

Contraceptive care service provision via telehealth early in the COVID-19 pandemic at rural and urban federally qualified health centers in 2 southeastern states

Kate Beatty PhD¹  | Michael G. Smith DrPH¹  | Amal J. Khoury PhD¹ |
Liane M. Ventura MPH¹ | Oluwatosin Ariyo DrPH¹  | Jordan de Jong MA¹ |
Kristen Surles MPH¹ | Deborah Slawson PhD²

¹Department of Health Services Management and Policy and Center for Applied Research and Evaluation in Women's Health, College of Public Health, East Tennessee State University, Johnson City, Tennessee, USA

²Department of Community and Behavioral Health, East Tennessee State University, Johnson City, Tennessee, USA

Correspondence

Kate Beatty, Department of Health Services Management and Policy and Center for Applied Research and Evaluation in Women's Health, College of Public Health, East Tennessee State University, PO Box 70624, Johnson City, TN 37614-0061, USA.
Email: beattyk@etsu.edu

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Abstract

Purpose: To investigate telehealth use for contraceptive service provision among rural and urban federally qualified health centers (FQHCs) in Alabama (AL) and South Carolina (SC) during the initial months of the COVID-19 pandemic.

Methods: This is a mixed-methods study using data from the FQHC Contraceptive Care Survey and key informant interviews with FQHC staff in AL and SC conducted in 2020. Differences between rural and urban clinics in telehealth use for contraceptive service provision were assessed with a chi-square test of independence. Interviews were audio recorded, transcribed, and coded to identify facilitators and barriers to telehealth.

Findings: Telehealth for contraceptive care increased during the early months of the pandemic relative to prepandemic. Fewer rural clinics than urban clinics provided telehealth for contraceptive counseling (16.3% vs 50.6%) ($P = .0002$), emergency contraception (0.0% vs 16.1%) ($P = .004$), and sexually transmitted infection care (16.3% vs 34.6%) ($P = .031$). Key facilitators of telehealth were reimbursement policy, electronic infrastructure and technology, and funding for technology. Barriers included challenges with funding for telehealth, limited electronic infrastructure, and reduced staffing capacity.

Conclusions: Differences in telehealth service provision for contraceptive care between rural and urban FQHCs highlight the need for supportive strategies to increase access to care for low-income rural populations, particularly in AL and SC. It is essential for public and private entities to support the implementation and continuation of telehealth among rural clinics, particularly, investing in widespread and clinic-level electronic infrastructure and technology for telehealth, such as broadband and electronic health record systems compatible with telehealth technology.

KEYWORDS

contraception, health care disparities, policy, primary health care, telemedicine

INTRODUCTION

At the onset of the COVID-19 pandemic, public health officials advised a reduction in routine health care services.¹ Although the restrictions were important for reducing the transmission of the virus, conserving protective equipment, and protecting health care workers, necessary preventive services became less widely available.¹ Early in the pandemic, 1 in 3 women delayed contraceptive care or had difficulty obtaining contraception.² The pandemic precipitated the utilization of telehealth to provide contraceptive services,³ thereby supporting access to care particularly for adolescents, individuals living in rural areas, and other hard-to-reach populations.¹ Federal and state agencies expanded the authorization for telehealth services to make health care services more widely available. Easing of restrictions in the Health Insurance Portability and Accountability Act (HIPAA) allowed providers to expand telehealth services, and waivers provided by the Centers for Medicare and Medicaid Services (CMS) allowed for broader reimbursement for telehealth services.^{4,5} Similarly, state-level Medicaid agencies issued policies allowing physicians, nurse practitioners, and physician assistants to provide telehealth services.⁶ To build telehealth infrastructure among federally qualified health centers (FQHCs), the Health Resources and Services Administration (HRSA) provided funding to health care centers to implement telehealth services, including technical assistance, telehealth training, and supporting licensing boards in developing and implementing laws and policies to reduce barriers to telehealth for primary and contraceptive care services.⁷ By July of 2020, 95.4% of HRSA-funded clinics surveyed, including but not limited to FQHCs, provided telehealth services.⁸ Regionally, the South provided significantly fewer telehealth services compared to the Northeast, Midwest, and West.⁸ In light of these developments, and given the important role of FQHCs as safety-net providers for contraceptive care, we examined the use of telehealth for contraceptive provision at rural and urban FQHCs in 2 states in the US South.

