Title

Contraceptive care in the United States during the COVID-19 pandemic: A social media survey of contraceptive access, telehealth use and telehealth quality.

Authors

Merz-Herrala, Allison A
Kerns, Jennifer L
Logan, Rachel
et al.

Publication Date

2023-07-01

DOI

10.1016/j.contraception.2023.110000

Peer reviewed

Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Contraception 123 (2023) 110000

Contents lists available at ScienceDirect

Contraception

journal homepage: www.elsevier.com/locate/contraception

Original Research Article

Contraceptive care in the United States during the COVID-19 pandemic: A social media survey of contraceptive access, telehealth use and telehealth quality☆,☆☆

Allison A. Merz-Herrala [a,*,1], Jennifer L. Kerns [a,1], Rachel Logan [b], Sirena Gutierrez [c], Cassondra Marshall [d], Nadia Diamond-Smith [c]

[a] University of California, San Francisco, Department of Obstetrics, Gynecology and Reproductive Sciences, San Francisco, CA, United States
[b] University of California, San Francisco, Department of Family and Community Medicine, San Francisco, CA, United States
[c] University of California, San Francisco, Department of Epidemiology and Biostatistics, San Francisco, CA, United States
[d] School of Public Health, University of California, Berkeley, Berkeley, CA, United States

ARTICLE INFO

Article history:
Received 9 October 2022
Received in revised form 21 February 2023
Accepted 27 February 2023

Keywords:
Contraception
COVID-19
Region
Telehealth

ABSTRACT

Objectives: To examine demographic, socioeconomic, and regional differences in contraceptive access, differences between telehealth and in-person contraception visits, and telehealth quality in the United States during the COVID-19 pandemic.
Study design: We surveyed reproductive-age women about contraception visits during the COVID-19 pandemic via social media in July 2020 and January 2021. We used multivariable regression to examine relationships between age, racial/ethnic identity, educational attainment, income, insurance type, region, and COVID-19 related hardship, and ability to obtain a contraceptive appointment, telehealth vs in-person visits, and telehealth quality scores.
Results: Among 2031 respondents seeking a contraception visit, 1490 (73.4%) reported any visit, of which 530 (35.6%) were telehealth. In adjusted analyses, lower odds of any visit was associated with Hispanic/Latinx and Mixed race/Other identity (aOR 0.59 [0.37–0.94], aOR 0.36 [0.22–0.59], respectively), the South, Midwest, Northeast (aOR 0.63 [0.47–0.85], aOR 0.64 [0.46–0.90], aOR 0.52 [CI 0.36–0.75], respectively), no insurance (aOR 0.63 [0.43–0.91]), greater COVID-19 hardship (aOR 0.52 [0.31–0.87]), and earlier pandemic timing (January 2021 vs July 2020 aOR 2.14 [1.69–2.70]). Respondents from the Midwest and South had lower odds of telehealth vs in-person care (aOR 0.63 [0.44–0.88], aOR 0.54 [0.40–0.72], respectively). Hispanic/Latinx respondents and those in the Midwest had lower odds of high telehealth quality (aOR 0.37 [0.17–0.80], aOR 0.58 [0.35–0.95], respectively).
Conclusions: We found inequities in contraceptive care access, less telehealth use for contraception visits in the South and Midwest, and lower telehealth quality among Hispanic/Latinx people during the COVID-19 pandemic. Future research should focus on telehealth access, quality, and patients' preferences.
Implications: Historically marginalized groups have faced disproportionate barriers to contraceptive care, and telehealth for contraceptive care has not been employed equitably during the COVID-19 pandemic. Though telehealth has the potential to improve access to care, inequitable implementation could exacerbate existing disparities.

1. Introduction

The coronavirus disease 2019 (COVID-19) pandemic has dramatically impacted access to reproductive healthcare, changing how care is delivered and exacerbating structural inequities in access to care. Telehealth use in the United States (US) for reproductive healthcare has drastically increased during the COVID-19 pandemic. Prior to COVID-19, digital technologies were used relatively rarely in

☆ Conflicts of interest: None.
☆☆ Funding: The Commonwealth Fund (grant number: 20213165), Stan and Mary Friedman, and the Department of Epidemiology and Biostatistics at UCSF provided financial support for this study.
* Corresponding author.
E-mail address: allison.merz@ucsf.edu (A.A. Merz-Herrala).
[1] Co-first authors.

https://doi.org/10.1016/j.contraception.2023.110000

the healthcare space, largely due to heavy regulation and payment structures that favored face-to-face care models [1]. Yet telehealth offers greater convenience for patients and providers and increased access for patients with transportation, childcare, or job security challenges, and for patients in regions where reproductive healthcare is limited or restricted [2–7]. Contraception visits sharply declined when COVID-19 restrictions took effect and remained low throughout 2020 [8]. However, many studies have demonstrated the rapid increase in the use of telehealth during COVID-19 specifically for contraceptive care, from only 10% to 20% of family planning providers utilizing telehealth before the pandemic to 80% to 90% utilizing it during the pandemic [9–11].

