

COMMENTARIES

Incorporating Equity Into Maternal Telehealth

Sabrina Movitz¹, Rachel Mayer¹, Alison Dingwall¹

¹ The MITRE Corporation

Keywords: Telemedicine, telehealth, maternal health, maternal mortality, social determinants of health, health equity

<https://doi.org/10.52504/001c.37490>

Georgetown Medical Review

Vol. 6, Issue 1, 2022

The US maternal health crisis continues to disproportionately affect economically and socially marginalized pregnant and postpartum people. Meanwhile, telehealth has boomed in popularity due to the coronavirus pandemic and has been lauded as a potential tool to address certain social determinants of health (SDOHs) such as transportation and rurality. While telehealth shows promise for obstetric care delivery, more research is needed to assess accessibility and outcomes in diverse populations. This commentary outlines key areas for health care providers and researchers to advance maternal health equity through telehealth by addressing individual patient needs, investing in telehealth care delivery, using electronic health record data to identify demographic trends, and conducting equity-centered research focused on SDOHs for pregnant and postpartum people.

While we use *pregnant and postpartum people* where possible here to recognize that not all pregnant people identify as women, we occasionally use *women* and *maternal* to reflect terminology used in federal, state, and local data.¹

Additionally, we use the term *telehealth* in accordance with the definition by the US Department of Health and Human Services.²

Approved for Public Release; Distribution Unlimited. Public Release Case Number 22-1455. ©2022 The MITRE Corporation. ALL RIGHTS RESERVED

US Maternal Health Crisis Endures

Recent Centers for Disease Control and Prevention data showed that maternal mortality continues to rise in the United States, ranking it 35th of 38 countries that belong to the Organisation of Economic Co-operation and Development, with a rate of 23.8 maternal deaths per 100 000 live infant births.^{2,3} The most recent maternal mortality rate for non-Hispanic Black women, specifically, is 55.3 maternal deaths per 100 000 live infant births, which is 2.9 times higher than for non-Hispanic White women (19.1 per 100 000). In addition, the rate for Hispanic women rose from 12.6 per 100 000 in 2019 to 18.2 per 100 000 in 2020, a 44% increase in a single year.²

Telehealth's Potential Impact on Maternal Health Outcomes

The first 2 years of the COVID-19 pandemic resulted in a 38-fold increase in overall telehealth utilization.⁴ In particular, telehealth shows great promise to improve access to maternal health care given challenges of transportation and rurality, as well as other SDOHs, which tend to disproportionately impact economically and socially marginalized pregnant people.^{5,6} Emerging studies have suggested that using telemedicine for perinatal care compared with in-person appointments results in higher patient satisfaction and lower patient stress that is statistically significant.⁷ Additionally, there has been no observed

statistical difference in health care provider satisfaction, perceived quality of care, cesarean delivery rates, or severe maternal mortality or morbidity.^{8,9} These studies, however, have involved patients who were classified as low risk, had private health insurance, and/or did not relate demographic data to patient outcomes. As more research is published, it will be imperative to determine whether disparities from in-person health care persist, are reduced, or are widened in telehealth settings.¹⁰

Is Telehealth Missing the Mark When It Comes to Equity?

It is difficult to answer whether telehealth is missing the mark regarding equity with current data, and that's the issue. Existing maternal telehealth literature is not consistent in reporting patient race and ethnicity, insurance type, education or income levels, and other demographics in methodology and findings. The lack of inclusion and/or standardization of these variables prevent accurate comparisons across populations and is concerning because research has shown that racial and ethnic minority groups on average receive lower-quality, less accessible health care that can impact long-term health outcomes.^{11,12} Maternal telehealth outcome data must be collected and assessed by social, economic, and racial and ethnic demographic factors to understand how further improvements can be made to meet the diverse needs of patients and determine whether maternal telehealth can be used as a means to address the maternal health crisis within the United States.