FQHCs provide essential primary care services for free or at a reduced cost to lower-income, underinsured, and uninsured patients, approximately 70% of whom have incomes below the federal poverty level. Hispanic and non-Hispanic Black patients represent nearly half of the FQHC patient population.⁹ Approximately 59% of people served by FQHCs are women and 28% of the patient population are women of childbearing age (15-44 years of age).¹⁰

FQHCs' role in access to care is particularly important in rural America. Rural areas account for nearly 20% of the US population and are increasingly diverse.^{11,12} Residents in rural areas may experience a negative impact to their health and well-being because of shortages of health care facilities and providers and higher rates of poverty.^{11,13,14} Due to lack of high-speed internet, limited access to providers, and lower health insurance rates, underserved patient populations who reside in rural areas face challenges receiving primary and contraceptive care.^{15,16}

Most FQHCs provide or refer patients for contraceptive services depending on their funding type and capacity, which yields considerable variation in the scope and quality of services among these

clinics.^{10,17} FQHCs receive government funding from HRSA but most do not receive Title X funding for contraceptive services.^{18,19} While nearly all FQHCs provide at least 1 method of contraception, few provide the full range of contraceptive options. Given the crucial role of FQHCs in health service delivery and the variability in contraceptive services offered by FQHCs, it is important to examine the impact of the COVID-19 pandemic on contraceptive service provision through telehealth at FQHCs in rural and urban areas.¹⁷

This study examined telehealth use for contraceptive service provision at rural and urban FQHCs in Alabama (AL) and South Carolina (SC) during the initial months of the COVID-19 pandemic (March-June 2020). These 2 states have sizable rural populations, 41.0% and 33.7%, respectively,^{20,21} and low-income populations. Both states did not expand Medicaid under the Patient Protection and Affordable Care Act, and as such, access barriers continue to be prevalent for their low-income populations.²² Both states are in the US South, a region where health centers provide fewer telehealth services than other regions.⁸ Additionally, FQHCs in AL and SC had been participating in on-going surveys about contraceptive provision as a part of a larger study that the authors are conducting.

As millions of people depend on FQHCs for contraceptive care, more information is needed to assess the impact of COVID-19 on service provision among these clinics and to examine disparities in contraceptive service provision between rural and urban areas in a rapidly changing health care environment. This study provides novel information about telehealth service provision among rural and urban FQHCs in the Southeast. Findings will help inform policy and programs to maintain and increase access to telehealth for contraceptive care among safety-net clinics.

METHODS

This mixed-methods study was conducted utilizing a cross-sectional survey and key-informant interviews.

FQHC Contraceptive Care Survey

A cross-sectional survey of FQHCs in AL and SC was conducted in July-November 2020. Clinics were identified from state FQHC websites and through clinic lists provided by the state Primary Care Associations. Clinics were prescreened to verify eligibility, mailing and physical addresses, and administrator contact information. All FQHCs that offered any contraceptive services (ie, contraceptive counseling, contraceptive method(s), or HIV or sexually transmitted infections (STI) screening or treatment) in the year preceding the survey (2019) were eligible. During the screening process, 9 clinics were removed from the SC sample and 38 clinics were removed from the AL sample due to ineligibility. Thus, 90% of SC FQHCs (N = 154) and 71% of AL FQHCs (N = 150) were eligible and invited to complete a survey. The survey was developed at East Tennessee State University and pilot tested with current and former clinic administrators, revised, and finalized.

The survey was administered via paper surveys developed in TeleForm™ software and web-based surveys using Qualtrics® software. Each clinic administrator, addressed by name, was sent a survey up to 3 times and contacted by email, US mail, FedEx, and telephone follow-up to maximize response rate and minimize nonresponse bias. A \$50 preincentive was sent with the first mailing, and another \$50 incentive was sent with the third mailing or to respondents who completed the survey. The study was approved by the Institutional Review Board at East Tennessee State University.

The survey collected data about clinic characteristics and assessed telehealth service provision prior to (2019) and during the initial months of the COVID-19 pandemic (March-June 2020). Administrators were asked if their clinic provided each of the following contraceptive services via telehealth: prescribing initial hormonal contraceptives, prescribing refill hormonal contraceptives, emergency contraception, STI care, and contraceptive counseling. “Any contraceptive care service” variable was created by assessing affirmative responses to any of the contraceptive services listed above both in the year 2019 and during March-June 2020. Telehealth was defined by respondents according to their organizational definition of telehealth.

Administrators were also asked about their plans to provide telehealth services after the COVID-19 pandemic. Response options included planning to provide telehealth services offered at the clinic before March 2020, planning to continue some but not all telehealth services offered at the clinic during March-June 2020, planning to continue all telehealth services offered at the clinic during March-June 2020, or not planning to offer telehealth services at all in the future.

Responses to these survey items are summarized using frequencies and percentages. The statistical significance of observed differences was determined using chi-square tests of independence for survey items with categorical response options. Where there were fewer than 5 responses, Fisher’s exact test was used. The 0.05 alpha level was used to assess differences between rural and urban FQHCs for each service. All analyses were conducted using SAS® version 9.4 (Cary, NC).

