Potential of Telehealth to Mitigate Transport Barriers: Evidence from the COVID-19 Pandemic

Emma Vinella-Brusher[1] , Abigail L. Cochran[1] , Evan Iacobucci[1] , Jueyu Wang[1] , Mary Wolfe[2] , Lindsay Oluyede[1] , Lauren Prunkl[1] , Noreen C. McDonald[1]

[1] Department of City and Regional Planning, University of North Carolina at Chapel Hill, [2] Center for Health Equity Research, University of North Carolina at Chapel Hill

Findings

This study examines telehealth use during the first year of the COVID-19 pandemic among individuals with high health care-related transportation burdens. Survey results of high-frequency health care users with public insurance were analyzed to investigate differences in telehealth use, care access, and perceived care quality between groups. Open text responses demonstrated whether and how telehealth can address transportation barriers and promote care access. While many respondents tried and preferred telehealth, it could not meet all medical needs. The continued availability of telehealth, coupled with improved transport planning to support in-person care needs, will expand access to care for high-frequency users.

1. Questions

Transportation barriers are known to prevent people in the United States from getting needed medical care and can lead to downstream health problems, particularly for individuals living in rural areas and lower-income communities (Combs et al. 2016; Kamimura et al. 2018; Wolfe, McDonald, and Holmes 2020). These barriers disproportionally affect people with disabilities and chronic conditions as well as older adults (Sabella and Bezyak 2019; Syed, Gerber, and Sharp 2013; Fitzpatrick et al. 2004) and have been exacerbated during the COVID-19 pandemic, particularly among already disadvantaged, marginalized communities (Chen et al. 2021; Cochran 2020; Palm et al. 2021; Wang et al. 2021).

In the first year of the pandemic, from March 2020–2021, telehealth increased access to care and was commonly used in lieu of in-person follow-up visits (Bressman, Russo, and Werner 2021; Patel et al. 2021). Telehealth use was greater among older adults, people with public health insurance (i.e., Medicare, Medicaid), racial and ethnic minority groups, and individuals with disabilities and chronic conditions (Koma, Cubanski, and Neuman 2021). This study builds on existing research and examines use of and experiences with telehealth among high-frequency health care users enrolled in Medicaid and Medicare during the pandemic. This research addresses the following questions: Which high-frequency health care users tried telehealth during the pandemic, and how did use and perceptions vary by individual characteristics? Our findings inform whether and how telehealth can address transportation barriers that affect frequent health care users with public health insurance and promote access to care.

2. Methods

This study examined telehealth use during the COVID-19 pandemic by frequent health care users—individuals likely to have high health care-related transportation burdens. We recruited individuals from the UNC Health system to complete a web-based survey who met the following inclusion criteria: (1) were North Carolina residents; (2) were age 18 or older; (3) had a valid email address; (4) had Medicaid or Medicare as their primary insurance; and (5) had six or more outpatient visits between April 2020 and April 2021. 14,723 individuals included in the recruitment sample were invited to complete the survey in June 2021; 324 completed responses were analyzed to investigate telehealth use, care access, and perceived quality of care. The study sample was representative of state Medicaid and Medicare enrollees for both age and race/ethnicity (Kaiser Family Foundation 2020).

Our survey defined telehealth use as having an appointment with a provider via video or phone (referred to hereafter as "telehealth") in the past 12 months. Respondents identified as telehealth users were also asked: *Have telehealth appointment(s) made it easier for you to get medical care or treatment because you didn't have to go somewhere?*; and those who answered yes were then asked: *Did you feel as though your telehealth appointment(s) were better or worse than in-person appointments?* We analyzed differences between demographic groups using descriptive statistics and analyzed text responses from 68 respondents to explain perceived quality of care provided via telehealth.

