



## Executive Summary

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# PROVIDER AND PRACTICE-BASED PERCEPTIONS OF TELEHEALTH FOR PRENATAL CARE



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Maternal Telehealth Access Project: Collaboration and Innovation for Equity and Healthy Families (Grant # H7EMC37564) is a collaborative initiative with several partnering agencies aimed at ensuring that women at highest risk are receiving quality maternal care services via telehealth during the COVID-19 pandemic. The project is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) as part of an Award totaling \$4,000,000 for one year with 0% percentage financed with nongovernmental sources. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by HRSA, HHS or the U.S. Government.

## BACKGROUND

The COVID-19 pandemic has required a rapid shift in the provision of maternity care. Given this, clinical settings in North Carolina and across the United States urgently adapted telehealth technologies from March 15, 2020 to present day in order to promote social distancing and decrease the spread of the novel coronavirus.

Prior to this time, telehealth for maternity care has been met with variable success and barriers to implementation.<sup>1</sup> Existing data suggests that telehealth may increase access to general and specialized healthcare services, assist in delivery of care to rural areas, provide greater flexibility for patient and provider scheduling, and save patients' time and money in seeking care.<sup>2</sup> Preliminary data from the obstetric literature suggests that telehealth may be an equally acceptable and satisfactory modality of providing prenatal care, yielding equivalent maternal and neonatal outcomes while meeting criteria defined as essential by the in-person standard of care.<sup>3</sup> Additionally, *telehealth* collaboration for high-risk perinatal care may improve regional and statewide maternal and neonatal morbidity and mortality. Finally, telehealth may also provide an opportunity to provide satisfactory care in the setting of high-risk pregnancies, such as those complicated by diabetes, hypertension, perinatal mood disorders, advanced maternal age, or fetal anomalies.<sup>5,6,7,8,9</sup>

Despite such successes, several barriers have precluded adaptation of telehealth to maternity care prior to the pandemic, particularly payer policies and lack of reimbursement. Additionally, technical challenges, resistance to change, perceived cost, telemedicine policies, and patient factors are challenges to implementation.<sup>2,3,4</sup> During the COVID-19 pandemic, several policy changes have enabled use and expansion of telehealth: specifically, changes in payment policies for telehealth-administered maternity care, social distancing protocols within clinical sites, and strategies for hybrid in-person and telehealth-based maternity care.

## OBJECTIVES

This was a descriptive study of maternity care providers during the COVID-19 pandemic using surveys and focus group discussions. The objective of this study was to assess patterns and perceptions of telehealth use among maternity care providers and practice managers during the COVID-19 pandemic. We accomplished this through several aims that were assessed at an institutional, state, and national level:

- **Aim 1:** Determine the satisfaction of providers and practice managers with telehealth use for the provision of maternity care.
- **Aim 2:** Identify the preferences and future needs of providers and practices for continued telehealth use.
- **Aim 3:** Illustrate perceptions of individual providers on the implementation of telehealth.

## METHODS

We conducted a mixed-methods study to achieve the above objectives. For purposes of our study, telehealth was defined as the use of telecommunications technologies and electronic information to provide clinical care and health-related education, and to perform activities related to health administration.

Our study was composed of two parts. First, surveys were designed to assess provider demographics, practice characteristics, use and satisfaction with telehealth, preferences for continued use and perceived future needs. Surveys were distributed to obstetric providers at the University of North Carolina at Chapel Hill and through national professional organizations. Surveys were additionally sent to practice managers in the state of North Carolina. Data was collected from July 14-September 21, 2020. Second, focus groups discussions among obstetric providers and staff were conducted at the University of North Carolina at Chapel Hill. A trained moderator was used to facilitate discussions. Focus group discussions were transcribed and key themes extracted from the data.