Key-informant interviews

Key-informant interviews were conducted with employees of FQHCs in AL and SC (June-November 2020). Participants were identified from lists provided by state-level stakeholders and Primary Care Associations in both states. Each respondent was contacted up to 5 times through email and phone calls to schedule an interview. Each interview was conducted via phone, audio recorded, and transcribed via a third-party service. The study was approved by the medical Institutional Review Board at East Tennessee State University.

The discussion guide was informed by a systematic literature review and designed to gather in-depth and contextual information about clinic experiences during the pandemic related to contraceptive care delivery. The discussion guide was semistructured with open-ended questions and probes to facilitate the generation of new information reflecting the lived experiences of respondents. Interviewees were asked their perceptions of facilitators and barriers to provid-

ing services through telehealth. The following examples of facilitators or barriers were provided as needed if requested by the respondent: reimbursement, trainings, restrictive policies, and infrastructure/technology. Responses to these questions were coded, analyzed, and presented as facilitators and barriers to contraceptive service provision via telehealth.²³ Codes were separated into different factors, including: policy/structural, organizational, provider/staff, and patient factors.

Coding was completed in 2 phases consisting first of a rapid analytic approach^{24,25} followed by consensus coding with interrater agreement.²⁶ In the rapid coding phase, research staff reviewed interview data and developed a summary matrix of responses.²⁷ The codebook for the consensus coding phase was developed based on emergent themes identified during phase 1. During phase 2, interrater agreement was calculated, and consensus coding was applied when interrater agreement was less than 80%.²⁶ Finally, a team-based thematic analysis was applied. The team arrived at consensus regarding renaming and/or combining similar codes. Interviews were coded with QSR International’s NVivo 12™ qualitative software.

Rural-urban designation

Rural-Urban Continuum Codes (RUCC) classify metropolitan counties by the population size of their metro area and nonmetropolitan counties by level of urbanization and proximity to a metropolitan county.²⁸ These codes, consisting of designations 1-9, were dichotomized as “urban” (1-3) or “rural” (4-9). The “rural” or “urban” designations were then mapped to each ID for both the survey and interviewees. For survey respondents, RUCCs were designated to each clinic based on the clinic’s address after data had been collected. For the interviews, RUCCs were assigned to each interviewee based on their work address.

RESULTS

Contraceptive Care Clinic Survey

A total of 127 FQHCs responded to the survey and were included in the study; 45 rural clinics and 82 urban clinics. The response rate for rural clinics was 59% and for urban clinics was 51%. The overall response rate was 54%.

Clinic characteristics in 2019, including clinic accessibility, staffing mix, and patient characteristics and insurance type, were assessed between urban and rural. There were few significant differences between rural and urban clinics. Significantly more urban clinics (61.3%) were located near public transportation than rural clinics (29.6%) ($P = .0007$), and urban clinics reported a significantly higher percentage of contraceptive care patients (18.8%) than rural clinics (7.4%) ($P < .0001$) (Table 1).

Prior to the pandemic, 19.5% of all clinics offered contraceptive counseling via telehealth (Table 2).

TABLE 1 FQHC characteristics by rural/urban location

	Rural (N = 45) ^a N (%)	Urban (N = 82) ^a N (%)	Total (N = 127) N (%)	P value
State				
SC	28 (62.2)	53 (64.6)	81 (63.8)	.787
AL	17 (37.8)	29 (35.4)	46 (36.2)	
Clinic accessibility				
Clinic open for any hours on weekends	5 (11.1)	7 (8.5)	12 (9.5)	.635
Clinic open for any hours in evenings	7 (15.6)	20 (24.4)	27 (21.3)	.245
Clinic located near public transit**	13 (29.6)	49 (61.3)	62 (50.0)	.0007
Other contraceptive centers in the area	34 (75.6)	59 (72.8)	93 (73.8)	.947
Clinical staff employed				
Physician	45 (100.0)	75 (91.5)	120 (94.5)	.051
Registered nurse	37 (82.2)	70 (87.5)	107 (85.6)	.42
Nurse practitioners	44 (97.8)	79 (97.5)	123 (97.6)	1
Certified nurse midwives*	13 (29.6)	10 (13.7)	23 (19.7)	.037
Physician assistants	17 (38.6)	36 (48.0)	53 (44.5)	.321
Pharmacists	24 (53.3)	49 (65.3)	73 (60.8)	.192
Nurses' assistants	18 (40.0)	24 (33.3)	42 (35.9)	.465
Medical assistants	40 (88.9)	78 (95.1)	118 (92.2)	.278
Licensed practical nurses	41 (91.1)	68 (86.1)	109 (87.9)	.569
Nonclinical staff employed				
Administrators	39 (86.7)	72 (91.1)	111 (89.5)	.434
Health counselors and educators	31 (70.5)	57 (76.0)	88 (74.0)	.506
Laboratory technicians	23 (51.1)	53 (67.1)	76 (61.3)	.079
Community health workers/outreach workers	33 (73.3)	50 (64.9)	83 (68.0)	.337
Staffing characteristics				
<i>Ability to recruit family planning providers</i>				
Easy to recruit providers	25 (59.5)	53 (74.7)	78 (69.0)	.093
Difficult to recruit providers	17 (40.5)	18 (25.4)	35 (31.0)	
<i>Ability to retain family planning providers</i>				
Easy to retain providers	26 (61.9)	56 (78.9)	82 (72.6)	.051
Difficult to retain providers	16 (38.1)	15 (21.1)	31 (27.4)	
<i>Perceptions of staffing capacity to meet community contraceptive needs</i>				
Staffing capacity is sufficient	32 (74.4)	64 (82.1)	96 (79.3)	.321
Staffing capacity is insufficient	11 (25.6)	14 (18.0)	25 (20.7)	
	Mean (95% LCL, UCL)	Mean (95% LCL, UCL)	Mean (95% LCL, UCL)	
Patient characteristics				
Percent of total patients receiving contraceptive services weekly***	7.4 (5.2, 9.7)	18.8 (14.0, 23.6)	14.1 (11.0, 17.3)	<.0001
Percent of contraceptive patients who were adolescents	20.0 (11.1, 28.9)	13.0 (8.5, 17.5)	15.7 (11.3, 20.1)	.159
Percent of contraceptive patients who were racial or ethnic minorities	34.2 (24.4, 43.9)	41.8 (33.1, 50.4)	38.8 (32.4, 45.3)	.245
Insurance mix				
No insurance	33.5 (22.9, 44.2)	32.3 (25.2, 39.5)	32.8 (26.9, 38.6)	.851
Private health insurance	24.6 (15.0, 31.2)	18.5 (13.3, 23.6)	20.7 (16.0, 25.3)	.259

