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Disparities in Telehealth Utilization in a Population of Publicly Insured Children During the COVID-19 Pandemic

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Abstract

Telehealth became a crucial vehicle for health care delivery in the United States during the COVID-19 pandemic. However, little research exists on inequities in telehealth utilization among the pediatric population. This study examines disparities in telehealth utilization in a population of publicly insured children. This observational, retrospective study used administrative data from Alabama’s stand-alone Children’s Health Insurance Program, ALL Kids. Rates of any telehealth use for March to December 2020 were examined. In addition—to capture lack of health care utilization—rates of having no medical claims were examined and compared with March to December 2019 and 2018. Multinomial logit models were estimated to investigate how telehealth use and having no medical claims (reference category: having medical claims but no telehealth) were associated with race/ethnicity, rural–urban residence, and family income. Of the 106,478 enrollees over March to December 2020, 13.4% had any telehealth use and 24.7% had no medical claims. The latter was greater than no medical claims in 2019 (19.5%) and 2018 (20.7%). Black and Hispanic children had lower odds of any telehealth use (odds ratio [OR]: 0.81, $P < 0.01$; OR: 0.68, $P < 0.01$) and higher odds of no medical claims (OR: 1.11, $P < 0.05$; OR: 1.73, $P < 0.05$) than non-Hispanic White children. Rural residents had lower odds of telehealth use than urban residents. Those in the highest family income-based fee group had higher odds of telehealth use than the lowest family income-based fee group. As telehealth will likely continue to play an important role in health care delivery, additional efforts/investments are required to ensure telehealth does not further exacerbate inequities in pediatric health care access.

Keywords: telehealth, publicly insured, health care, health disparities, current trends

Introduction

THE COVID-19 PANDEMIC caused major disruptions to the delivery of health care to children and adults alike. Under the Public Health Emergency (PHE) declaration, the Centers for Medicare and Medicaid Services (CMS) extended coverage eligibility for telehealth services and eased regulatory requirements for telehealth; private health insurers

rapidly followed suit.¹ Telehealth emerged as a vehicle to ensure continuity of access to preventive care, mental health services, services by therapists, as well as an entry point into the process of diagnosis, triage, and treatment for more severe health conditions.²

There has been cautious optimism that telehealth may reduce inequities in access to pediatric care, especially for children in low-income families and children whose families

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have limited access to transportation or difficulties taking time off from work to access in-person health care.^{1,3} At the same time, there are concerns that telehealth may exacerbate disparities in utilization due to existing disparities in access to technology or knowledge/information about telehealth by race/ethnicity, rural location, and family income.^{4,5}

Given that telehealth will likely continue to play an important role in health care both during and after the current pandemic, questions of its impact on health equity in pediatric health care are of tremendous policy significance.⁶ Researchers have started assessing disparities in telehealth use in the United States among adult patients from certain states or health care systems^{2,7–11} and patients with specific clinical conditions,^{12,13} but population-level assessments of utilization and disparities in telehealth use with pediatric patients are scarce.

This study adds to the literature by examining telehealth use among publicly insured children in Alabama, a racially diverse state especially beset by high poverty,¹⁴ poor health outcomes, and health inequities.¹⁵ The primary purpose was to examine differences in telehealth use by enrollee characteristics. Specifically, the authors hypothesized that there would be differences in telehealth use by race/ethnicity, rurality, and income level between March and December 2020. Secondary purposes included exploring what share of enrollees had no health care utilization during March to December 2020 and how that compared with the same periods in 2019 and 2018, as well as exploring what health services telehealth was primarily used for in 2020.

The PHE declaration in response to COVID-19 was most recently renewed on January 16, 2022,¹⁶ and the CMS has proposed extending telehealth flexibilities until the end of 2023.¹⁷ Eventually, however, federal and state policymakers will likely begin to make decisions about the extent to which telehealth can continue as a vehicle for health service delivery in the long term. These findings can help inform those decisions by describing the role played by telehealth in the Deep South, where access and outcome disparities are common.