Disparities in telehealth access and uptake before and during the pandemic are well-documented. Non-white and publicly insured patients were less likely to successfully complete telehealth clinic visits in surgery and oncology settings [12,13]. And in the family planning setting in states with restricted access, Black/African American and multiracial patients had fewer telehealth visits compared to white patients [14]. Less access to widespread broadband internet, fewer or no devices that can be used to attend telehealth visits, and perceived difficulty in accessing telehealth are possible reasons for the disparity [9,15,16]. Concerns have also been raised that telehealth may lead to lower quality care compared to in-person care, specifically with less personal connection and lower confidentiality in virtual contraceptive counseling [9,17,18]. However, other studies have suggested that counseling via telehealth is similar to in-person, and studies of telehealth abortion have shown that patients find telehealth more private than in-person and prefer telehealth over in-person counseling [7,19–21].

Though a small number of studies have investigated patterns of telehealth use compared to in-person care for contraception and telehealth quality for contraceptive care during COVID-19, to our knowledge, none have reported on regional trends or differences in telehealth quality on a national scale [18,19]. As the COVID-19 pandemic continues and restrictions on access to abortion and contraception increase, ongoing investigation into telehealth's effects on people's access to contraception is essential to understand how COVID-19 has impacted sexual and reproductive health, and how providers can increase access to family planning care for individuals in regions where in-person care is limited. We sought to examine demographic, socioeconomic, and regional differences in contraceptive access, differences between telehealth and in-person visits, and telehealth quality for contraceptive visits in the US during the COVID-19 pandemic.

2. Materials and methods

In July 2020 and January 2021, we collected data on experiences seeking contraception, prenatal, postnatal, miscarriage, and abortion care during COVID-19 [22–24]. We report here on a subset of the data focused on contraception. We recruited a convenience sample of English- or Spanish-speaking individuals through Facebook and Instagram Ads. We recruited in July 2020 for 1 week and in January 2021 for 3 weeks because this was part of a parent study looking at trends over time (6 months in the early COVID-19 pandemic). We designed ads that appeared in Facebook and Instagram users' feeds and included a link to informed consent, in which they were informed of the purpose of the study, the investigators, the survey length, and specifics of data storage, followed by the survey. Eligibility criteria included identifying as a woman aged 18 to 45 and living in the US. We recruited respondents from across the US, with specific effort made to recruit women of color from the South and Midwest, since these regions and populations face more structural barriers to contraceptive care. The survey was designed by a team of Obstetrics and Gynecology clinicians, epidemiologists, and researchers with expertise designing surveys to be deployed over social media. Previously validated measures were used where possible. We piloted the survey for usability on a smartphone using the Qualtrics tools. Respondents in the first round (July 2020) were offered a $10 gift card if they participated in two rounds of the survey, and a $5 gift card for one survey in the second round (January 2021). All data were recorded in Qualtrics and stored on a secure network. This study was approved by the University of California, San Francisco Institutional Review Board.

We asked non-pregnant respondents whether they had a contraceptive appointment with a healthcare provider in the past 3 months. If they had not, we asked for reasons why, including not needing contraception or an appointment, or trying to make an appointment but not being able to. For this study's analysis, we only included respondents who indicated that they desired an appointment for contraception, i.e., respondents who had an appointment and respondents who tried to make an appointment but were unable to. For those indicating that they had an appointment, we asked about appointment types, including in-person, by phone, video, or online/chat (collectively labeled as "telehealth," defined as health care provided remotely to a patient using synchronous two-way voice, visual, or online chat communication).

We asked respondents about sociodemographic variables including age, racial/ethnic identity, educational attainment, annual household income, insurance type, and zip code. We assessed whether and how respondents' lives were affected by COVID-19 by asking whether they experienced hunger, housing changes, or income or job loss due to the pandemic. Among those who reported having a telehealth visit, respondents reported visit quality on a 5-point Likert scale from "strongly disagree" to "strongly agree" in response to the prompts: "it was convenient," "it was easy," "it felt personal," "I could understand what they were trying to tell me/I got good information," "it felt safe," "it felt private," "I felt cared for," and "I would do it again if I had the option." We selected these questions based on a modified list of items from the Person Centered Maternity Care scale, which has been adapted and validated for contraceptive use [25,26].