(Continues)

TABLE 1 (Continued)

	Rural (N = 45) ^a N (%)	Urban (N = 82) ^a N (%)	Total (N = 127) N (%)	P value
Family planning-specific Medicaid	22.7 (12.4, 33.0)	24.3 (18.2, 30.3)	23.7 (18.4, 29.0)	.794
Full benefit Medicaid	28.2 (17.6, 38.8)	22.0 (16.0, 28.0)	24.3 (18.9, 29.7)	.31

^aPlease note, the Ns reflected in the column headers reflect TOTAL responses and may not directly align with responses to responses to each survey question reflected in below tables/figures.

Data source: Contraceptive Care Clinic Survey.

* $P < .05$; ** $P < .01$; *** $P < .001$.

TABLE 2 Telehealth services for contraceptive care at rural and urban FQHCs before and during the initial months of the COVID-19 pandemic^a

	Prepandemic (2019)			Early pandemic (March-June 2020)		
	Rural (N = 45) N (%)	Urban (N = 82) N (%)	Total (N = 127) N (%)	Rural (N = 45) N (%)	Urban (N = 82) N (%)	Total (N = 127) N (%)
Contraceptive counseling	9 (20.0)	15 (19.2)	24 (19.5)	7 (16.3)**	41 (50.6)**	48 (38.7)**
Hormonal contraceptive prescriptions (initial)	4 (8.9)	6 (7.7)	10 (8.1)	6 (14.0)	18 (22.2)	24 (19.4)
Hormonal contraceptive prescriptions (refill)	7 (15.6)	19 (24.4)	26 (21.1)	17 (39.5)	42 (51.9)	59 (47.6)
Emergency contraception provided	1 (2.2)	3 (3.9)	4 (3.3)	0 (0.0)**	13 (16.1)**	13 (10.5)**
STI care	6 (13.3)	13 (16.7)	19 (15.5)	7 (16.3)*	28 (34.6)*	35 (28.2)*
Any contraceptive care service	12 (26.7)	24 (29.3)	36 (28.4)	21 (46.7)	49 (59.8)	70 (55.1)

^a P -values indicate differences between urban and rural service provision within each time frame. No differences were found between years.

* $P < .05$; ** $P < .01$.

Data source: Contraceptive Care Clinic Survey.

At the beginning of the pandemic, 55% of all clinics provided at least 1 contraceptive service through telehealth (Table 2). Significantly fewer rural clinics provided the following services through telehealth compared to urban clinics: contraceptive counseling (16.3% vs 50.6%) ($P = .0002$), emergency contraception (0.0% vs 16.1%) ($P = .004$), and STI care (16.3% vs 34.6%) ($P = .03$).

No significant differences were found between rural and urban clinics regarding plans to continue telehealth service provision post pandemic. Approximately half (52%) of all clinics reported planning to continue all telehealth services offered during March-June 2020; 30% reported plans to continue some but not all telehealth services; and 16% reported plans to only continue to offer those telehealth services that were available prepandemic. Virtually, none of the clinics reported plans for offering no telehealth services in the future (Figure 1).

