Telehealth For Equitable Obstetric Care: Addressing Gaps For Patients, Providers, and Payers

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Abstract

On June 2022, President Biden and Vice President Harris released their blueprint for addressing the maternal health crisis. They stated their "vision for the future is that the United States will be considered the best country in the world to have a baby." Currently, it is one of the worst among industrialized countries despite the U.S. spending nearly double the average amount on healthcare per capita. The U.S. is amidst a maternal mortality crisis, particularly for Black and American Indian/Alaska Native pregnant people, with more than 80% of the deaths preventable. Telehealth in obstetrics has the potential to reach pregnant people who are not currently being served by the medical system and to improve rates of severe maternal morbidity and mortality; however, more research is needed to understand and monitor its equity, costs, and optimal usage. Extant research shows that telehealth can produce a small positive effect on certain obstetric health outcomes, but pregnant patients' demographics rarely stratify these research findings. To prevent the perpetuation of existing health inequities, gaps in obstetric telehealth research will need to be addressed. Key knowledge gaps for researchers and policymakers include outcomes, access, satisfaction by patients and providers, potential time savings for patients, and health system cost savings. Implementing equitable obstetric coverage of telehealth services requires clarity from private and public payers for inter-state provisions of care, liability and risk, and service and payment parity.

COVID-19 Increases Maternal Mortality, Telehealth Usage

On June 2022, President Biden and Vice President Harris released their blueprint for addressing the maternal health crisis. They stated their "vision for the future is that the United States will be considered the best country in the world to have a baby."[1] Currently, it is one of the worst compared to other industrialized countries, despite the U.S. spending nearly double the average on healthcare per capita.[2,3] The U.S. is amidst a maternal mortality crisis, particularly for Black and American Indian/Alaska Native pregnant people, with more than 80% of the deaths preventable.[4] COVID-19-related deaths greatly exacerbated this crisis, increasing maternal deaths by 25%.[5] Telehealth in obstetrics has the potential to increase access for pregnant people who are not currently being served by the medical system and to improve rates of severe maternal morbidity and mortality; however, more research is needed to understand and monitor its equity, costs, and usage.

While the first use of telehealth in a hospital setting was documented as early as the 1960s, the COVID-19 pandemic forced the healthcare system to use the technology in ways that had not been used before.[6,7] It is now clear that telehealth, in general, and, more specifically, telehealth for obstetrics, is here to stay as a permanent fixture in the healthcare system. Despite increased use, many lingering questions exist about its impact on health equity and access.

Extant research shows that telehealth has small positive effects for certain obstetric health outcomes, but these findings are rarely stratified to pregnant patients' demographics.[8,9]

Note: While we use *pregnant and postpartum people* where possible here to recognize that not all pregnant people identify as women, we occasionally use *maternal* to reflect the terminology used in federal, state, and local data.

While telehealth has the potential to enhance access to obstetrics, more research is needed to understand who benefits from it, when, why, and at what cost.

This article summarizes key literature, gaps, and future opportunities for researchers in several topic areas (outcomes, access, satisfaction, time savings, and cost savings) regarding equitable obstetric telehealth for patients and providers. As it pertains to this article, health equity is defined as the ability of every pregnant person to attain their highest level of health in the peri- and postpartum period. Patient testimonials from the author support some of the known outcomes regarding cost and time savings for patients in Dr. Yvonne Butler Tobah's OB Nest randomized-control trial study in conjunction with the Mayo Clinic.[10,11]

Additionally, implementing equitable obstetric telehealth requires sufficient prioritization and resources from private and public payers. As such, considerations such as inter-state provisions of care, liability and risk, and service and payment parity are also addressed.

Patients and Providers' Research Gaps
Research on telehealth's impact on obstetric care providers and their patients is slim. Table 1 lists a sample of open research questions given the gaps in the literature, documented in further detail below.

Telehealth's Impact on Maternal Mortality Rates is Unclear
Telehealth's effect on primary maternal health outcomes (rates of severe maternal morbidity and mortality) is a significant unknown in research. Telehealth research indicates comparable health outcomes compared to in-person obstetric care, but there is less evidence that it *improves* them.[12,13] For pregnant patients considering telehealth, the clearest examples of primary benefits are seen when telehealth options are used for remote monitoring or connecting with patients remotely from appropriate obstetric or neonatal clinically indicated services.[14] Such interventions may include programs focused on postpartum care, contraceptive counseling, or neonatal consultation during pregnancy.[8] While limited evidence suggests improvement in reaching patients, evidence remains sparse on direct measures of severe maternal morbidity or mortality.