We cleaned the data first to remove responses that stemmed from the same IP addresses, incomplete surveys, surveys filled out too quickly (potentially bots) and women who were not eligible, including those who reported permanent contraception or were under 18 or over 45. We created a COVID-19 hardship score by summing the 4 questions related to the impact of COVID-19 on reported hunger, income or job loss, or housing changes; scores ranged 0 to 4, with higher scores reflecting greater hardship. We created a telehealth quality score by summing respondents' answers to the telehealth quality questions, and used the 75th percentile as the cut-off for high telehealth quality. We chose this cut-off because in the histogram of scores, it appeared that the 75th percentile was an appropriate, and we thought theoretically important, marker to set for high vs low-quality experiences. We used the CHERRIES checklist for reporting results of web-based surveys [27].

We used Chi-square tests and multivariable logistic regression models to examine relationships between survey period, sociodemographic variables, and COVID-19-related hardship and (1) odds of having any vs no contraception appointment, and (2) odds of having a telehealth vs in-person appointment. Among respondents who reported having a telehealth appointment, we used multivariable logistic regression models to examine relationships between sociodemographic variables and COVID-19-related hardship and odds of rating telehealth quality at or above the 75th percentile. We combined the data from the two cohorts (July 2020 and January 2021) for the purposes of examining contraceptive visits during the pandemic, and to account for variability in the timing of the pandemic, we controlled for the survey round in our adjusted analyses. We developed models based on our conceptual model, theory, and previous literature about factors that could be associated with

Table 1
Demographic factors associated with any vs no appointment for contraception during the COVID-19 pandemic (U.S. 2020, 2021)

Variables	Total n	No appointment n (%)	Appointment n (%)	p Value[a]	Adjusted odds, any vs no appointment[b] (95% CI)
Total[c]	2031	540	1491		
Survey period (June '20 vs January '21)					
Round 1	993 (48.9)	310 (57.6)	683 (45.8)	< 0.001	1.0 (ref)
Round 2	1036 (51.1)	228 (42.4)	808 (54.2)		2.14 (1.69–2.70)
Age (years)					
18–24	397 (19.6)	114 (21.2)	283 (19)	0.015	1.0 (ref)
25–34	1057 (52.1)	252 (46.8)	805 (54)		1.07 (0.80–1.43)
35–45	574 (28.3)	172 (32)	402 (27)		0.78 (0.57–1.07)
Racial/ethnic identity					
Black/African American	174 (8.8)	41 (7.8)	133 (9.2)	< 0.001	1.0 (ref)
Native American Indian/Alaska Native	11 (0.6)	4 (0.8)	7 (0.5)		0.31 (0.08–1.19)
Asian/Pacific Islander	185 (9.4)	45 (8.6)	140 (9.7)		0.69 (0.40–1.18)
Hispanic/Latinx	329 (16.7)	101 (19.2)	229 (15.7)		0.59 (0.37–0.94)
White (non-Hispanic)	1069 (54.1)	247 (47)	822 (56.7)		0.87 (0.57–1.33)
Mixed race/Other	207 (10.5)	88 (16.7)	119 (8.2)		0.36 (0.22–0.59)
Income					
> $74 K	571 (29)	137 (26.1)	434 (30)	0.197	1.0 (ref)
$50–74 K	417 (21.1)	105 (20)	312 (21.6)		0.97 (0.71–1.33)
$25–49 K	490 (24.9)	141 (26.9)	349 (24.1)		0.88 (0.64–1.21)
< $25 K	492 (25)	141 (26.9)	351 (24.3)		0.93 (0.65–1.33)
Educational attainment					
College or more	963 (48.7)	234 (44.6)	729 (50.1)	0.079	1.0 (ref)
Some college	626 (31.6)	183 (34.9)	443 (30.5)		0.82 (0.63–1.07)
High school or less	390 (19.7)	108 (20.6)	282 (19.4)		0.90 (0.65–1.25)
Insurance					
Private insurance	1220 (56.6)	275 (52.2)	845 (58.2)	< 0.001	1.0 (ref)
Public insurance	643 (32.5)	171 (32.4)	472 (32.5)		1.03 (0.78–1.36)
No insurance	213 (10.8)	80 (15.2)	133 (9.2)		0.63 (0.43–0.91)
Region					
West	433 (22.1)	99 (19.2)	334 (23.2)	0.152	1.0 (ref)
Midwest	423 (21.6)	111 (21.5)	312 (21.7)		0.64 (0.46–0.90)
South & Southeast	837 (42.8)	226 (43.8)	611 (42.5)		0.63 (0.47–0.85)
Northeast	262 (13.4)	80 (15.5)	182 (12.6)		0.52 (0.36–0.75)
Hardship score					
0	740 (37.1)	151 (28.4)	589 (40.2)	< 0.001	1.0 (ref)
1	529 (26.5)	148 (27.8)	381 (26.0)		0.67 (0.51–0.88)
2	405 (20.3)	126 (23.7)	279 (19)		0.63 (0.47–0.86)
3	221 (11.1)	73 (13.7)	149 (10.2)		0.56 (0.38–0.52)
4	101 (5.1)	34 (6.4)	67 (4.6)		0.52 (0.31–0.87)