## NORTH CAROLINA RESULTS

Surveys were sent to 295 practices in the state of NC and 111 practice managers responded (response rate: 38%). Responding practices represented 66/100 (66%) counties in the state and 70% of counties in which there are maternity care providers. Practices from metropolitan counties comprised 49% of survey respondents and those from rural/micropolitan counties

comprised 51%. County health departments were the most commonly represented at 38% followed by health-system owned community practices (33%), independently owned community practices (22%), federally qualified health center (8%), academic medical centers (4%) and community health centers (3). A majority of clinics reported having general Ob/Gyn physicians (85%) or advanced practice providers (76%) at their practice; midwives (48%), family medicine physicians (16%) maternal fetal medicine physicians (8%). Fifty-two percent of practices stated that greater than half of their patients were insured by Medicaid.

Eleven practices (10%) reported using telehealth prior to the COVID-19 pandemic and 68/107 (64%) of practices reported using it during. Of the practices that used telehealth during the COVID-19 pandemic, 90% of practices implemented telephone visits and 76% used virtual video (Table 1). The proportion of visits provided via video versus telephone was not ascertained. Differences in the use of modalities were not significantly different by practice type or by rural/micropolitan/urban location. Approximately half of all practices (33/68, 49%) stated that

**Table 1. Telehealth Modalities Used During COVID-19 Pandemic in NC**

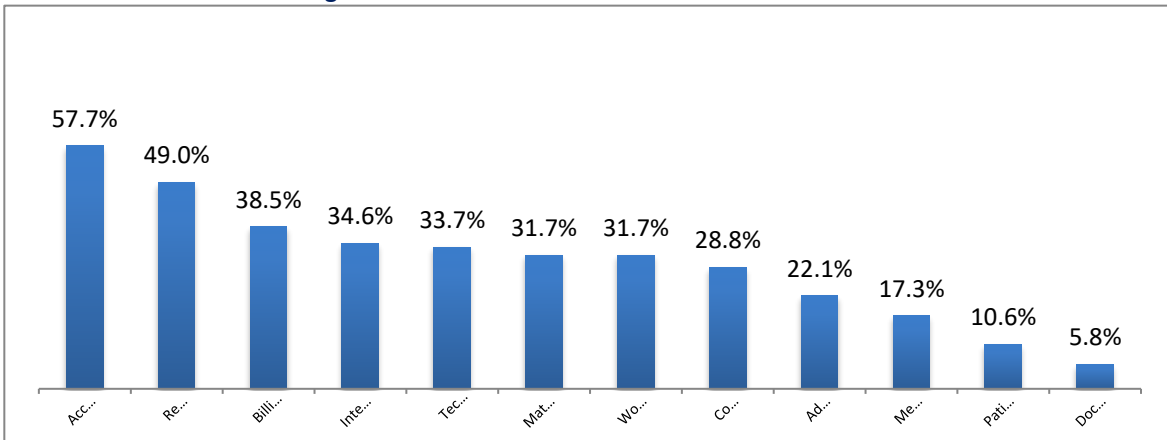
Visit Type	N=68 (%)
Telephone Visits	61 (90)
Virtual Video	52 (76)
Provider to Provider Consult	9 (13)
Remote Pregnancy Monitoring	12 (18)
Use of Electronic Patient Portal	8 (12)
Remote Imaging Interpretation	5 (7)

\* County characterizations of urban, rural, and micropolitan were assigned based off the United States Office of Management and Budget Core Based Statistical Areas

they used telehealth for less than a quarter of their prenatal visits and 9 practices (13%) endorsed using telehealth for more than 50% of their prenatal visits.

When asked about future telehealth use, 45% of responding practice managers stated that they wanted telehealth to continue beyond the COVID-19 pandemic. The greatest needs for future use include assistance with increasing patient access (53%), remote monitoring (45%) and billing (35%) (Figure 1). When asked specifically about access to maternal-fetal medicine consultation, 46% of practices stated that they would like access through telehealth. Preferences for future telehealth use or perceived needs for continuation were similar among difference practice types and rural/micropolitan/urban location.