Materials and Methods

This observational, retrospective study used enrollment and claims data from Alabama's stand-alone Children's Health Insurance Program (CHIP), ALL Kids. The program is administered by the Alabama Department of Public Health, which contracts with the state's largest private insurance provider, Blue Cross and Blue Shield of Alabama (BCBSAL), for claims processing and management. Children enrolled in ALL Kids have access to full medical, pharmaceutical, and dental coverage from the BCBSAL preferred provider network. Over this study period, ALL Kids coverage was available in 12-month enrollment periods to Alabama children aged ≤ 18 years with family incomes of 146% to 317% of the federal poverty level (FPL) in any given year.

Family incomes from 146% to 156% of FPL were in the "low-fee group," 157% to 208% of FPL were in the "fee group," and 209% to 317% of FPL were in the "expansion group," where the groups were subject to different copayments for certain services. The fourth group is federally exempted from all cost-sharing and comprises mostly Na-

tive American children ("no-fee" group). Telehealth use was assessed from March to December 2020, and telehealth claims were identified by using the relevant place of service code (02) on the medical claims files.

The claims files did not provide information on whether the telehealth services were audio-only or audio-visual; however, billing guidance to providers from BCBSAL indicate that audio-only telehealth services were acceptable in certain situations and, in other situations, were allowable if the patient did not have the capability of participating in audio-visual services.¹⁸

ALL Kids enrollment data provided key demographic characteristics, including self-reported race/ethnicity, sex, and enrollee date of birth (which was used to construct enrollee age). From enrollees' zip code of residence, the authors determined enrollee Rural Urban Commuting Area (RUCA) designation (Urban, Large Rural, Small Rural, Isolated). Race/ethnicity was categorized as Non-Hispanic (NH) White, NH Black, Hispanic, Native American, and Other/Missing Race. In the results, findings for the Other/Missing Race category were presented but not discussed, since this category encompassed too many subgroups to draw meaningful inferences.

From the ALL Kids enrollment data, all enrollees who were enrolled for any length of time from March to December 2020 were identified. Enrollees during this period were categorized into 3 mutually exclusive categories defining their health care utilization. The first category was enrollees who had at least 1 telehealth claim during March to December 2020 ("telehealth use"). For this analysis, there was no differentiation between enrollees who had 1 versus multiple telehealth claims. The second category was enrollees who had "medical claims but no telehealth" claims. The third category was enrollees with "no medical claims" in this period.

The distribution of all 3 categories was analyzed by the following characteristics: race/ethnicity, fee group, RUCA designation, and age group (<6 years, 6 to <12 years, 12–18 years), with chi-square tests used to explore differences in proportions across groups. In the analysis of enrollees with no medical claims, the authors also examined associations with enrollee characteristics from March to December in both 2019 and 2018. Telehealth use for the entire population during those earlier periods was not examined, since rules and policies governing telehealth use were extremely different then, and the incidence of telehealth use was low; however, the number of enrollees with any telehealth visits in 2020 who had also had any telehealth visits in 2019 was assessed.

To further measure the associations between enrollee characteristics and the 3 outcomes of "telehealth use," "medical claims but no telehealth," and "no medical claims," the authors estimated a multinomial logistic regression model. "Medical claims but no telehealth" served as a reference category. In addition to the enrollee characteristics listed earlier, the multinomial models also controlled for the actual number of months the children were enrolled in ALL Kids over March to December 2020, since shorter enrollment was likely to be associated with lower odds of using medical services.

Given the overlap between Native American race and being in the no-fee group, the authors also estimated linear

probability models for any telehealth use versus none and constructed variance inflation factor (VIF) scores to examine whether there was multicollinearity between those categorical variables.

Finally, to better understand for what health services telehealth was used during the pandemic, the authors examined the distribution of the provider's specialty for the total number of telehealth claims in the dataset during March to December 2020. For the purpose of this analysis, provider specialties were grouped into 5 different categories ("provider type"): General Pediatrics/Family Practice, Mental and Behavioral Health Specialists, Speech/Language/Physical/Occupational Therapists, All Surgery, and Other Specialists (excluding surgery).

The study was approved by the Institutional Review Board of the lead author's university.