[a] Unadjusted Chi square test.
[b] All variables listed in the table were included in the multivariable model.
[c] Numbers may not add up to total in each category due to small numbers of missing responses to some questions.

telehealth quality (age, race/ethnicity, COVID-19 hardship, etc.). We performed an exploratory analysis using a logistic regression to compare odds of high telehealth quality among respondents who answered the survey in Spanish vs English.

3. Results

Out of 5340 total respondents who were not pregnant, 2031 (38%) indicated that they had sought contraceptive care (either tried to get an appointment but were unable to or had a contraception appointment during the pandemic) (n = 994 July 2020, n = 1037 January 2021). Most respondents seeking care (n = 1491, 73.4%) indicated having had a contraception appointment, 530 (35.6%) of which were via telehealth. The mean age of respondents was 31 years, and over half were white (54.1%), college-educated or more (58.7%), had private insurance (56.7%), and experienced minimal impact on food security, housing, income, or job due to the pandemic (Table 1).

In unadjusted analyses comparing a contraceptive appointment vs no appointment, 25 to 34 year olds reported more visits while Hispanic/Latinx and Mixed race/Other respondents and those with no insurance reported fewer visits. Greater hardship scores were associated with fewer visits (all $p < 0.05$). After adjustment, covariates associated with lower odds of any contraceptive visit were Hispanic/Latinx and Mixed race/Other (aOR 0.59 [0.37–0.94], aOR 0.36 [0.22–0.59], respectively), no insurance (aOR 0.63 [0.43–0.91]), South/Southeast, Midwest, and Northeast (aOR 0.63 [0.47–0.85]; aOR 0.64 [0.46–0.90]; aOR 0.52 [0.36–0.75], respectively), and greater Covid-19 hardship (aOR 0.52 [0.31–0.87]) (Table 1).

In unadjusted analyses comparing telehealth vs in-person contraception appointments, we found differences across all sociodemographic variables other than age (Table 2). After adjustment, we observed higher odds of having a telehealth visit among respondents ages 25 to 34 (aOR 1.41 [1.02–1.94]) and lower odds among respondents from the Midwest and South (aOR 0.63 [0.44–0.88], aOR 0.54 [0.40–0.72] respectively).

Table 2
Demographic factors associated with telehealth vs in-person appointment for contraception during the COVID-19 pandemic (U.S. 2020, 2021)

Variable	Total n	In-person appointment n (%)	Telehealth appointment n (%)	p Value[a]	Adjusted odds, telehealth vs in-person appointment[b] (95% CI)
Total[c]	1491	961	530		
Survey period					
Round 1 (July 2020)	683 (45.8)	463 (48.2)	220 (41.5)	0.013	1.0 (ref)
Round 2 (January 2021)	808 (54.2)	498 (51.8)	310 (58.5)		1.16 (0.24–1.16)
Age (years)					
18–24	283 (19)	189 (19.7)	94 (17.7)	0.638	1.0 (ref)
25–34	805 (54)	516 (53.8)	289 (54.5)		1.41 (1.02–1.94)
35–45	402 (27)	255 (26.6)	147 (27.7)		1.37 (0.96–1.96)
Racial/ethnic identity					
Black/African American	133 (9.2)	83 (8.9)	50 (9.7)	0.005	1.0 (ref)
Native American Indian/Alaska Native	7 (0.5)	3 (0.3)	4 (0.8)		1.20 (0.23–6.40)
Asian/Pacific Islander	140 (9.7)	71 (7.6)	69 (13.4)		1.56 (0.92–2.65)
Hispanic/Latinx	228 (15.7)	145 (15.5)	83 (16.1)		0.83 (0.51–1.32)
White (non-Hispanic)	822 (56.7)	555 (59.5)	267 (51.7)		0.87 (0.58–1.31)
Mixed race/Other	119 (8.2)	76 (8.1)	43 (8.3)		0.85 (0.50–1.46)
Income					
> $74 K	434 (30)	290 (31.2)	144 (27.9)	0.029	1.0 (ref)
$50–74 K	312 (21.6)	199 (21.4)	113 (21.9)		1.13 (0.81–1.57)
$25–49 K	349 (24.1)	237 (25.5)	112 (21.7)		0.87 (0.62–1.23)
< $25 K	351 (24.3)	204 (21.9)	147 (28.5)		1.14 (0.78–1.65)
Educational attainment					
College or more	729 (50.1)	497 (53)	232 (44.9)	0.007	1.0 (ref)
Some college	443 (30.5)	275 (29.3)	168 (32.5)		1.26 (0.95–1.67)
High school or less	282 (19.4)	165 (17.6)	117 (22.6)		1.26 (0.90–1.78)
Insurance					
Private insurance	845 (58.3)	571 (61.1)	274 (53.1)	0.009	1.0 (ref)
Public insurance	472 (32.6)	287 (30.7)	185 (35.9)		1.09 (0.82–1.47)
No Insurance	133 (9.2)	76 (8.1)	57 (11)		1.29 (0.83–2.01)
Region					
West	334 (23.2)	183 (19.7)	151 (29.6)	< 0.001	1.0 (ref)
Midwest	312 (21.7)	217 (23.4)	95 (18.6)		0.63 (0.44–0.88)
South & Southeast	611 (42.5)	429 (46.2)	182 (35.7)		0.54 (0.40–0.72)
Northeast	182 (12.6)	100 (10.8)	82 (16.1)		1.01 (0.69–1.17)
Hardship score					
0	589 (40.2)	400 (42.3)	189 (36.4)	< 0.001	1.0 (ref)
1	381 (26)	262 (27.7)	119 (22.9)		0.87 (0.65–1.17)
2	279 (19)	170 (18)	109 (21)		1.15 (0.83–1.60)
3	149 (10.2)	84 (8.9)	65 (12.5)		1.25 (0.83–1.88)
4	67 (4.6)	30 (3.2)	37 (7.1)		1.61 (0.91–2.84)