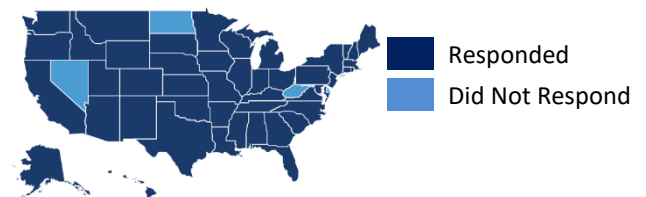
**Figure 1. Future Telehealth Needs in North Carolina**



## NATIONAL RESULTS

From a national survey distributed through professional organizations (American Academy of Family Physicians, American College of Obstetricians and Gynecologists, American College of Nurse Midwives National Association of Women’s Health Nurse Practitioners) and quality improvement networks, 217 obstetric care providers representing 46 states responded (Figure 2).

**Figure 2. States represented by Responding Maternity Care Providers**



Of respondents, family medicine practitioners were the most represented at 43% followed by general Ob/Gyn practitioners (21%), midwives (17%), and maternal fetal medicine physicians (17%). Sixty percent of respondents work in urban or suburban areas; 40% in rural/small town locations.

Overall, 84% of providers used telehealth during the COVID-19 pandemic. The most common type of modality used was telephone visits (64%) and virtual video visits (61%) (Table 2). Differences in

telehealth modality use were not significant by provider type or by rural/urban location.

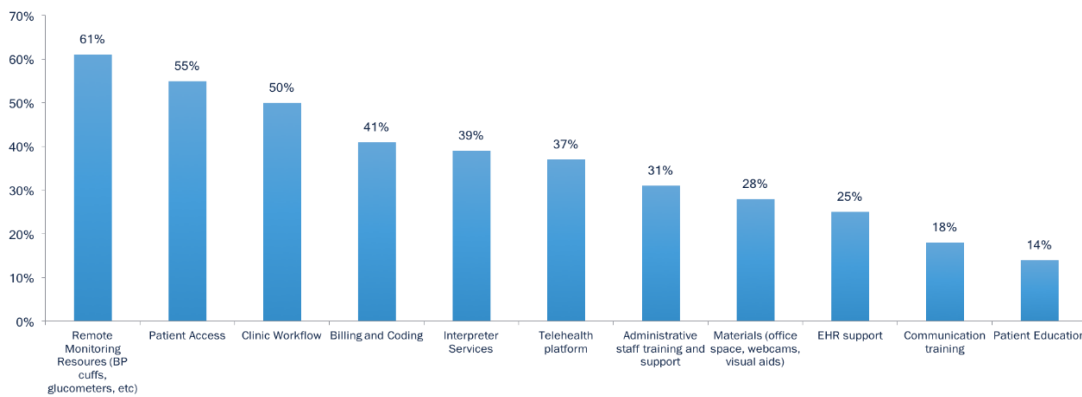
When presented with positive statements regarding telehealth, most providers agreed with such statements. Maternal fetal medicine providers were the least likely to find telehealth an acceptable way to provide care compared to other provider types.

When asked about continuing telehealth, 70% of providers stated that they would like to do so after the COVID-19 pandemic. The most stated need was assistance with remote monitoring (blood pressure cuffs, glucometers, etc) (61%) and with patient access issues (55%) (Figure 3). There was a significant difference in perceived needs between rural/small town practices and urban/suburban practices – the latter noted significantly greater need for assistance with clinical workflow, billing and coding, interpreter services, and telehealth platforms.

**Table 2. Telehealth Modalities Used during COVID-19 pandemic nationally**

Visit Type	N=68 (%)
Telephone Visits	138 (64)
Virtual Video	133 (61)
Provider to Provider Consult	17 (8)
Remote Pregnancy Monitoring	19 (9)
Use of Electronic Patient Portal	14 (6)
Remote Imaging Interpretation	10 (5)

**Figure 3. Future Telehealth Needs Nationally**



## UNIVERSITY OF NORTH CAROLINA – CHAPEL HILL RESULTS

In response to measures related to the COVID-19 pandemic, the maternity care providers and clinics at the University of North Carolina at Chapel Hill began offering telehealth services starting in April 2020. Prenatal care visits with a maternity care provider were offered either through a telephone call or a video visit. In-person visits were scheduled for timepoints in pregnancy where it was necessary to see a provider or if a provider deemed it important for a patient to present to a clinic (initial prenatal care visit, gestational diabetes screen, monitoring of medically complex patients, etc). Ancillary services such as genetic counseling, nutrition consultations, and psychiatric care were provided through telehealth modalities. Lastly, remote imaging interpretation and consultations were solely provided through telehealth.