Results

Table 1 describes the number and proportion of enrollees with telehealth use or no medical claims by socio-demographic characteristic. Between March and December 2020, a total of 106,478 children were enrolled in ALL Kids. Of those enrollees, 14,278 (13.4%) used telehealth services, and they had a total of 42,740 telehealth claims. Significant differences were observed in telehealth use by race/ethnicity, with Native Americans having the highest rate of use (18.4%) followed by NH White (15.1%), NH Black (12.4%), and Hispanic (10.8%) children. With respect to RUCA designations, Urban had higher rates of telehealth use (14.3%) compared with Large Rural, Small Rural, and Isolated (usage ranging from 10.6% to 11.8%).

The low-fee group had the lowest rate of telehealth use (11.2%), the no-fee group (which largely corresponds to the Native American population) had the highest rate of use (19.7%), and the fee and expansion groups had 12.6% and 14.6% use, respectively. Of the 14,278 enrollees who had a telehealth visit in 2020, 60 enrollees had a telehealth visit in 2019.

Of the 106,478 ALL Kids enrollees over this period, 24.7% had no medical claims. This is significantly higher than the 19.5% out of 115,885 enrollees in March to December 2019 and 20.7% out of 116,960 enrollees in March to December 2018. Moreover, the proportion of enrollees with no medical claims was higher in 2020 compared with 2019 or 2018 across race/ethnicity, RUCA designation, fee group, age group, and sex. In results not shown here, it was found that, in March to December 2019, 104 enrollees used telehealth services and had a total of 207 telehealth claims. In the same period in 2018, 64 enrollees used telehealth services with a total of 127 telehealth claims.

Results from the multinomial logistic regression model are depicted in Table 2. Compared with the reference category of NH White, NH Black and Hispanic children had lower odds of telehealth use (odds ratio [OR]: 0.81, 95% confidence interval [CI] [0.76–0.86]; OR: 0.68, 95% CI [0.60–0.76], respectively). In addition, compared with NH White, NH Black and Native American children had higher odds of no medical claims (OR: 1.11, 95% CI [1.08–1.19]; OR: 1.73, 95% CI [1.46–2.10], respectively).

Compared with children with an Urban RUCA designation, those in Large Rural, Small Rural, and Isolated des-

ignations had lower odds of telehealth use (OR: 0.76, 95% CI [0.71–0.81]; OR: 0.71, 95% CI [0.65–0.75]; OR: 0.68, 95% CI [0.65–0.71], respectively), and those in Large Rural designations also had lower odds of no medical claims (OR: 0.88, 95% CI [0.85–0.91]). In comparison to the reference low-fee group, the expansion and no-fee groups had statistically higher odds of telehealth use (OR: 1.10, 95% CI [1.06–1.20]; OR: 1.43, 95% CI [1.16–1.78], respectively); the fee, expansion, and no-fee groups all had statistically lower odds of no medical claims (OR: 0.84, 95% CI [0.80–0.88]; OR: 0.68, 95% CI [0.65–0.71]; OR: 0.45, 95% CI [0.37–0.55], respectively).

Children in both younger aged groups (<6 and 6 to <12) had lower odds of telehealth use and lower odds of no medical claims than children from 12 to 18. There were no significant differences between female and male children in telehealth use, but females had lower odds of no medical claims.

The VIF analyses from linear probability models of any telehealth use using the same set of covariates revealed VIF scores for the Native American race and no-fee group were each less than 3, thus alleviating multicollinearity concerns.

Finally, in the breakdown of 42,740 telehealth claims filed over March to December 2020 by provider type (Table 3), the largest share consisted of claims for services from General Pediatrics/Family Practice (39.3%) followed by Mental and Behavioral Health Specialists (34.5%). Services provided by Speech/Language/Physical/Occupational Therapists accounted for 13.1% of claims, by All Surgery services less than 0.3% of claims, and by Other Specialists services 12.8% of claims.

In further analyses not detailed here, it was seen that, of the enrollees with a General Pediatrics/Family Practice telehealth claim in 2020, 80.23% had an in-person claim with the same practice in 2019. Of the enrollees with a Mental and Behavioral Health Specialist telehealth claim in 2020, 53.43% had an in-person claim with the same practice in 2019.