[a] Unadjusted Chi square test.
[b] All variables listed in the table were included in the multivariable model.
[c] Numbers may not add up to total in each category due to small numbers of missing responses to some questions.

In adjusted analyses of telehealth quality, Hispanic/Latinx respondents and respondents in the Midwest had significantly lower odds of reporting high telehealth visit quality (aOR 0.37 [0.17–0.80] and aOR 0.58 [0.35–0.95] respectively) (Table 3). We found no differences in quality scores between video vs phone visits. In the unadjusted exploratory analysis assessing telehealth quality among respondents who answered the survey in Spanish, respondents who answered in Spanish (n = 34, 6.4% of respondents who had telehealth visits) had significantly lower odds of reporting high telehealth quality (OR 0.59 [0.36–0.99]). Due to small numbers, we did not adjust for language (Spanish vs English) in multivariate analyses of telehealth quality.

4. Discussion

Among people seeking contraceptive care during the COVID-19 pandemic, we found significant inequities in contraception access, less telehealth use in the South and Midwest, and lower telehealth quality among Hispanic/Latinx and Spanish-speaking people. Because we only included people actively seeking contraception appointments, the broad disparities in access we observed underscore the prohibitive barriers to care some of our respondents faced. Our findings echo previous data demonstrating that differences in social and health resource distribution overwhelmingly disadvantage people with racialized and historically-marginalized

Table 3
Demographic factors and telehealth quality score among respondents who had telehealth visits for contraception during the COVID-19 pandemic (U.S. 2020, 2021)

Variable	Adjusted odds, telehealth quality score ≥ 75%[a] (95% CI)
Age (years)	
18–24	1.0 (ref)
25–34	1.08 (0.62–1.87)
35–45	1.06 (0.57–1.95)
Racial/Ethnic Identity	
Black/African American	1.0 (ref)
Native American Indian/Alaska Native	0.27 (0.02–3.68)
Asian/Pacific Islander	1.50 (0.62–3.64)
Hispanic/Latinx	0.37 (0.17–0.80)
White (non-Hispanic)	0.73 (0.37–1.43)
Mixed race/Other	0.42 (0.17–1.02)
Income	
> $74 K	1.0 (ref)
$50–74 K	0.92 (0.53–1.60)
$25–49 K	0.69 (0.39–1.21)
< $25 K	0.99 (0.54–1.81)
Educational attainment	
College or more	1.0 (ref)
Some college	1.47 (0.92–2.35)
High school or less	1.01 (0.58–1.73)
Insurance	
Private insurance	1.0 (ref)
Public insurance	0.79 (0.40–1.56)
No insurance	0.78 (0.39–1.58)
Region	
West	1.0 (ref)
South & Southeast	0.63 (0.36–1.11)
Midwest	0.58 (0.35–0.95)
Northeast	0.58 (0.32–1.05)
Hardship score	
0	1.0 (ref)
1	0.98 (0.60–1.60)
2	1.37 (0.80–2.37)
3	1.25 (0.64–2.43)
4	0.78 (0.34–1.82)
Survey round (June '20 vs January '21)	1.83 (0.50–6.69)

[a] All variables listed in the table were included in the multivariable model.

identities [28]. And consistent with our findings, studies of contraceptive care during the COVID-19 pandemic have similarly found that people identifying as Black, Indigenous, Latinx or a person of color, with greater financial hardship, and facing hunger or income loss due to the pandemic have faced more barriers to care [18,22,29,30].