Telehealth options for obstetric care also seem to focus on low-risk pregnancies. Research on primary health outcomes regularly excludes patients deemed high-risk, including non-English speaking people, patients less than 18 years of age, and patients with social determinants of health risks, including inter-partner violence and substance use disorders. It is difficult to assess whether telehealth can become an effective tool for increasing access and improving clinical outcomes if research does not include a broad range of pregnancies, including those who have been historically marginalized. Research that captures whether telehealth improves rates of severe maternal morbidity and mortality is needed, especially for the most medically underserved pregnant people, if telehealth is to become more of a routine part of prenatal care.

Most of Telehealth's Documented Impacts are on Secondary Outcomes
The most positive outcomes from obstetric telehealth research have been among secondary outcomes. Compared to in-person care, telehealth has been shown to lower rates

Table 1. Open research questions: Patients and providers

Stakeholders/Factors in Telehealth	Sample Research Questions
Providers	
Time savings	• Does telehealth, on average, save obstetric providers time while still enabling them to deliver quality care?
Work-life balance	• Does telehealth improve OB providers' work/life balance and/or reduce burnout?
Satisfaction	• How do OB providers from different sociodemographic backgrounds feel about telehealth? How does it impact the patient-provider relationship?
Clinical patient outcomes	• Does telehealth for OB care improve rates of severe maternal morbidity and mortality, particularly for Black or African American, and Indigenous pregnant people?
Health equity	• Does OB telehealth increase equitable access, even for uninsured or underinsured pregnant people?
Patients	
Clinical patient outcomes	• Does telehealth for OB care improve rates of severe maternal morbidity and mortality, particularly for Black or African American, and Indigenous pregnant people?
Cost savings	• Beyond rurality/distance, are there any other moderating variables for patient cost savings when using OB telehealth?
Patient-reported outcomes	• How does patient satisfaction with OB telehealth differ by sociodemographic factors?
Trust in health care	• How does patient trust with OB telehealth providers differ by sociodemographic factors? • What are the drivers of patient trust when using OB telehealth?

OB: obstetrics.

of pregnancy stress, increase general rates of breastfeeding, increase rates of exclusive breastfeeding, increase rates of perinatal smoking cessation, lower postpartum depression, and more.[8,15–18] These secondary benefits suggest an overall improvement in health and well-being during pregnancy. Still, many more topics could be explored, such as perinatal nutrition, patients' feelings of empowerment and efficacy, and birth experience/method. Further research into these topics will require consistent disaggregation of patient demographics in their results.

Patient Satisfaction: High With Telehealth, Less Clear for Providers

"I have a young child at home, so it's easier for me not to always take her to daycare to come to the Clinic."
OB Nest Patient

Patient and provider satisfaction with maternal telehealth is crucial to ensuring its utilization and access. Agnostic of specialty, there is a large body of research about patient and provider satisfaction with telehealth compared to in-person care.[19] Drilling down into obstetrics, some studies on patient and provider satisfaction report improved rates of reported satisfaction, but many of these studies occurred during the pandemic and are COVID-19 specific.[20–23] Unfortunately, even within this small body of research, a limited number of studies include equity considerations or stratify patient satisfaction by socio-demographic factors. Understanding patient and provider satisfaction (or lack thereof) across a wide array of patients outside of a pandemic setting is crucial for understanding obstetric telehealth's impact.

Telehealth's Time Savings: Positive for Patients, Unknown for Providers

While there are several studies about telehealth's time savings for patients receiving perinatal care, there are little to no data available for *providers*, regardless of specialty.[24,25] Studies focusing on time savings tend to center on patients, and any anecdotal evidence about providers primarily comes from industry outlets. Only a few surveys attempt to connect providers' perceived workplace productivity or flexibility when using telehealth to actual time savings. These findings include many assumptions, and more research is needed to understand whether telehealth truly saves time for providers and why.