Discussion

During the COVID-19 pandemic, telehealth became a major vehicle for delivery of health care services. The COVID-19 PHE declaration, under which CMS made provisions to expand telehealth services, was renewed on January 16, 2022, and CMS has proposed extending telehealth flexibility through 2023. Further extensions are possible, depending on the emergence of new variants and rate of vaccinations. Moreover, health care advocates have begun calling for the continuation of expanded telehealth coverage even after the pandemic ends.^{19–21} Thus, it is imperative for decision makers to understand the role that telehealth has played in facilitating access to care and address disparities in health care utilization.

Data from Alabama's CHIP were used to analyze the extent of telehealth use by enrollees and the association between telehealth use and enrollee characteristics including race/ethnicity, rurality, and family income during the period from March to December 2020. The authors also explored how the pandemic has impacted the overall use of health care services by examining the percentage of enrollees who had no medical claims during this period compared with 2019 and 2018.

TABLE 1. NUMBER AND PROPORTION OF ENROLLEES WITH TELEHEALTH USE OR NO MEDICAL CLAIMS BY SOCIODEMOGRAPHIC CHARACTERISTIC

	March to December 2020			March to December 2019			March to December 2018		
	N	Medical claims but no telehealth, N (%)	Telehealth use, N (%)	No medical claims, N (%)	P	N	No medical claims, N (%)	N	No medical claims, N (%)
All enrollees	106,478	65,918 (61.9)	14,278 (13.4)	26,282 (24.7)	<0.01	115,885	22,638 (19.5)	116,960	24,164 (20.7)
Race/ethnicity									
NH White	58,892	37,306 (63.4)	8901 (15.1)	12,685 (21.5)	<0.01	63,398	10,914 (17.2)	65,363	11,726 (17.9)
NH Black	22,569	13,953 (61.8)	2802 (12.4)	5814 (25.8)		26,239	5591 (21.3)	27,434	6139 (22.4)
Hispanic	3580	2327 (65.0)	387 (10.8)	866 (24.2)		3622	660 (18.2)	3777	748 (19.8)
Native American	1326	778 (58.7)	244 (18.4)	304 (22.9)		1395	244 (17.5)	1399	260 (18.6)
Other/Missing	20,111	11,554 (61.8)	1944 (9.7)	6613 (32.9)		21,231	5229 (24.6)	18,987	5291 (27.9)
RUCA ^a									
Urban	74,521	45,446 (61.0)	10,689 (14.3)	18,386 (24.7)	<0.01	80,441	15,788 (19.6)	81,118	16,783 (20.7)
Large Rural	12,369	8027 (64.9)	1457 (11.8)	2885 (23.3)		13,603	2455 (18.1)	13,605	2710 (19.9)
Small Rural	11,442	7324 (64.0)	1271 (11.1)	2847 (24.9)		12,723	2517 (19.8)	13,060	2704 (20.7)
Isolated	8146	5121 (62.9)	861 (10.6)	2164 (26.6)		9118	1878 (20.6)	9177	1967 (21.4)
Fee group ^b									
Low-fee	14,377	8305 (57.8)	1608 (11.2)	4464 (31.1)	<0.01	16,705	4003 (23.9)	16,922	4379 (25.9)
Fee	49,340	30,263 (61.3)	6357 (12.9)	12,720 (25.8)		55,081	11,317 (20.5)	56,654	12,286 (21.7)
Expansion	41,379	26,495 (64.0)	6041 (14.6)	8843 (21.4)		42,686	7125 (16.7)	42,149	7328 (17.4)
No-fee	1382	855 (61.8)	272 (19.7)	255 (18.4)		1413	193 (13.7)	1235	171 (13.8)
Age group									
<6	28,030	18,305 (65.3)	3558 (12.7)	6167 (22.0)	<0.01	25,290	4100 (16.2)	19,704	3407 (17.3)
6 to <12	33,599	21,554 (64.2)	4601 (13.9)	7444 (22.2)		37,109	6316 (17.0)	37,454	6977 (18.6)
12-18	44,847	26,059 (58.1)	6119 (13.6)	12,669 (28.3)		53,481	12,219 (22.8)	59,796	13,775 (23.0)
Sex									
Female	52,464	32,926 (62.8)	7029 (13.4)	12,509 (23.8)	<0.01	56,787	10,712 (18.9)	57,536	11,518 (20.0)
Male	54,014	32,992 (61.1)	7249 (13.4)	13,773 (25.5)		59,098	11,926 (20.2)	59,424	12,646 (21.3)

^aUSDA RUCA.