It is unclear whether our finding of the lower rates of telehealth use for contraceptive care in the South and Midwest simply reflect lower use of telehealth in general in these regions, as prior studies have shown, or if respondents in these areas prefer in-person visits. Lower use of telehealth for contraceptive care has been documented in rural vs urban settings in the South, possibly due to less electronic infrastructure [31,32]. Increasing use of telehealth could considerably reduce barriers to care for people living in the South, Midwest, and rural areas, as people in these areas often must travel long distances for in-person care [33]. Furthermore, making telehealth more accessible would offer some patients care that is better aligned with their preferences [20].

Studies are mixed on the association of historically-marginalized identities and telehealth use [14,16,18]. We found no association after adjustment. Further research is needed to explore use, and more importantly, preferences for type of visit (telehealth vs in-person), as these identities impact experiences with health care.

Finally, our finding that Hispanic/Latinx ethnicity is associated with lower telehealth quality is consistent with one study demonstrating that Hispanic/Latinx respondents reported worse patient centeredness compared to their counterparts in telehealth contraception visits during COVID-19 [18]. We also found that those answering the survey in Spanish reported lower telehealth quality, but we are unable to parse out whether lower telehealth quality is explained by a language barrier or is related to other factors such as racism (both interpersonal and structural), implicit bias, or logistic factors such as variation in internet access.

Among the limitations of our study is the unclear sampling frame. In social media survey studies, the sampling frame consists of users who see the ads and choose to click on them. Users of social media are likely younger and have internet access, potentially biasing our sample toward being more likely to engage in telehealth. While a potential limitation, there is evidence that samples recruited via social media do not differ greatly from those recruited with more traditional approaches [22,34,35]. Additionally, Facebook users are more likely to be women and be younger compared to the general population, which is appropriate for a study on women's contraceptive use [36]. Given the observational nature of our data, we cannot draw causal associations, and while we attempted to adjust for possible confounders, some confounding likely remains. Because we only asked questions about visit quality to respondents who had telehealth visits, we were not able to compare telehealth to in-person visit quality. Despite these limitations, our study adds novel findings to the literature on telehealth for contraceptive care during COVID-19 and provides important information to advocate for improved telehealth infrastructure to ensure equitable access.

If implemented equitably, telehealth could improve access to care and thus potentially improve disparate outcomes stemming from systemic racism, implicit bias, and discrimination within our healthcare system. Yet if implemented inequitably, we risk replicating or even exacerbating existing disparities [37]. To this end, the recently-published Society of Family Planning Clinical recommendation on pandemic contraceptive care explicitly calls for research focusing on access to telehealth among historically excluded populations such as adolescents, people of color, people with low incomes, those with a disability, or people who have a preferred language other than English [38]. Further research should additionally focus on patients' preferences and desires around telehealth and strategies to foster telehealth access. Given the increasing incorporation of telehealth into routine care, the ongoing COVID-19 pandemic, and legislation restricting access to reproductive healthcare in many regions, it is essential that we better understand how and where telehealth for contraceptive care is being used, and how we can ensure its equitable implementation moving forward.

References

[1] Keesara S, Jonas A, Schulman K. Covid-19 and health care's digital revolution. N Engl J Med 2020;382(23):e82. https://doi.org/10.1056/NEJMp2005835
[2] Stifani BM, Avila K, Levi EE. Telemedicine for contraceptive counseling: an exploratory survey of US family planning providers following rapid adoption of services during the COVID-19 pandemic. Contraception 2021;103(3):157–62. https://doi.org/10.1016/j.contraception.2020.11.006
[3] Raymond EG, Chong E, Hyland P. Increasing access to abortion with telemedicine. JAMA Intern Med 2016;176(5):585–6. https://doi.org/10.1001/jamainternmed.2016.0573
[4] Thompson TA, Sonalkar S, Butler JL, Grossman D. Telemedicine for Family Planning: A Scoping Review. Obstet Gynecol Clin North Am. 2020 2020;47(2):287–316. https://doi.org/10.1016/j.ogc.2020.02.004
[5] Sundstrom B, DeMaria AL, Ferrara M, Meier S, Billings D. "The Closer, the Better:" the role of telehealth in increasing contraceptive access among women in rural South Carolina. Matern Child Health J 2019;23(9):1196–205. https://doi.org/10.1007/s10995-019-02750-3