3. Findings

1. Many high-frequency health care users tried telehealth during the COVID-19 pandemic

72.8% of survey respondents had six or more medical appointments in the previous year, indicating frequent health care use. 74.1% of these respondents reported having one or more telehealth appointments in the past year (Table 1). People under age 65, individuals with disabilities, and those with known transportation barriers reported having tried telehealth significantly more (85.0%, 81.6%, and 82.4%, respectively) than others in the sample. Given that all study respondents were enrolled in Medicaid or Medicare, anyone under 65 was either a low-income Medicaid beneficiary or an individual with a disability with Medicare. Individuals under 65 with low incomes and people of any age with disabilities, thus, reported having used telehealth more. Respondents with 16 or more medical appointments in the past year, without a household vehicle, and with one-way travel times to their most recent appointment above two hours also reported more use.

2. The availability of telehealth has addressed transportation barriers to health care for some

Telehealth provides an opportunity for people with known transportation barriers to access care when they may not have been able to otherwise. 41% of respondents reported experiencing transportation barriers to care within

Table 2. Comments on quality of telehealth versus in-person care reported by telehealth users who found care easier to access (N = 188)

Theme	Example Quotation
Responses to "What about the telehealth appointment(s) was better than in-person appointments?	
Accessibility and convenience	*"I didn't have to deal with the whole problematic transportation issue." (Female, mid-60s)*
Travel time and cost savings	*"We drive a long way and [telehealth appointments] save us a lot of time and money. I try to schedule multiple appointments together for in person, but it is very difficult. Telehealth overcomes this issue." (Male, mid-60s)*
Comfort	*"I love telehealth [because] I don't have to get ready, worry about money for gas, and [it's] more comfortable!" (Female, late 30s)*
Avoided missed appointments	*"I am often in pain or too ill to travel. Telehealth makes appointments possible when I would otherwise have to [cancel]." (Female, late 60s)*
Responses to "What about the telehealth appointment(s) was worse than in-person appointments?	
Communication	*"I was not as comfortable [using telehealth] as talking face to face with [the] doctor. I wasn't sure I could communicate how sick I was." (Female, late 60s)*
Impersonal relationships	*"The provider had never met me before, had no rapport, and seemed totally [un]interested in me, and my issues. I believe this may have been because of the telehealth setup." (Male, early 60s)*
Perceived quality of care	*"I felt safer when doctor could take my vitals, listen to my heart and lungs, etc. I feel being in person I received care that I'm unable to get over the phone/screen." (Female, mid-40s)*
Limited capability for physical examination or testing	*"If I do require an actual exam that requires seeing or touching me then [telehealth's] just a waste of time for myself and my doctor." (Female, mid-30s)*

the past year. This included having missed, been late to, or delayed scheduling an appointment, as well as otherwise having difficulty getting to medical appointments or the pharmacy because of transportation problems (e.g., not having a working car or a ride). When asked about accessing care, 78.3% of respondents who used telehealth reported that they found it easier to get medical care because it did not require going anywhere. This sentiment was fairly consistent across respondents regardless of individual characteristics, with some groups more likely to report that accessing care during the pandemic was easier with telehealth.

3. Telehealth users generally preferred receiving care virtually, but telehealth cannot fully replace or recreate the experience of in-person care

Respondents were generally pleased with the quality of care provided via telehealth ([Table 2](#)). Of respondents who used telehealth and found it easier to access care, half (49.5%) thought the quality of medical care received was the same as or better than in-person appointments, while 35.6% thought some aspects were better and some were worse. Only 14.9% found the quality altogether worse. Overall, respondents expressed appreciation for the accessibility and convenience of virtual care and valued the ability to access care more easily given the option of virtual appointments but identified notable gaps relative to in-person care.

Discussion

Though telehealth increases access to health care, particularly for those facing transportation barriers, it cannot adequately replace all appointment needs (Oluyede et al. 2022). Providers are unable to offer physical examinations and

Table 1. Summary statistics for telehealth use and ease of accessing care among study sample.