^bCost-sharing categories based on poverty guidelines.

NH, Non-Hispanic; RUCA, Rural Urban Commuting Area.

Data source: ALL Kids claims and enrollment files.

TABLE 2. MULTINOMIAL LOGIT MODEL: ASSOCIATION OF ENROLLEES' SOCIODEMOGRAPHIC CHARACTERISTICS WITH TELEHEALTH USE OR NO MEDICAL CLAIMS

<i>Enrollee characteristics</i>	<i>Outcome (ref category: medical claims but no telehealth)</i>	<i>Odds ratio [95% CI]</i>	<i>P</i>
Race/ethnicity (Ref category: NH White)			
NH Black	Telehealth use	0.81 [0.76–0.86]	<0.01
	No medical claims	1.11 [1.08–1.19]	<0.01
Hispanic	Telehealth use	0.68 [0.61–0.76]	<0.01
	No medical claims	1.06 [0.98–1.18]	0.19
Native American	Telehealth use	1.02 [0.82–1.28]	0.79
	No medical claims	1.73 [1.43–2.10]	<0.01
Other/missing	Telehealth use	0.73 [0.67–0.74]	<0.01
	No medical claims	1.55 [1.50–1.61]	<0.01
RUCA^a (Ref category: urban)			
Large rural	Telehealth use	0.76 [0.71–0.80]	<0.01
	No medical claims	0.88 [0.85–0.93]	<0.01
Small rural	Telehealth use	0.71 [0.65–0.75]	<0.01
	No medical claims	0.98 [0.93–1.03]	0.69
Isolated	Telehealth use	0.70 [0.65–0.75]	<0.01
	No medical claims	1.04 [0.98–1.10]	0.13
FEE group^b (Ref category: low-fee)			
Fee	Telehealth Use	1.04 [0.98–1.10]	0.18
	No medical claims	0.84 [0.80–0.88]	<0.01
Expansion	Telehealth use	1.10 [1.06–1.20]	0.03
	No medical claims	0.68 [0.65–0.71]	<0.01
No-fee	Telehealth use	1.43 [1.16–1.78]	<0.01
	No medical claims	0.45 [0.37–0.55]	<0.01
Age group (Ref category: 12–18)			
<6	Telehealth use	0.86 [0.82–0.89]	<0.01
	No medical claims	0.62 [0.59–0.64]	<0.01
6 to <12	Telehealth use	0.91 [0.87–0.95]	<0.01
	No medical claims	0.71 [0.68–0.73]	<0.01
Sex (Ref category: male)			
Female	Telehealth use	0.97 [0.94–1.01]	0.20
	No medical claims	0.90 [0.87–0.93]	<0.01
Months enrolled	Telehealth use	1.10 [1.09–1.11]	<0.01
	No medical claims	0.84 [0.84–0.85]	<0.01
Wald Chi-sq: 7373.23 ($P < 0.001$)			
Likelihood ratio: 7987.45			

^aUSDA RUCA.

^bCost-sharing categories based on poverty guideline.

CI, confidence interval; RUCA, Rural-Urban Commuting Area.

Data source: ALL Kids claims and enrollment files.

Finally, they explored what health services had the highest numbers of telehealth claims during the pandemic by examining the frequency distribution of telehealth claims by provider type. For simplicity of exposition, enrollees were described as “utilizing” health services although, in a

pediatric population, it can be assumed that most health care utilization decisions were made by a parent or guardian, with possible participation from children based on age and maturity.^{22–24}

A little less than 14% of all enrollees utilized any telehealth services from March to December 2020. There are relatively few population-level estimates of pediatric telehealth for comparison. It is higher than the 8.2% pediatric telehealth use reported in Ontario, Canada²⁵; however, it is lower than the 22%–24% pediatric telehealth use reported in the Household Pulse Survey,²⁶ or rates of telehealth use reported among other demographics such as older adults in Medicare.²⁷

In the data, NH Black and Hispanic children had lower odds of telehealth use than NH White children. In contrast, Native American children were somewhat more likely to have any telehealth claims, though the difference was not found to be statistically significant in multinomial models.