[6] Fryer K, Delgado A, Foti T, Reid CN, Marshall J. Implementation of obstetric telehealth during COVID-19 and beyond. Matern Child Health J 2020;24(9):1104–10. https://doi.org/10.1007/s10995-020-02967-7
[7] Shin RJ, Yao M, Akesson C, Blazel M, Mei L, Brant AR. An exploratory study comparing the quality of contraceptive counseling provided via telemedicine versus in-person visits. Contraception 2022;112:86–92. https://doi.org/10.1016/j.contraception.2022.02.004
[8] Steenland MW, Geiger CK, Chen L, Rokicki S, Gourevitch RA, Sinaiko AD, et al. Declines in contraceptive visits in the United States during the COVID-19 pandemic. Contraception 2021;104(6):593–9. https://doi.org/10.1016/j.contraception.2021.08.003
[9] Rao L, Comfort AB, Dojiri SS, Goodman S, Yarger J, Shah N, et al. Telehealth for contraceptive services during the COVID-19 pandemic: provider perspectives. Womens Health Issues 2022;32(5):477–83. https://doi.org/10.1016/j.whi.2022.05.001
[10] Comfort AB, Rao L, Goodman S, Raine-Bennett T, Barney A, Mengesha B, et al. Assessing differences in contraceptive provision through telemedicine among reproductive health providers during the COVID-19 pandemic in the United States. Reprod Health 2022;19(1):99. https://doi.org/10.1186/s12978-022-01388-9
[11] Zapata LB, Curtis KM, Steiner RJ, Reeves JA, Nguyen AT, Miele K, et al. COVID-19 and family planning service delivery: findings from a survey of U.S. physicians. Prev Med 2021;150:106664. https://doi.org/10.1016/j.ypmed.2021.106664
[12] Kemp MT, Williams AM, Sharma SB, Biesterveld BE, Wakam GK, Matusko N, et al. Barriers associated with failed completion of an acute care general surgery telehealth clinic visit. Surgery 2020;168(5):851–8. https://doi.org/10.1016/j.surg.2020.06.029
[13] Waseem N, Boulanger M, Yanek LR, Feliciano JL. Disparities in telemedicine success and their association with adverse outcomes in patients with thoracic cancer during the COVID-19 pandemic. JAMA Netw Open 2022;5(7):e2220543. https://doi.org/10.1001/jamanetworkopen.2022.20543
[14] Hill BJ, Lock L, Anderson B. Racial and ethnic differences in family planning telehealth use during the onset of the COVID-19 response in Arkansas, Kansas, Missouri, and Oklahoma. Contraception 2021;104(3):262–4. https://doi.org/10.1016/j.contraception.2021.05.016
[15] Singh GK, Girmay M, Allender M, Christine RT. Digital divide: marked disparities in computer and broadband internet use and associated health inequalities in the United States. Int J Transl Med Res Public Health 2020;4:64–79.
[16] Yarger J, Hopkins K, Elmes S, Rossetto I, De La Melena S, McCulloch CE, et al. Perceived access to contraception via telemedicine among young adults: inequities by food and housing insecurity. J Gen Intern Med 2023;38(2):302–8. https://doi.org/10.1007/s11606-022-07669-0
[17] Hurtado ACM, Crowley SM, Landry KM, Landry MS. Telehealth contraceptive care in 2018: a quality improvement study of barriers to access and patient satisfaction. Contraception 2022;112:81–5. https://doi.org/10.1016/j.contraception.2022.02.011
[18] Lindberg LD, Mueller J, Haas M, Jones RK. Telehealth for contraceptive care during the COVID-19 pandemic: results of a 2021 national survey. Am J Public Health 2022;112(S5):S545–54. https://doi.org/10.2105/AJPH.2022.306886
[19] Stifani BM, Smith A, Avila K, Boos EW, Ng J, Levi EE, et al. Telemedicine for contraceptive counseling: patient experiences during the early phase of the COVID-19 pandemic in New York City. Contraception 2021;104(3):254–61. https://doi.org/10.1016/j.contraception.2021.04.006
[20] Kaller S, Daniel S, Raifman S, Biggs MA, Grossman D. Pre-abortion informed consent through telemedicine vs. in person: differences in patient demographics and visit satisfaction. Womens Health Issues 2021;31(3):227–35. https://doi.org/10.1016/j.whi.2021.02.007
[21] Kerestes C, Delafield R, Elia J, Chong E, Kaneshiro B, Soon R. "It was close enough, but it wasn't close enough": a qualitative exploration of the impact of direct-to-patient telemedicine abortion on access to abortion care. Contraception 2021;104(1):67–72. https://doi.org/10.1016/j.contraception.2021.04.028