Clinic characteristics and telehealth service provision were also assessed by state. Some differences were found in staffing mix by state (Appendix 1). Importantly, no differences were found in telehealth service provision (Appendix 2).

Key informant interviews

A total of 25 FQHC staff participated in key informant interviews, including 5 from rural FQHCs and 20 from urban FQHCs. Across both states, 14 interviewees worked at the clinic level and 11 interviewees worked at the corporate/system level. Thematic saturation was reached between groups due to the large sample size.²⁹

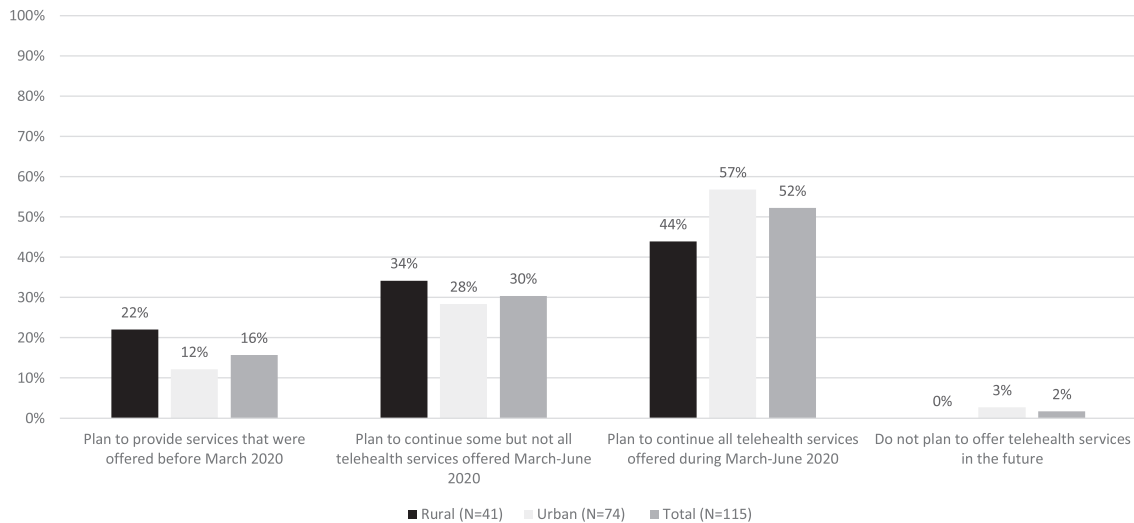
Clinic-level interviewees held a variety of positions, such as reproductive health manager, practice manager, family nursing supervisor, registered nurse clinical coordinator, certified medical assistant, licensed practical nurse, and women's health nurse practitioner. System-level interviewees held roles, including project managers, chief executive officer, clinic operations directors, and directors of patient services.

Interviewees discussed facilitators and barriers to telehealth service provision during the initial months of the COVID-19 pandemic, and these were categorized into policy/structural, organizational, provider/staff, and patient factors.

Facilitators

Table 3 summarizes the facilitators of telehealth. Rural and urban interviewees similarly discussed several policy/structural factors as facilitators of telehealth service provision, including availability of electronic infrastructure and technology, the benefit of external funding to support telehealth, and "relaxing of regulations," such as insurance reimbursement policies for Medicaid policy to permit billing for telehealth appointments.

Several organizational factors were also noted as facilitators by respondents in both rural and urban clinics, including: clinic safety protocol, such as social distancing; embedding telehealth into workflows, for example, scheduling to maximize providers' time, and staff reassignments and increased workload. As 1 respondent from an



Data source: Contraceptive Care Clinic Survey

FIGURE 1 Clinics' plans to continue telehealth services beyond the initial months of the COVID-19 pandemic (March-June 2020). Data source: Contraceptive Care Clinic Survey.

urban clinic emphasized, "We haven't had to lose anyone or furlough anybody." Some organizational facilitators were mentioned by only respondents from urban clinics, such as the availability of an on-site pharmacy, the loss of revenue precipitating new modes of service delivery, and "not wanting to stop providing care" and "having a duty to the community to provide health care."

Provider factors, including buy-in, was seen as a facilitator among urban interviewees. Staffing and training for telehealth service provision was noted by both rural and urban interviewees as a facilitator of telehealth services. As 1 respondent described, "Also, our coder has played a huge role in ensuring that our providers are equipped with the amount of knowledge that they need as far as billing and coding goes so that we ensure that we get reimbursed at the rate that we need to be, to be able to be sustained during our services this way" (Rural). Regarding patient factors, interviewees from both rural and urban clinics highlighted the benefit of educating patients to use telehealth services, such as supporting older patients to use requisite technology. Respondents from urban clinics emphasized low patient volume as a facilitator of telehealth, whereby low patient volume was an impetus to implement telehealth.