Time savings for providers is also crucial because it has implications for work-life balance, which has become especially important in a time of increasing clinician burnout and suicide.[26,27] A handful of surveys indicate improvements to clinicians' well-being, work-life balance, and burnout symptoms due to telehealth.[28–30] However, the effect of these improvements is mediated by specialty.

Those reporting positive impacts on well-being are most likely primary care physicians, whereas internal medicine, surgery, and other sub-specialties providers are the least likely. There is no research specifically about obstetric care providers and their work-life balance or time savings related to the use of telehealth.

Telehealth Cost Savings: High for Patients, Unknown for The Healthcare System

While there is more available research about the cost savings of telehealth for patients, there are little to no data available about the cost of telehealth for providers and the larger hospital system compared to in-person care.[31] While research is starting to focus on this topic, it is limited.[32] One survey of physicians from the Mayo Clinic revealed that 80% of those surveyed *perceived* telehealth as cost-effective. In contrast, a study from Australia revealed that telehealth did not routinely reduce the cost of care delivery compared to the in-person method.[30,33] A third study using time-driven activity-based costing revealed that a virtual sick visit during the pandemic saved the healthcare system $2.92 per visit.[34]

Cost savings from obstetric telehealth could be inferred from some secondary measures: it has been shown that telehealth reduces the number of no-show appointments and increases patient compliance with the American College of Obstetricians and Gynecologists recommendations.[35,36] To date, however, there is no primary research to quantify these potential cost savings.

Equitable Access to Telehealth: Moderated by The Digital Divide

Who can access and benefit from obstetric telehealth has significant weight given the ongoing maternal mortality crisis in the U.S. and its disproportionate effect on Black and Indigenous pregnant people.[37] While telehealth has the potential to reach the pregnant patients who need it most, such as those living in rural areas, there are significant barriers in both research and implementation.[38] Equitable access to telehealth is significantly hindered by the fact that one-quarter of Americans do not have access to broadband internet, a social driver of health (SDOH) known as the "digital divide."[39–41] Even when broadband internet is available, equitable access is moderated by patient comfort with the technology, broadband quality (video call vs. audio-only), and accessible accommodations. More data-driven, patient-centric research about how telehealth affects the most marginalized patient populations are needed to make obstetric care more equitable for all pregnant people.

Striving towards and achieving equity in healthcare and access goes far beyond patients and their providers. The American Medical Association, the American Hospital

System, and the American College of Obstetricians and Gynecologists are just a few of the institutions that have put forth equity in telehealth statements, digital health equity resource hubs, and clinical guidance about centering patient equity in obstetrics for providers.[42–44]

Insurers/Payers
Equitable telehealth implementation will require significant investment from insurers and other payers. Improvements will only succeed if there is alignment between the patients and providers of telehealth and its financing, risk, and reimbursement. Table 2 outlines a sample of open research questions for insurers and other payers.

Fragmented Inter-State Medical Licensure
The current ability of providers to offer telehealth services varies state by state, creating a patchwork quilt of legal guidelines. Almost every state has modified its out-of-state telehealth requirements in response to COVID-19, but it is unclear how long these modifications will remain.[45] Connecticut's law, for example, is set to expire in June 2024.[46] Thirty states and Guam are currently issuing licenses for the Interstate Medical Licensure Compact to simplify the provision of care, and the Department of Veteran's Affairs (VA) has issued a rule that allows VA providers to teleconference with their patients anywhere in the continental U.S. indefinitely.[47,48] Given that one of the major advantages of telehealth is its ability to be accessed remotely and the fact that out-of-state licensure violations are one of the largest liability exposures for providers, more research must be done on policy frameworks for a national provision of care so that patients in all 50 U.S. states and its territories can benefit.