Evidence showed that children living in rural and isolated areas had lower odds of telehealth use than children living in

TABLE 3. DISTRIBUTION OF TELEHEALTH CLAIMS BY PROVIDER TYPE, MARCH TO DECEMBER 2020

<i>Provider type</i>	<i>Frequency</i>	<i>Percent</i>
General pediatrics/family practice	16,783	39.3
Mental and behavioral health specialists	14,748	34.5
Speech/language/physical/occupational therapists	5606	13.1
All surgery	124	0.3
Other specialists (excluding surgery)	5479	12.8
Total	42,740	100

urban areas. Although no statistical differences were found in the odds of telehealth use between the fee group (157%–208% of FPL) and the low-fee group (146%–156% of FPL), the expansion group (209%–317% of FPL) had statistically higher odds of telehealth use than the low-fee group. The no-fee group, which primarily consists of Native American children, had the highest rate of telehealth use among all fee groups and had statistically higher odds of telehealth use than the low-fee group. Thus, these findings suggest that the intersectionality of being NH Black or Hispanic, rural, and low-income (as indicated by inclusion in the low-fee group) may be particularly pertinent to barriers to telehealth use.

Early studies of telehealth rollout have recorded disparities in telehealth use among adult patients. For example, in a California health care system, there were declines in the proportion of patients of color, publicly insured, or non-English speaking after telehealth was implemented.¹¹ Likewise, in a New York City health care system, Black patients had lower odds of using telehealth than White patients.² In a Missouri health care system, both Black and rural patients had lower use of telehealth visits.⁹ Thus, these findings of lower telehealth use among NH Black and Hispanic children are consistent with findings in the adult population during the COVID-19 pandemic, as well as findings on racial/ethnic disparities in health information technology use before the pandemic.^{28,29}

The findings are also congruent with broader evidence of a digital divide between rural and urban households in the United States in broadband access, smartphone ownership, and computer ownership,^{30,31} and a shrinking but still persistent racial and ethnic gap in home broadband and smartphone ownership,³² with racial/ethnic minorities also being substantially more likely to periodically discontinue services due to cost issues.

In contrast, the findings regarding higher telehealth use among Native American children, who primarily make up the no-fee group, are novel, although the sample of Native American children was relatively small, and more studies are needed to confirm these findings. However, it is worth noting that the Indian Health Service (IHS) and tribal health care facilities had been making concerted efforts to use telehealth as a way of providing health care to Native Americans well before the COVID-19 pandemic,³³ and those past efforts and experiences could have contributed to the higher use during the study period.

Recognizing that the populations served by the IHS and tribal health care facilities are different than other disadvantaged populations, these findings provide ground for cautious optimism that a concerted effort aimed at other disadvantaged racial/ethnic groups, guided by suggestions from health researchers and community members,³⁴ may result in minimizing existing disparities in telehealth use.

Although much of the existing literature on disparities in telehealth use is focused on patients'—or, for pediatric patients, parents' or guardians'—access to technology or knowledge and attitudes toward telehealth, 1 potential barrier to telehealth use is whether providers offer that option or encourage patients to use it. Before the pandemic, pediatric health care providers had little experience in, and limited resources for, providing care via telehealth.³⁵

Although it appears that many providers and practices have adapted to the use of telehealth, there are relatively few

rigorous analyses comparing telehealth options offered by providers serving rural, isolated, or low-income communities with those serving urban or more affluent communities. There is evidence that provider attitudes toward telehealth are associated with the technological ease of using the medium and perceived quality of patient care provided through the technology.