Areas to Advance Maternal Health Equity With Telehealth Care Delivery

Now is the critical time to take key steps to explore telehealth's effects across different patient populations. Identified below are 4 key areas for health care providers and researchers to consider when using telehealth to advance maternal health equity:

1. **Be flexible in care delivery methods.**^{13,14} Pregnant and postpartum people have varied internet connectivity and access based on their economic, educational, and social backgrounds. Consequently, creating more options for how patients can engage with their health care providers is imperative. This variety in connectivity is known broadly as the "digital divide." As a documented SDOH, the digital divide necessitates flexibility in provider delivery methods to ensure pregnant and postpartum people everywhere get the care they need.¹⁵ Telemedicine needs to demonstrate an equivalent or higher quality of care to help address the divide and not exacerbate it. In some studies, alternative telehealth methods and/or supplementary platforms, such as audio-only visits, text message notifications, and messaging groups, have been shown to be effective in increasing or maintaining patient health fluency, adherence, and outcomes.^{13,16,17} However, some major challenges

remain, such as coverage and payment for these innovative models (particularly for uninsured and underinsured people) and connectivity issues in rural areas.

2. **Meet pregnant and postpartum people where they are now.** Considerations include improving “Webside manner,” tailoring health messages to the specific needs of pregnant and postpartum people, and considering culturally appropriate materials to include a focus on health equity throughout pregnancy and beyond.¹⁸ Health care providers could identify and meet pregnant people’s expectations through toolkits, interpreter services (several companies now provide Health Insurance Portability and Accountability Act of 1996–compliant telehealth interpretation), and digital literacy screenings, which can all impact patient-physician interactions and knowledge sharing.^{14,19}
3. **Examine electronic health record data through an equity lens.**²⁰ Analyzing electronic health record data retrospectively can be a cost-effective way of comparing clinical outcomes, but this addresses questions of health equity only when patient data include demographic information, such as race or ethnicity. Incentivizing the standard collection of patient demographic data can aid in identifying and addressing barriers to a healthy pregnancy.²¹
4. **Invest in and conduct research focused on SDOHs.** Randomized clinical trials and mixed-methods research that compares maternal health outcomes, patient experience, and cost-effectiveness between a control group (in-person appointments) and experimental group (telehealth appointments) would help expand the understanding of how telehealth can improve access and outcomes associated with prenatal care. These findings should be stratified by SDOHs, such as insurance type, income level, and race and ethnicity. When possible, incorporating principles of equity-centered community design to co-create alongside those who are considered high risk for maternal morbidity and mortality increases the likelihood of generating lasting change.²²

Time to Act

While telehealth has been shown to be beneficial for some pregnant and postpartum people, it may not be the best approach to obstetric care for all patient demographics. As access to telehealth services grows, health equity must be a factor in determining when and whether to rely on telehealth to provide care and whether telehealth can reduce the maternal health crisis. Doing so has the potential to save and improve the lives of pregnant and postpartum people across the United States.

Conflict(s) of Interest

None reported.

