# The COVID-19 Pandemic as a Catalyst for More Integrated Maternity Care

We recently served on the *Birth Settings in America* study committee for the National Academies of Science, Engineering, and Medicine, which released a comprehensive report on birth settings in America just as the United States was entering a global pandemic.[1] Birth settings have captured the attention of policymakers, given that a small, but growing, proportion of women give birth at home or in birth centers (1.0% and 0.5%, respectively).[1] In the United States, planned, midwife-attended home and birth center births are associated with fewer maternal procedural interventions (epidurals, cesarean deliveries, episiotomies) and lower rates of intervention-related morbidity (infections, blood loss). However, for several reasons, they also have a higher risk for neonatal mortality. Perhaps most important, a fractured delivery system with poor integration and lack of interprofessional collaboration between community midwives and hospital-based providers can result in barriers to maternal or infant transfer to the hospital when complications occur. Well-integrated, high-functioning maternity care systems that support smooth transitions across care settings exist but are uncommon in the United States.

## EFFECT OF THE PANDEMIC ON BIRTH SETTINGS

Although it remains unclear whether pregnant women are at greater risk for severe infection with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), health care system capacity constraints and social mitigation measures have produced new challenges and concerns that birthing families must navigate. Multiple reports highlight concerns over hospital-acquired infections, visitor restrictions, and separation policies,[2] and media outlets describe an associated increase in the demand for community births (home and birth center).[3] The current pandemic provides an important moment to critically reevaluate the US maternity care system and to create a more integrated approach that allocates resources and patient care efficiently and safely. Ideally, any substantial shifts in birth setting would occur as part of a comprehensive and coordinated strategy that recognizes the shifting risk calculus in which pregnant families are engaging. Given current realities, however, such a strategy would require significant systems change.

### Health System Changes

Several factors are driving the shift to home and birth center settings. Hospital administrators and infectious disease experts are reallocating hospital space and advanced providers to care for coronavirus disease 2019 (COVID-19) patients, particularly as they aim to decrease inpatient volume during surges that strain hospital capacity. Facility fee waivers from the Centers for Medicare and Medicaid Services have removed significant structural barriers in many communities to receiving reimbursement for care in birth centers. Low-risk births, normally attended by physicians, may be managed by midwives—within the hospital, in newly established temporary birth center spaces, in existing independent birth centers, or at home.

Several states have passed emergency legislation or regulations to increase the midwifery workforce, and in several communities, hospital-based midwives have been task-shifted into the community to attend home and birth center births. Hospital-based midwives have the benefit of specialized and team-based care, so careful attention must be paid to how tasks more commonly carried out by nursing or neonatal intensive care unit staff can be safely transferred to the home or birth center settings.

### Patient-Level Changes

On the demand side, families have multiple reasons for avoiding the hospital. First and foremost, women want to decrease their exposure risk to SARS-CoV-2. During a routine hospital birth experience, a newly postpartum woman and her infant come into contact with a multitude of health care workers, potentially exposing them to the virus. In addition, women fear that they may be separated from their infant, if either becomes infected or exposed. Some hospitals are treating all laboring women as presumptive and separating the dyad until they receive a negative test result. The American Academy of Pediatrics recommends against home birth[4] but also advocates for temporarily separating a woman who is

**ABOUT THE AUTHORS**

*Jochen Profit is with the Division of Neonatal and Developmental Medicine, Department of Pediatrics, Stanford University School of Medicine, Palo Alto, CA, and the California Perinatal Quality Care Collaborative, Stanford. Brownsyne Tucker Edmonds is with the Department of Obstetrics and Gynecology, Indiana University School of Medicine, Indianapolis. Neel Shah is with the Department of Obstetrics and Gynecology, Beth Israel Deaconess Medical Center, and Harvard Medical School, Boston, MA. Melissa Cheyney is with the School of Language, Culture and Society, Oregon State University, Corvallis, and the Oregon Maternal Mortality Review Commission, Portland.*

*Correspondence should be sent to Jochen Profit, MD, MPH, Department of Pediatrics, Division of Neonatal and Developmental Medicine, Stanford University School of Medicine, 1265 Welch Rd, MSOB x115, Palo Alto, CA 94305 (e-mail: profit@stanford.edu). Reprints can be ordered at http://www.ajph.org by clicking the "Reprints" link.*

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**RECOMMENDATIONS TO MITIGATE RISKS OF RAPID EXPANSION OF HOME AND BIRTH CENTER BIRTHS DURING THE US CORONAVIRUS DISEASE 2019 (COVID-19) PANDEMIC**