Telehealth Liability and Risk: Significance Unknown
Medical malpractice liability and risk is a significant gray area for providers and their insurers. Not all medical liability insurance covers telehealth by default, so providers may need to buy supplemental coverage in the case of a misdiagnosis, licensure, or other issue.[49] Analysis from 2014 to 2018 shows that 66% of malpractice claims in telehealth were related to misdiagnosis, compared to 47% for in-person claims.[50] Research that continually monitors the volume, subject, and outcomes of malpractice claims relating to telehealth can highlight areas in which policy and processes require ongoing revisions.[51]

Separately, cybersecurity and data privacy threats in healthcare are rising, introducing a new layer of liability.[52] Cyber insurance, which is especially important for patient data transmitted over video, is often not included in medical liability insurance and must be purchased separately.[53] These varying supplemental forms of insurance create a complicated legal landscape as risk is shifted away from the individual and towards insurance companies, many of which are already operating at a loss due to increased ransomware attacks on healthcare systems.[52] A comprehensive policy framework that harmonizes these various forms of coverage would allow providers and insurers to more clearly manage the risks associated with practicing medicine virtually while keeping their patients safe.

Service and Payment Parity: Stable for Now, Later Unclear
The onset of COVID-19 caused a rapid shift in the policy landscape of telehealth, wherein video or audio appointments were reimbursed by national payers at the same rate as in-person appointments.[54] While telehealth is emerging as a permanent fixture of the healthcare system, it is uncertain whether insurance coverage will continue to reimburse for telehealth visits and at what rate. Many states are creating coverage requirements for private payers and Medicaid, including payment parity.[55] On May 11, 2023, the Centers for Medicare and Medicaid Services (CMS) ended the COVID-19 public health emergency (PHE) status.[56] Will telehealth become widely available to all as a result of this pandemic, or will insurers decide to cover a telehealth appointment only when there is ample evidence of a condition-specific outcome for telehealthcare?

Table 2. Open research questions for insurers and other payers

Stakeholder/Topic	Sample Research Questions
Insurers/Payers	
Cost savings to health system	• How does OB telehealth impact health systems financially? • Does it result in cost-savings or is it simply cost-neutral?
Liability/risk	• How does the medical liability and malpractice risk landscape change when providing OB care via telehealth? • What are the most common sources of malpractice suits when using telehealth today? How have courts been interpreting the law considering COVID-19? • What would a model look like to manage this risk more effectively in the future?
Payment parity	• What are the current barriers to making national payment parity permanent if COVID-era policies are lifted?
Coverage parity	• What are the current barriers to making national coverage parity permanent if COVID-era policies are lifted?

OB: obstetrics.

Those affected by this shifting landscape will need ample research, data, and proposed policy frameworks to identify the best way forward.

Changes to Covid-19 Medicaid Policies: 2023

Most states expanded Medicaid coverage for telehealth during the COVID-19 PHE. This is important as four out of 10 births in the U.S. are financed through Medicaid, which covers people up to 60 days postpartum, leaving many birthing people without insurance coverage after the 60-day postpartum lapse.[57] Given that many severe maternal morbidity and mortality conditions occur during the postpartum period, approximately 27 states and Washington, DC, have approved extending the covered postpartum period up to 12 months.[58] During the declared COVID-19 PHE, states were eligible for enhanced federal matching of funds only if Medicaid coverage remained continuous, so many postpartum people who gave birth post-January 2020 had continuous coverage.[59] Since the end of the COVID-19 PHE, most states have opted to make permanent the once-temporary expanded telehealth coverage for Medicaid.[60] In addition, several have indicated plans for assessing telehealth quality and patient outcomes, and nearly half of all states have initiatives for addressing broadband access to mitigate telehealth challenges. HHS continues to update its telehealth guidelines regularly.[60]

Does Obstetric Telehealth Miss The Mark When it Comes to Equity?

If we measure what matters, existing research *is* missing the mark by not consistently collecting and disaggregating patient demographics and mapping those demographics onto research results. Additionally, obstetric telehealth research often includes exclusion criteria, leading to majority-white, college-educated, low-risk participants with private insurance. This does not represent those most impacted by severe maternal morbidity and mortality.

While ongoing data suggest that telehealth services may result in several important positive impacts, including reaching patients from a distance, these benefits and research findings must be extended to include all patients, lest it widen the health equity gap. The current body of obstetric telehealth research that details—or even acknowledges—the various backgrounds of its participants is an order of magnitude smaller than obstetric telehealth research as a whole. It is past time to change this narrative. "A rising tide lifts all boats," so designing research with a central focus on equity will allow pregnant patients, providers, and payers to improve obstetric care for all—and perhaps the larger healthcare system.[61]

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