Table 4 summarizes the barriers to telehealth identified by interviewees from urban and rural FQHCs. The limited electronic infrastructure and technology was emphasized as a barrier, as 1 respondent said, "I would say probably lack of infrastructure [was a barrier to telehealth service provision]" (Rural). Other policy and structural barriers were also highlighted by both rural and urban interviewees and included challenges with funding, such as not having funding available or funding being restricted by policy.

Most organizational barriers were noted by interviewees from urban jurisdictions and included: clinic closings and furloughs, challenges with scheduling and workflow, challenges managing staff, reduced capacity for service provision, and lack of training for telehealth service provision.

Providers and staff factors were noted primarily by urban interviewees, such as challenges with training staff. One respondent stated, "We have a lot of new staff so I think that one of the barriers is the training of the new staff to actually be informed or actually have knowledge of the contraceptives which is hard to do when you are short-staffed" (Urban). Rural and urban interviewees also noted the challenges of staff having to quarantine due to COVID-19 exposure or illness.

Patient factors, such as not having the requisite technology to participate in telehealth, was noted by both rural and urban interviewees. As 1 rural respondent emphasized, "Only if the patient doesn't have a good internet connection, or if they couldn't speak over the phone, or they didn't have a phone, we still try to get them to come into the office with the mask on and make sure they were fine, didn't have a fever or anything. We were still able to serve them." Technology was a clear limitation both for clinics and patients.

DISCUSSION

Telehealth for contraceptive service provision increased among FQHCs in this study during the early months of the pandemic relative to 2019. However, more urban FQHCs implemented telehealth for contraceptive counseling, emergency contraception, and STI care relative to rural clinics. These findings have implications for health disparities between rural and urban areas, particularly as rural clinics have less access to public transportation and a lower proportion of patients receiving contraceptive care. Among a national sample, rural clinics were found to be less likely to use telehealth for service provision by late June 2020, and SC was among the states with the least utilization of telehealth.³⁰

Barriers to telehealth provision included challenges with funding, limited electronic infrastructure (for both clinics and patients), and reduced staffing capacity. These findings highlight areas for action,

TABLE 3 Perceptions of facilitators of telehealth service provision among rural and urban FQHC staff during the early months of COVID-19 (March-June 2020) (n = 25 staff interviewees)

Policy/structural facilitators	Rural N = 5	Urban N = 20	Representative quotation
Electronic infrastructure and technology	X	X	"We've done a bit with the carts that we got, but we've used Doxy.me. It's a video app on your phone... As long as you had a smartphone, you could pretty much connect to a patient, do a telehealth visit." (Rural)
External funding to support telehealth	X	X	"Of course, the health centers were part of the CARES funding, so we used some of that funding to help beef up laptops and clinical access to those, making sure that providers had access, making sure the laptops were up to speed." (Rural)
Insurance reimbursement policy	X	X	"I would say the relaxing of regulations during this time, absolutely is probably number one. The thing that enabled us to rapidly move to telehealth..." (Urban)
Organizational facilitators			
Availability of pharmacy on-site		X	"So I guess provider helped, the IT part helped, with that, and the availability that we have pharmacies in house..." (Urban)
Clinic safety protocol	X	X	"We really, as an agency, tried to work on social distancing, separating offices, making sure that we're shifting schedules so that we don't exceed a certain number of people in a particular clinic per day. Our larger clinics that have multiple providers with multiple different programs, we're having to strategically schedule them." (Rural)
Embedded telehealth into workflow	X	X	"All work providers have at least one telehealth day a week where they work from a remote setting so that we free up space." (Rural)
Loss of revenue		X	"It was really the lack of patients. We weren't generating revenue. Patients weren't coming and there was a greater fear of layoffs." (Urban)
No furloughs for staff	X	X	"We haven't had to lose anyone or furlough anybody." (Urban)
Staff reassignments and increased workload	X	X	"We have had challenges with staffing, not releasing staffing, but having to maybe change some staffing duties and responsibilities in order to provide services to patients." (Urban)
Wanting to continue to provide care		X	"We didn't want to stop providing services during COVID. We felt that it's still very important to make sure that patients in the community are getting their care, so we didn't want to push anyone away from still receiving the care that they needed." (Urban)
Provider/staff factors			
Buy-in among providers and staff		X	"Having a really can-do attitude team on all fronts, with our IT, with our finance, billing providers, administrators. Everyone was eager to see this happen and to be a part of making it happen and making sure it was set up and done well." (Urban)
Training for telehealth service provision	X	X	"The training, the availability of providers, and the willingness of providers to actually provide those services." (Urban)

Note: X indicates where at least 1 respondent from respective sector indicated a theme.