	Study sample	Telehealth users	Telehealth users who found care easier to access
All	**324 (100.0%)**	**240 (74.1%)**	**188 (78.3%)**
Age		***	
18-64	127 (39.2%)	108 (85.0%)	87 (80.6%)
65+	197 (60.8%)	132 (67.0%)	101 (76.5%)
Gender			
Female	187 (57.7%)	143 (76.5%)	117 (81.8%)
Male	137 (42.3%)	97 (70.8%)	71 (73.2%)
Race or Ethnicity			
White or Caucasian	265 (81.8%)	196 (74.0%)	155 (79.1%)
Black or African American	41 (12.7%)	31 (75.6%)	24 (77.4%)
Hispanic, Latino, or Spanish	6 (1.9%)	3 (50.0%)	3 (100.0%)
American Indian or Alaska Native	2 (0.6%)	1 (50.0%)	1 (100.0%)
Asian	1 (0.3%)	1 (100.0%)	0 (0.0%)
Other Race or Multiracial/Multiethnic	5 (1.5%)	5 (100.0%)	3 (60.0%)
Unknown	4 (1.2%)	3 (75.0%)	2 (66.7%)
Disability Status		***	*
Has one or more disabilities	212 (65.4%)	173 (81.6%)	141 (81.5%)
Has no disability	112 (34.6%)	67 (59.8%)	47 (70.1%)
Home ZIP Geography			
Metro	282 (87.0%)	208 (73.8%)	160 (76.9%)
Non-metro	42 (13.0%)	32 (76.2%)	28 (87.5%)
Household Vehicle(s)			
No household vehicle	19 (5.9%)	16 (84.2%)	11 (68.8%)
Has household vehicle(s)	305 (94.1%)	224 (73.4%)	177 (79.0%)
Driver's License			
Has license	293 (90.4%)	216 (73.7%)	168 (77.8%)
No license	31 (9.6%)	24 (77.4%)	20 (83.3%)
Household Internet-Enabled Device			
Has internet access	319 (98.5%)	236 (74.0%)	185 (78.4%)
No internet access	5 (1.5%)	4 (80.0%)	3 (75.0%)
Transportation Barriers		***	
Has known barriers	131 (41.1%)	108 (82.4%)	88 (81.5%)
No known barriers	188 (58.9%)	128 (68.1%)	96 (75.0%)
Travel Time to Most Recent Appointment			*
<30 minutes	170 (52.5%)	121 (71.2%)	87 (71.9%)
30 minutes-1 hour	96 (29.6%)	75 (78.1%)	64 (85.3%)
1-2 hours	42 (13.0%)	31 (73.8%)	27 (87.1%)
2 hours+	16 (4.9%)	13 (81.2%)	10 (76.9%)
Medical Clinics in Home ZIP Code			
0	100 (30.9%)	74 (74.0%)	63 (85.1%)
1-5	136 (42.0%)	100 (73.5%)	76 (76.0%)
6-10	51 (15.7%)	33 (64.7%)	26 (78.8%)
11+	34 (10.5%)	30 (88.2%)	23 (76.7%)
Unknown	3 (0.9%)	3 (100.0%)	0 (0.0%)
Appointments in Past Year			
1-5	88 (27.2%)	58 (65.9%)	49 (84.5%)

	Study sample	Telehealth users	Telehealth users who found care easier to access
6-10	115 (35.5%)	89 (77.4%)	66 (74.2%)
11-15	51 (15.7%)	37 (72.5%)	31 (83.8%)
16+	70 (21.6%)	56 (80.0%)	42 (75.0%)

* p < 0.1; **p < 0.05; *** p < 0.01

testing virtually, demonstrating a need for intentional transit planning and colocation of health services to increase access to in-person appointments when necessary and reduce no-shows (Ahuja, Alvarez, and Staats 2021; Smith et al. 2021). These interventions, along with the continued availability of telehealth covered by public health insurance programs, will expand access to care for high-frequency health care users.

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