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| Although the threat of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection looms large, the absolute risk of infection in a hospital birth to mother and infant is very low. |
| SARS-CoV-2–positive pregnant patients should deliver in hospital to monitor maternal and infant health. |
| Expectant families need to weigh the pros and cons of their decision carefully and should ask their provider questions to ascertain whether a home or a birth center birth is a good philosophical and risk-based fit (e.g., Oregon Health Evidence Review Commission's provisional guidance: https://bit.ly/OR-HECR). |
| Care for COVID-19 patients should be cohorted as much as possible, with dedicated physical space and minimal exposure to staff. Additional midwifery services in hospitals or alongside spaces may help with cohorting. |
| Maternity providers and birthing center staff deserve access to personal protective equipment, testing, and contact tracing resources, which should be made available by the relevant authorities or health systems. |
| Consider prioritizing low-risk women without risk factors to birth centers or home setting. When home or birth center birth is not recommended or not preferred, consider offering early labor support at home or birth center with community midwives or doulas, moving to the hospital for active labor to minimize time in the hospital. |
| For all birth settings, a minimum but adequate number of providers and labor supports should attend birth to ensure the well-being and safety of mother and infant. Labor support improves outcomes, particularly for women of color, and should be considered essential. |
| Mutual interprofessional outreach between midwives and local hospital providers is critical. An integrated system with redundant safety checks must be created. When capacity is especially strained, the hospital needs to be aware of community births, and midwives should communicate progress and any concerns at regular intervals when patients are more likely to require transfer. Collaborative efforts also should work to ensure backup coverage and access to emergency care (transport availability; see https://bit.ly/HBSUMMIT for best practices intrapartum transfers). |
| Maternity providers should follow American Academy of Pediatrics guidelines on newborn care. |
| Data systems should be developed to monitor care and outcomes for women, infants, and providers. Clinical data collection systems should expand to encompass providers in all birth settings. |
| The birth certificate should be changed to enhance granularity regarding planned and actual birth setting. |

suspected or confirmed to be SARS-CoV-2 positive from her infant,[5] albeit under a person-centered, shared decision-making framework. Nevertheless, parents may worry about coerced separation. Families also may worry that they will be cut off from the support of family, friends, and trusted supporters in the hospital. Many hospitals have restricted the number of supports to one person, which limits access to doulas or extended family—a situation families may see as undesirable. This is of particular concern for Black women who are at markedly increased risk for adverse pregnancy outcomes, including severe morbidity and mortality, and have specifically been shown to benefit from doula care. Indeed, the pandemic may overtax hospital systems and exacerbate existing racial bias and discrimination. Finally, the popular media's dystopian imagery of the fight against SARS-CoV-2 in hospitals is incompatible with most women's idea of a desirable birth environment.

Together, these considerations combine to shift perceptions of the delicate risk-benefit assessment that pregnant women must engage in as they choose their birth setting. With the COVID-19 pandemic tipping the scale, demand for birth centers and home birth midwifery in many communities may continue to rise. This rise in demand may stress the delivery care system.

## Clinical Consequences

New complexities related to intrapartum transfers may arise. Seamless transfer from home and birth center settings to a higher level of care when needed is critical for positive outcomes of mother and infant. Transfers are not uncommon; in the United States, between 11%[6] and 16%[7] of individuals who plan to give birth at home or at a birth center transfer to a higher level of care during labor. Transfer is most commonly for pain management and labor augmentation but also when labor is not proceeding according to plan. Before the COVID-19 pandemic, families seeking a home or birth center birth may have been better matched to a community midwifery practice, with greater tolerance for expectant care, as well as many months of time to plan for pain management. The usual self-selection process may be disrupted when women seek a home or birth center birth late in pregnancy, not because they desire this model of care but because they want to avoid the hospital. Hospital capacity constraints and fear of going to the hospital may preclude timely transfer, forcing community providers to take on practices or interventions that normally might be managed only in hospital. In contrast, excess intrapartum transfers to hospital for pain management may disrupt workflow and infection prevention procedures (e.g., universal antepartum viral testing) at a time when labor wards already may be facing capacity and resource constraints. The pandemic thus may exacerbate existing gaps in care coordination and collaboration between community and hospital providers.

Midwives in the home and birth center settings require similar personal protective equipment, access to testing for patients, and use of contact tracing to provide safe care. Yet many do not have reliable access to these resources,

especially when they lack an existing collaborative relationship with a hospital. Lack of access to testing may unduly stress the system when hospitals receive laboring women with unknown SARS-CoV-2 status.

## RECOMMENDATIONS

The COVID-19 pandemic may be fundamentally reshaping US birth experiences. To mitigate risks of rapid expansion of home and birth center births, we provide several recommendations in the box on page 1664. As we grapple with a future that may be marked by additional waves of COVID-19 or similar contagions, now more than ever, we need to work together to innovate integrated and flexible systems that optimize capacity across all birth settings and that provide the highest achievable level of safety for all mothers, infants, and providers. AJPH

*Jochen Profit, MD, MPH*
*Brownsyne Tucker Edmonds, MD, MPH, MS*
*Neel Shah, MD, MPP*
*Melissa Cheyney, PhD, LDM*

**CONTRIBUTORS**
All authors contributed equally to this editorial.

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**CONFLICTS OF INTEREST**
The authors have no conflicts of interest to disclose.

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