Data source: Key informant interviews.

which if unaddressed, can exacerbate existing disparities and inequities in health care service provision³¹ for residents in rural areas, particularly in regard to contraceptive care.^{32,33}

Electronic infrastructure and technology emerged as an integral component of telehealth service provision in both rural and urban clinics. Other studies also found that scaling-up of telehealth service provision was facilitated through pre-existing electronic infrastructure, including capabilities within current electronic medical records,³⁴ during the initial months of the COVID-19 pandemic.³⁵ Ensuring adequate infrastructure, such as video-enabled computers, broadband internet, and updated processes, including widespread use

of electronic medical records, in clinics is critical to maintaining essential care during public health emergencies and expanding clinic reach to patients with transportation challenges.³⁶

We found that external funding for technology, the relaxation of HIPAA policies, and expanded reimbursement policies, such as through Medicaid, were critical to support telehealth implementation in FQHCs, which compares to previous findings.³⁷ Providers value billing for telehealth services,³⁸ and the ability to offer both on-site and telehealth services, as facilitated by reimbursement policy, improves patient care, particularly for adolescents and contraceptive care services.³²

TABLE 4 Perceptions of barriers to telehealth service provision among rural and urban FQHC staff during the early months of COVID-19 (March-June 2020) (n = 25 staff interviewees)

Policy/structural factors	Rural N = 5	Urban N = 20	Representative quotation
Challenges with funding for telehealth	X	X	"I think that's one of the crippling that had killed us on telehealth, was primarily there was no funding. When you talked to Medicaid or CMS or you talked to the state agencies... it was like, 'We don't know when the funding will be there.'" (Rural)
Integrating telehealth software into EMR		X	"One of the biggest factors was just the simplicity of getting a good software to do it was the good part. The challenge was just, how to incorporate this now into our electronic medical records?" (Urban)
Limited electronic infrastructure and technology	X	X	"I would say probably lack of infrastructure." (Rural)
No policies or procedures for implementation		X	"We had to design policies. We had to learn how to bill. We're still working out billing practices." (Urban)
Reimbursement restrictions for telehealth		X	"The reimbursement I think was the biggest challenge... that's because the actual insurance companies weren't ready to receive bills with these types of codes... It was easier for us to implement it than it was for the insurance companies." (Urban)
Organizational factors			
Clinic closures		X	"We initially had to do a furlough because we were having to shut some centers down throughout the week. Unfortunately, in some of the areas, there just wasn't a need to have clinics open every day." (Rural)
Challenges with scheduling and embedding telehealth into workflow		X	"At first they were trying to do virtual visits in the mix of face-to-face visits. That was very challenging because you can't really stay on time when you're doing face-to-face visits." (Urban)
Furloughs		X	"It was a big impact on everybody since a lot of the administration staff, counselors, and social workers had to be furloughed as well. So those services were reduced and that support from the admin team was also reduced. It has been a major impact..." (Urban)
Reduced staffing capacity	X	X	"I can tell you how it affected the clinic which also affected family planning and that is we had a problem with staffing because schools were closed." (Urban)
Provider/staff factors			
Provider comfort level with telehealth		X	"It's just not something that our providers have been comfortable with, we did not do it prior to the pandemic but we are continuing it currently for patients who do not feel safe to come into the office." (Urban)
Provider comfort level with delivering care in multiple settings		X	"... it is hard for the providers and the clinical staff to be constantly flipping back and forth from a real patient that's in the office, the next patient is a telehealth patient..." (Urban)
Patient factors			
Lack of access to necessary technology	X	X	"I think that there were definitely hiccups in the beginning with people not really understanding how to use the app, or maybe connectivity issues." (Rural)

Note: X indicates where at least 1 respondent from respective sector indicated a theme.

Data source: Key informant interviews.

Training providers and staff for telehealth service provision, including billing and coding, was another facilitator noted by both rural and urban interviewees. Requisite training is needed to utilize technology correctly among providers.^{32,39} Training for providing services via telehealth through a "train the trainer" model may serve as a template for implementation.⁴⁰

Patients and providers alike have expressed positive experiences with telehealth for contraceptive care. In SC, prior to the pandemic, telehealth was perceived by reproductive-aged women to increase the knowledge of contraceptives and contraceptive options, increase access to methods, and circumvent transportation barriers.^{33,41,42}

About half of all clinics in our study planned to continue to provide all telehealth services that were offered during March-June 2020, which suggests that once telehealth is implemented, it will be continued by health care systems that were able to rapidly scale-up. Rural clinics, however, may not continue telehealth as readily as urban clinics.³⁰ Between 2009 and 2014, access to health care services at HRSA-funded clinics in rural areas had improved, yet continued expansion of telehealth among these clinics will help to ensure access.⁴³

With the steady national growth in the number and capacity of FQHCs, these clinics currently represent over half of the safety-net

clinics subsidized to provide family planning services in the United States.¹⁷ The facilitators and barriers discussed herein are unique to FQHCs compared to health departments, which had primarily policy/structural barriers.⁴⁴ Maintaining and continuing to increase access to telehealth in FQHCs, particularly for contraceptive care, will be critical to reducing health care disparities in rural areas.³⁵ Supportive reimbursement policies for the provision of telehealth as well as adequate funding for electronic infrastructure and technology in rural areas will facilitate telehealth provision, particularly for contraceptive care, in FQHCs.^{15,45}

This study is not without limitation. While the response rate achieved for the survey was robust, and survey findings convey the landscape of telehealth for contraceptive care in these 2 Southeastern states, the limited generalizability of the findings is noted. There is variability in contraceptive service provision among FQHCs nationally, and as such, our findings may not be generalizable to the Southeast region as a whole or to clinics in states in other regions.