REFERENCES

1. Centers for Disease Control and Prevention. Maternal mortality rates in the United States, 2020. Published February 22, 2022. <https://www.cdc.gov/nchs/data/hestat/maternal-mortality/2020/maternal-mortality-rates-2020.htm>
2. Department of Health and Human Services. What is telehealth? Accessed April 18, 2022. <https://telehealth.hhs.gov/patients/understanding-telehealth/>
3. The World Bank. Maternal mortality ratio (modeled estimate, per 100,000 live births)—OECD members. Accessed April 18, 2022. https://data.worldbank.org/indicator/SH.STA.MMRT?locations=OE&most_recent_value_desc=false
4. Bestsennyy O, Gilbert G, Harris A, Rost J. Telehealth: a quarter-trillion-dollar post-COVID-19 reality? McKinsey. Accessed April 18, 2022. <https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/telehealth-a-quarter-trillion-dollar-post-covid-19-reality>
5. Crear-Perry J, Correa-de-Araujo R, Lewis Johnson T, McLemore MR, Neilson E, Wallace M. Social and structural determinants of health inequities in maternal health. *J Womens Health (Larchmt)*. 2021;30(2):230-235. doi:10.1089/jwh.2020.8882
6. Artiga S, Hinton E. Beyond health care: the role of social determinants in promoting health and health equity. KFF. Published May 10, 2018. <https://www.kff.org/racial-equity-and-health-policy/issue-brief/beyond-health-care-the-role-of-social-determinants-in-promoting-health-and-health-equity/>
7. Tobah YSB, LeBlanc A, Branda ME, et al. Randomized comparison of a reduced-visit prenatal care model enhanced with remote monitoring. *Am J Obstet Gynecol*. 2019;221(6):638.e1-638.e8. doi:10.1016/j.ajog.2019.06.034
8. Marko KI, Ganju N, Krapf JM, et al. A mobile prenatal care app to reduce in-person visits: prospective controlled trial. *JMIR Mhealth Uhealth*. 2019;7(5):e10520. doi:10.2196/10520
9. Sung YS, Zhang D, Eswaran H, Lowery CL. Evaluation of a telemedicine program managing high-risk pregnant women with pre-existing diabetes in Arkansas's Medicaid program. *Semin Perinatol*. 2021;45(5):151421. doi:10.1016/j.semperi.2021.151421
10. Ukoha EP, Davis K, Yinger M, et al. Ensuring equitable implementation of telemedicine in perinatal care. *Obstet Gynecol*. 2021;137(3):487-492. doi:10.1097/aog.0000000000004276
11. Bahls C. Achieving equity in health. *Health Affairs*. <https://www.healthaffairs.org/doi/10.1377/hpb20111006.957918/>. Published October 6, 2011.
12. Centers for Disease Control and Prevention. Racism and health: racism is a serious threat to the public's health. <https://www.cdc.gov/healthequity/racism-disparities/index.html>
13. Duryea EL, Adhikari EH, Ambia A, Spong C, McIntire D, Nelson DB. Comparison between in-person and audio-only virtual prenatal visits and perinatal outcomes. *JAMA Netw Open*. 2021;4(4):e215854. doi:10.1001/jamanetworkopen.2021.5854
14. Center for Care Innovations. Telemedicine for health equity toolkit. Published October 17, 2020. Accessed April 18, 2022. <https://www.careinnovations.org/resources/telemedicine-for-health-equity-toolkit/>
15. Clare CA. Telehealth and the digital divide as a social determinant of health during the COVID-19 pandemic. *Netw Model Anal Health Inform Bioinform*. 2021;10(1):26. doi:10.1007/s13721-021-00300-y
16. Fazal N, Webb A, Bangoura J, El Nasharty M. Telehealth: improving maternity services by modern technology. *BMJ Open Qual*. 2020;9(4):e000895. doi:10.1136/bmjopen-2019-000895

17. Tian Y, Zhang S, Huang F, Ma L. Comparing the efficacies of telemedicine and standard prenatal care on blood glucose control in women with gestational diabetes mellitus: randomized controlled trial. *JMIR Mhealth Uhealth*. 2021;9(5):e22881. [doi:10.2196/22881](https://doi.org/10.2196/22881)
18. Modic MB, Neuendorf K, Windover AK. Enhancing your webside manner: optimizing opportunities for relationship-centered care in virtual visits. *J Patient Exp*. 2020;7(6):869-877. [doi:10.1177/2374373520968975](https://doi.org/10.1177/2374373520968975)
19. Center for Care Innovations. Screening patients' digital access and skills for telemedicine. Accessed April 18, 2022. <https://www.careinnovations.org/virtualcare/resources/screening-patients-digital-access-and-skills-for-telemedicine/>
20. National Institute for Children's Health Quality. Using an equity lens to reduce maternal mortality in Louisiana. Accessed April 18, 2022. <https://www.nichq.org/insight/using-equity-lens-reduce-maternal-mortality-louisiana>
21. The MITRE Corporation. Saving lives: opportunities from the data-driven summit to improve maternal health. <https://www.mitre.org/sites/default/files/publications/pr-21-4070-saving-lives-opportunities-from-the-data-driven-summit-to-improve-maternal-health.pdf>
22. Creative Reaction Lab. Our approach: a method for co-creating equitable outcomes. Accessed April 18, 2022. <https://www.creativereactionlab.com/our-approach>