TABLE
State prioritization of pregnant individuals for coronavirus disease 2019 vaccination *(continued)*

State	Priority (phase)[a]	Current eligibility[b]	Population[c]	Source
West Virginia	Yes (2a)	Yes	1,792,147	https://dhhr.wv.gov/COVID-19/Pages/Vaccine.aspx#timeline
Wisconsin	No	No	5,822,434	https://www.dhs.wisconsin.gov/covid-19/vaccine-about.htm
Wyoming	Yes (1b)	Yes	578,759	https://health.wyo.gov/publichealth/immunization/wyoming-covid-19-vaccine-information/

Results of the review of state prioritization planning for pregnant individuals. Data were collected on March 6, 2021, and may not represent recent changes in planning or eligibility.

COVID-19, coronavirus disease 2019.

[a] Phase listed refers to the first phase or subphase in which pregnant individuals are prioritized for vaccination. These have been rounded to the nearest subphase when divided into subphase tiers. States which do not follow a clear, phased approach to vaccination but still prioritize pregnant individuals are listed only as "Yes." When pregnant individuals are prioritized across multiple phases, they are listed here under the earliest phase in which they are enumerated; [b] Eligibility varies in some states at the county level. Results here refer to eligibility of pregnant individuals in at least some counties within a state, even if there are additional requirements such as multiple, high-risk health states or an age threshold. States were not enumerated if they rely on reference from a physician to determine vulnerability to COVID-19 without specific mention of pregnancy; [c] Population counts obtained from 2019 US Census Bureau Data (https://www.census.gov/newsroom/press-kits/2019/national-state-estimates.html); [d] At the time of plan analysis, Arizona was transitioning toward an age-based approach to COVID-19 vaccine eligibility and not all government resources had been updated to reflect this policy adjustment. Our analysis reflects the anticipated age-based approach.

Crane. Prioritization of pregnant individuals in state plans for coronavirus disease 2019 vaccination. Am J Obstet Gynecol 2021.

age-descending strategy, and 2 states list only current or near eligible groups, and pregnant people are not included.

CONCLUSION: Most states classify pregnant individuals as a priority group for initial COVID-19 vaccinations, and in almost 50% of the states, they are currently eligible to receive vaccines. These results differ substantially from previous findings published in early February 2021, which found that 15 of the 51 jurisdictions had prioritized pregnant individuals.[2] The increased prioritization of pregnant people for COVID-19 vaccination marks important progress—it is both ethically imperative and supported by recommendations from professional US obstetrics societies and the CDC.[3,4] Continued efforts to ensure equitable access to COVID-19 vaccines for pregnant people require, at minimum, that all states prioritize pregnancy as equal with the CDC-listed, high-risk health conditions based on the available, objective data.

Even where pregnant people are eligible for COVID-19 vaccinations, personal decision making is complicated by the overall lack of pregnancy-specific safety data. Vaccine studies among pregnant people are underway and early registry data are reassuring. To date, pregnancy outcomes among nearly 2000 vaccinated pregnant people are no different from those in the general population, suggesting that the messenger RNA vaccines have no adverse effects on pregnancy.[5] Pregnant people deserve the clearest possible guidance from public health agencies about their eligibility for COVID-19 vaccinations and whether the likely benefits of vaccination during pregnancy outweigh the risks. ■

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Polycystic ovary syndrome and breast cancer subtypes: a Mendelian randomization study

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OBJECTIVE: Polycystic ovary syndrome (PCOS) is a common disorder among reproductive aged women and is characterized by hyperandrogenism, oligo-ovulation, and polycystic ovaries. PCOS is associated with health conditions such as obesity and diabetes mellitus. Regarding its effect on breast cancer, epidemiologic studies have yielded inconsistent results. Mendelian randomization (MR) is an approach that uses genetic variants as instrument variables to investigate the causal relationship between risk factors and diseases. Compared with observational studies, MR can overcome confounding and reverse causation because genetic variants are randomized at conception. Here, we conducted a 2-sample MR study to estimate the causal effect of PCOS on breast cancer subtypes.

STUDY DESIGN: We obtained 14 independent single-nucleotide polymorphisms (SNPs) from a genome-wide meta-analysis of 10,074 PCOS cases and 103,164 controls of European ancestry.[1] A palindromic (A/T) SNP rs853854 with an allele frequency of ~50% was excluded. We included SNP rs2349415, which was initially identified in a Chinese genome-wide association study (GWAS) and was significantly (P = 9.6E-06) associated with PCOS in the European meta-analysis.[1] GWAS summary statistics on breast cancer subtypes were obtained from the Breast Cancer Association Consortium with 133,384 cases and 113,789 controls of European ancestry.[2] The primary MR analysis was conducted using the random-effect inverse-variance weighted (IVW) method. Sensitivity analyses included MR pleiotropy residual sum and outlier (MR-PRESSO), weighted median, and MR-Egger. Cochran's Q test was used to test the heterogeneity of the causal estimates. Additional sensitivity analyses were performed with exclusion of 2 PCOS SNPs (rs9696009 and rs2271194) associated with body mass index (BMI) at $P<.0001$ in a large GWAS for BMI.[3] Analyses were performed using R 3.6.3 (R Foundation, Vienna, Austria) and "TwoSampleMR"[4] and "MR-PRESSO" packages.[5] An institutional review board approval was not required because this study used publicly available data.

RESULTS: According to the primary MR analyses by IVW, genetically predicted PCOS increases the risk of luminal A-like, luminal B/human epidermal growth factor receptor 2 (HER2)-negative-like, and luminal B-like subtypes, but does not increase the risk of HER2-enriched-like and triple-negative subtypes (Figure). MR-Egger regression and Cochran's Q test showed no evidence of directional pleiotropy except for luminal B-like (intercept 0.068; intercept $P=.03$; $Q=24.32$; $P_Q=.03$; MR-PRESSO global test, $P=.04$). The MR-PRESSO outlier test suggested SNP rs11225154 might be an outlier ($P=.13$). After removing rs11225154, a positive association was still observed between PCOS and luminal B-like subtype (odds ratio, 1.19; 95% confidence interval, 1.06−1.33; $P=.003$), with no evidence of pleiotropy (intercept $P=.07$; $Q=17.94$; $P_Q=.12$). In the sensitivity analysis excluding 2 instrument variable SNPs (rs9696009 and rs2271194) associated with BMI, we obtained the same results as those using all PCOS SNPs (data not indicated).

CONCLUSION: Our MR study suggests an increased risk of luminal A-like, luminal B/HER2-negative-like, and luminal B-like subtypes of breast cancer among women with PCOS. Hyperandrogenism and insulin resistance may play a role in this association because they are risk factors for both PCOS and breast cancer. Our findings are consistent with a recent study wherein genetically predicted PCOS was associated with estrogen receptor (ER) positive rather than ER