[22] Diamond-Smith N, Logan R, Marshall C, Corbetta-Rastelli C, Gutierrez S, Adler A, et al. COVID-19's impact on contraception experiences: exacerbation of structural inequities in women's health. Contraception 2021;104(6):600–5. https://doi.org/10.1016/j.contraception.2021.08.011
[23] Gutierrez S, Logan R, Marshall C, Kerns J, Diamond-Smith N. Predictors of COVID-19 vaccination likelihood among reproductive-aged women in the United States. Public Health Reports 2022;137:588–96. https://doi.org/10.1177/00333549221081123
[24] Marshall C, Gutierrez S, Hecht H, Logan R, Kerns J, Diamond-Smith N. Quality of prenatal and postpartum telehealth visits during COVID-19 and preferences for future care. AJOG Global Reports 2023;3(1):100139. https://doi.org/10.1016/j.xagr.2022.100139
[25] Sudhinaraset M, Afulani PA, Diamond-Smith N, Golub G, Srivastava A. Development of a person-centered family planning scale in India and Kenya. Stud Fam Plann 2018;49(3):237–58. https://doi.org/10.1111/sifp.12069
[26] Afulani PA, Diamond-Smith N, Phillips B, Singhal S, Sudhinaraset M. Validation of the person-centered maternity care scale in India. Reprod Health 2018;15(1):147. https://doi.org/10.1186/s12978-018-0591-7
[27] Eysenbach G. Improving the quality of web surveys: the checklist for reporting results of internet E-surveys (CHERRIES). J Med Internet Res 2004;6(3):e34. https://doi.org/10.2196/jmir.6.3.e34
[28] Daniel H, Bornstein SS, Kane GC, Health and Public Policy Committee of the American College of Physicians, Carney JK, Gantzer HE, et al. Addressing social determinants to improve patient care and promote health equity: an American College of Physicians Position Paper. Ann Intern Med 2018;168(8):577–8. https://doi.org/10.7326/M17-2441
[29] Manze M, Romero D, Johnson G, Pickering S. Factors related to delays in obtaining contraception among pregnancy-capable adults in New York state during the COVID-19 pandemic: the CAP study. Sex Reprod Healthc 2022;31:100697. https://doi.org/10.1016/j.srhc.2022.100697
[30] McCool-Myers M, Kozlowski D, Jean V, Cordes S, Gold H, Goedken P. The COVID-19 pandemic's impact on sexual and reproductive health in Georgia, USA: an exploration of behaviors, contraceptive care, and partner abuse. Contraception 2022;113:30–6. https://doi.org/10.1016/j.contraception.2022.04.010
[31] Khatana SAM, Yang L, Eberly LA, Julien HM, Adusumalli S, Groeneveld PW. Predictors of telemedicine use during the COVID-19 pandemic in the United States–an analysis of a national electronic medical record database. PLoS One 2022;17(6):e0269535. https://doi.org/10.1371/journal.pone.0269535
[32] Beatty K, Smith MG, Khoury AJ, Ventura LM, Ariyo O, de Jong J, et al. Contraceptive care service provision via telehealth early in the COVID-19 pandemic at rural and urban federally qualified health centers in 2 southeastern states. J Rural Health 2022;39(1):160–71. https://doi.org/10.1111/jrh.12701
[33] Fuentes L, Jerman J. Distance traveled to obtain clinical abortion care in the United States and reasons for clinic choice. J Womens Health 2019;28(12):1623–31. https://doi.org/10.1089/jwh.2018.7496
[34] Shaver LG, Khawer A, Yi Y, Aubrey-Bassler K, Etchegary H, Roebothan B, et al. Using facebook advertising to recruit representative samples: feasibility assessment of a cross-sectional survey. J Med Internet Res 2019;21(8):e14021. https://doi.org/10.2196/14021
[35] Goel S., Obeng A., Rothschild D., Research M. Non-representative surveys: Fast, cheap, and mostly accurate. [cited 8 Jan 2023]. Available: ⟨https://researchdmr.com/FastCheapAccurate.pdf⟩.
[36] Ribeiro F.N., Benevenuto F., Zagheni E. How biased is the population of facebook users? Comparing the demographics of facebook users with census data to generate correction factors. Paper presented at: 12th ACM Conference on Web Science; 2020. doi:10.1145/3394231.3397923.
[37] Ukoha EP, Davis K, Yinger M, Butler B, Ross T, Crear-Perry J, et al. Ensuring equitable implementation of telemedicine in perinatal care. Obstet Gynecol 2021;137(3):487–92. https://doi.org/10.1097/AOG.0000000000004276
[38] Stifani BM, Madden T, Micks E, Moayedi G, Tarleton J, Benson LS. Society of family planning clinical recommendations: contraceptive care in the context of pandemic response. Contraception 2022;113:1–12. https://doi.org/10.1016/j.contraception.2022.05.006