To motivate providers to invest in technology and staff training that can help improve the quality of telehealth services and to encourage patients to use telehealth services when appropriate, a stable financial environment that provides adequate reimbursement for telehealth services is required.^{19,36}

Of note is the finding that, when considering telehealth claims by provider type, the second largest category was Mental and Behavioral Health Specialists. There are several reports of pediatric mental and behavioral health worsening during the pandemic.^{37,38} Providing mental and behavioral health services through telehealth has been highlighted as an opportunity to ameliorate local shortages of Mental and Behavioral Health Specialists²⁰ and to help families avoid the social stigma associated with children's mental and behavioral health, which often poses a significant barrier to receipt of appropriate care, especially in rural areas.^{39–41}

Finally, the authors note that, even with telehealth expansion, the percent of enrollees who had no recorded health care utilization (ie, no medical claims) was higher in March to December 2020 (24.7%) versus the same period in 2019 (19.5%) or 2018 (20.7%). The increase in the proportion of children with no medical claims occurred in all examined subgroups. It is not possible to decipher from the available data whether, in the absence of being able to use telehealth, enrollees would have forsaken care altogether or would have accessed it in-person.

However, given the evidence of declines in face-to-face pediatric health care utilization such as vaccinations or Emergency Department visits, particularly among socioeconomically disadvantaged children,^{42–44} the authors conjecture that, in the absence of telehealth, the share of children with no health care utilization would likely have been even higher for the enrollees in this sample.

The study has certain limitations. For enrollees with no telehealth use, it cannot be determined whether this was because of lack of need for health services, inability to access the necessary technology, health care provider inability or unwillingness to provide telehealth services, or perceptions about telehealth. Similarly, for patients who had no medical claims, it is unclear whether this was driven by lack of need, barriers to accessing care, or whether health care services were utilized outside of ALL Kids.

There was no specification in the claims data between audio-only and audio-visual telehealth services, nor in the type of device used. Prior research has shown differences between the quality of visits conducted audio-only and audio-visually for pediatric patients.⁴⁵ There was no information in the claims data on patient experience and satisfaction with telehealth services. Finally, this study is based on a stand-alone CHIP in 1 state, which limits generalizability; however, the findings should be especially relevant for the several other states with similar stand-alone CHIPs,⁴⁶ including the southern states of Mississippi, Georgia, and Texas, which share many of Alabama's sociodemographic and sociocultural characteristics.

Conclusions

The authors found evidence of disparities in telehealth use by race/ethnicity, rurality, and family income among publicly insured children in Alabama. At the same time, telehealth services were used to enable enrollee access to General Pediatrics/Family Practice care and Mental and Behavioral Health Specialists. This suggests that continuing telehealth for certain services beyond the pandemic will benefit pediatric patients, though it is essential that additional investments are made to ensure equitable access to telehealth services for socioeconomically disadvantaged children.

Authors' Contributions

All authors listed next have approved the final version of the article and agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

In addition, specific roles are described next. Dr. Sen took the lead in conceptualizing and designing the study, oversaw the data analyses, and played the main role in drafting the initial article. Mr. Sharma took the lead in data management, conducted the main data analyses, and assisted with drafting the initial article. Dr. Menachemi provided input on study design, assisted with the interpretation of results, and assisted with drafting the article. Dr. Morrissey, Dr. Brisendine, and Ms McDougal helped with interpretation of results and revised the article critically for important intellectual content. Dr. Blackburn and Dr. Liu provided support with data analyses and interpretation, and they revised the article critically for important intellectual content. Ms Sanders facilitated data acquisition related to the provision of ALL Kids data and revised the article critically for important intellectual content. Dr. Becker played important roles in conception and design of the study and data acquisition and in drafting the article.

Author Disclosure Statement

Ms Sanders is employed by the ADPH and serves as the CHIP Director. The ADPH facilitated the research team's access to ALL Kids administrative data but had no further role in designing and conducting the study. All remaining authors have no interests, funding, or employment that may inappropriately influence or affect the integrity of the submission to disclose.

Funding Information

This study was funded by ALL Kids, Alabama's stand-alone Children's Health Insurance Program (CHIP) administered through the Alabama Department of Public Health (ADPH). Funding contract # C00119199.

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