The study was conducted during the second part of 2020, and respondents answered survey questions about services provided in 2019 and during March-June 2020, which could have introduced recall bias. However, the content and format of the survey were designed to minimize recall bias, and specific instructions to respondents were provided regarding questions and the 2 time periods covered.

Additionally, the study examined the first few months of the COVID-19 pandemic (March-June 2020), yet response to the pandemic evolved quickly throughout 2020 and beyond. COVID-19 was initially more prevalent in urban than rural areas, and our data may not have examined the fullest extent to which the pandemic hit rural clinics. It is, therefore, possible that the findings highlighted the initial response rather than the progression over time. Nevertheless, the initial months may have been the most impactful and capture the early response, such as rapid implementation of new contraceptive care service lines and the scaling up of telehealth services.

Despite these limitations, the mixed-methods design, specifically the incorporation of data from 25 key informant interviews, provided a unique and useful context for assessing facilitators and barriers to telehealth implementation among FQHCs. While urban respondents were over-represented among the interviewees, we do not expect this to have limited the qualitative data because we interviewed FQHC staff at both the corporate/system level and clinic level, and then based the urban/rural designation of interviewees on the RUCC for their work address, we expected to have more “urban” interviewees overall. This is because most corporate FQHC offices are in urbanized areas even for systems that operate clinics in rural areas. Importantly, the system leaders who were interviewed described the experiences of their respective clinics, and due to the large sample size, we reached thematic saturation.²⁹

There are likely additional factors that were not raised in this study, such as community- and patient-level factors. While we found that patient factors did impact telehealth implementation, such as patients not having technology to utilize telehealth, the depth of this theme is beyond the scope of this study where we focused on the system-, policy- and clinic-level facilitators and challenges.

CONCLUSIONS

This study describes differences in telehealth use for contraceptive service provision between rural and urban FQHCs in AL and SC at the beginning of the COVID-19 pandemic. Findings have broad public health implications. Health care disparities between rural and urban populations may widen as more urban clinics than rural clinics implement telehealth for contraceptive care, including contraceptive counseling, emergency contraception, and STI treatment. Federal and state agencies should continue to support the implementation of telehealth, especially for contraceptive care, through investing in infrastructure and technology as well as maintaining reimbursement policies that are protective of telehealth especially for rural clinics.

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CONFLICT OF INTEREST

The authors report no conflicts of interest.

ORCID

Kate Beatty PhD  <https://orcid.org/0000-0002-0226-3029>

Michael G. Smith DrPH  <https://orcid.org/0000-0002-8297-2203>

Oluwatosin Ariyo DrPH  <https://orcid.org/0000-0003-4013-2764>

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APPENDIX A2: TELEHEALTH SERVICES OFFERED AT ALABAMA AND SOUTH CAROLINA FQHCs BEFORE AND DURING THE INITIAL MONTHS OF THE COVID-19 PANDEMIC (MARCH-JUNE 2020)

	Prepandemic (2019)			Early pandemic (March-June 2020)		
	Alabama (N = 46) N (%)	South Carolina (N = 81) N (%)	Total (N = 127) N (%)	Alabama (N = 46) N (%)	South Carolina (N = 81) N (%)	Total (N = 127) N (%)
Contraceptive counseling	8 (18.6)	16 (20.0)	24 (19.5)	13 (28.9)	35 (44.3)	48 (38.7)
Hormonal contraceptive prescriptions (initial)	2 (4.7)	8 (10.0)	10 (8.1)	7 (15.6)	17 (21.5)	24 (19.4)
Hormonal contraceptive prescriptions (refill)	8 (18.6)	18 (22.5)	26 (21.1)	21 (46.7)	38 (48.1)	59 (47.6)
Emergency contraceptive provided	0 (0.0)	4 (5.0)	4 (3.3)	3 (6.7)	10 (12.7)	13 (10.5)
STI care	9 (20.9)	10 (12.5)	19 (15.5)	10 (22.2)	25 (31.7)	35 (28.2)
Any contraceptive care service	12 (26.1)	24 (29.6)	36 (28.4)	22 (47.8)	48 (59.3)	70 (55.1)

Data source: Contraceptive Care Clinic Survey.