The transition to telehealth services occurred across all departments and divisions at UNC-Chapel Hill. Given the diversity of clinic types, providers, and patient care areas, and patients served in the state of NC, data gathered from this assessment produced results that may be generalized to other parts of the United States.

## Survey Results

At UNC-Chapel Hill, 235 obstetric providers were surveyed and 116 participated (Family medicine: 34%; General Ob/Gyn: 32%; maternal fetal medicine and genetics: 25%; midwifery: 8%, and perinatal psychiatry: 2%).

Approximately 16% of respondents reported that they had used telehealth prior to the COVID-19 pandemic while 84% used telehealth during the pandemic. Maternal fetal medicine providers conducted significantly more telehealth visits compared to other providers. The most commonly implemented telehealth modalities among all respondents were virtual video visits (87%) and telephone visits (83%). There was no significant difference in modality of telehealth use by specialty or provider type. When presented with positive statements regarding telehealth, half of providers or more concurred with such statements. There were no significant differences in agreement with positive statements by provider specialty.

Eighty-one percent of participants would like to continue using telehealth beyond the pandemic with video visits being the most preferred method of continuation. Needs for future telehealth use include clinical workflow efficiency (57%), interpreter services (59%), administrative support (57%), remote monitoring resources (56%), and patient accessibility (53%).

## Focus Group Results

A trained focus group moderator conducted 5 focus groups with 23 individuals. In total, participants included 10 physicians, 4 advanced practice providers, 3 midwives, 2 sonographers, 2 staff members/schedulers, 1 nurse, and 1 genetic counselor. Major themes were extracted from transcripts of focus groups (Table 3).

**Table 3. Benefits and Challenges of Telehealth Use (Focus Group Themes)**

Positive Aspects	Challenges
Perceived convenience and satisfaction for patients	Poor access to internet or reliable phone service for patients
Insight into a patient's home environment	Difficulties in sharing/disclosing sensitive information
Greater efficiency of in-office visits	Challenges in monitoring patients (ie blood pressures)
Ability for practitioners to work from home	Lack of body language cues
	Logistical issues with scheduling
	Difficult to engage with patient in their home environment

When asked about changes that they would like instituted in order to continue with telehealth, providers stated that they would like flexible scheduling guidelines and a dedicated workspace and equipment for telehealth. They stated that for patients, they wanted health care navigators to assist them with telehealth, interpreter services, and assistance on how to have successful e-visits. Providers noted globally that addressing the digital divide, particularly for patients who

have limited access to internet or phone services, is key to continuing telehealth.

## KEY TAKEAWAYS

- **Takeaway #1:** Telehealth is viewed favorably by most maternity care providers working in a variety of care settings.
- **Takeaway #2:** Access and digital capabilities for patients are important issues in ensuring adequate telehealth care.
- **Takeaway #3:** Providers request assistance with improving patient access and remote monitoring resources at all levels surveyed.

## RECOMMENDATIONS

Recommendations from this multilevel survey of maternity care providers are as follows:

- Providers and clinics should be provided with the technology and infrastructure to provide efficient and patient-centered telehealth.
- Patients should be provided with healthcare navigators and education to help them prepare and get the most out of their telehealth visits.
- Material resources, such as blood pressure monitors and glucometers, should be provided to patients so as to enable providers to remotely monitor those with complex comorbidities.
- Clinics should ensure that patients have adequate access to wireless capabilities or the technology/platforms before offering telehealth services. Inadequate internet access may contribute to inequities in access to telehealth.
- Policy makers should address the digital divide ensuring adequate broadband access that will enable equity in access to telehealth services

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