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Telehealth Visits in Health Centers Serving Low-Income Patients in California: Final Results from the Connected Care Accelerator Initiative (2022–2024)

Lori Uscher-Pines, Jessica L Sousa, Colleen M McCullough, Shirley Dong, Kandice A Kapinos

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Short abstract

In this study, the authors summarize data on the use of in-person, audio-only, and video health visits during September 2022 to August 2024, a period that included the end of the COVID-19 public health emergency in May 2023 and beyond. These data were collected to evaluate the impact of the Connected Care Accelerator program, which supports health centers in implementing telehealth for low-income patients in California.

Keywords: California, Coronavirus Disease 2019 (COVID-19), Health Care Access, Health Care Quality, Mental Health and Illness, Primary Care, Telemedicine

Abstract

Federally Qualified Health Centers (FQHCs) are outpatient health centers that provide primary care and limited specialty-care services to nearly 30 million low-income patients. Prior to the coronavirus disease 2019 (COVID-19) pandemic, FQHCs rarely delivered audio-only or video telehealth visits. However, with both temporary and permanent policy changes to facilitate telehealth use at the state and federal levels, telehealth has become an important modality of care. In 2023, approximately 9 percent of FQHC visits in the United States and 20 percent of FQHC visits in California occurred via video or audio-only visits delivered into patients' homes.

In this study, the authors summarize data on the use of in-person, audio-only, and video health visits during September 2022 to August 2024, a period that included the end of the COVID-19 public health emergency in May 2023 and beyond. These data were collected to evaluate the impact of the Connected Care Accelerator program, which is an effort launched by the California Health Care Foundation in July 2020 to support health centers in implementing telehealth for low-income patients in California. This study is the final in a series of studies that were published from 2021 to 2024.

Federally Qualified Health Centers (FQHCs) are outpatient health centers that provide primary care and limited specialty-care services to nearly 30 million low-income patients (Farb, 2023). Prior to the coronavirus disease 2019 (COVID-19) pandemic, FQHCs rarely delivered audio-only or video telehealth visits (Uscher-Pines et al., 2021). However, with both temporary and permanent policy changes to facilitate telehealth use at the state and federal levels, telehealth has become an important modality of care (Uscher-Pines et al., 2022; Uscher-Pines et al., 2021; Uscher-Pines et al., 2023). In 2023, approximately 9 percent of FQHC visits in the United States and 20 percent of FQHC visits in California occurred via video or audio-only visits delivered into patients' homes (Health Resources and Services Administration, undated-b).

Recognizing that the pandemic had rapidly accelerated the adoption of telehealth in safety net settings, including FQHCs, the California Health Care Foundation (CHCF) first launched the Connected Care Accelerator (CCA) program in July 2020. This program provided funding from 2020 to 2024 for dozens of large, multisite health centers in California. Participating health centers received funding, tools, and, in some cases, hands-on technical assistance to enhance their virtual care offerings. To facilitate an evaluation of the impact of CHCF's investment in capacity building, health centers committed to submitting data on an annual basis. Using a standardized reporting tool, they reported on the video, audio-only, and in-person visits delivered to patients receiving primary care and behavioral health services (Uscher-Pines et al., 2022). RAND and other evaluation teams have published numerous reports on trends in telehealth visits at CCA health

centers to inform evolving telehealth policy in California and nationally (Uscher-Pines et al., 2022; Uscher-Pines et al., 2023; Uscher-Pines et al., 2021; Center for Community Health and Evaluation, 2021; Center for Community Health and Evaluation, 2023). This unique data source had several advantages. First, in contrast to medical claims data, CCA data were available without a significant time lag. Second, the CCA reporting tool that health centers populated based on electronic medical record data distinguished between audio-only and video visits at a time when few other data sources could do so (Hailu et al., 2022).

In this study, we provide updated results based on the analytic methods that RAND researchers applied in prior publications (Center for Community Health and Evaluation, 2023; Center for Community Health and Evaluation, 2021; Uscher-Pines et al., 2022; Uscher-Pines et al., 2023; Uscher-Pines et al., 2021). Specifically, we describe how telehealth use by CCA health centers changed (in terms of volume, modality, and differences in patients served) between September 2022 and August 2024, a period that included the end of the U.S. COVID-19 public health emergency (in May 2023) and beyond. During this time frame, there was less of an urgent need to conduct telehealth visits for public health reasons. Furthermore, during this time, the California Medicaid program preserved the broad flexibilities granted to FQHCs during the pandemic, which permanently allowed them to receive the same reimbursement for audio-only, video, and in-person visits. Payment parity for these services eliminated long-standing (pre-pandemic) barriers to the use of telehealth in safety net settings (Uscher-Pines et al., 2020).

Key Findings

- Telehealth, which includes video and audio-only visits, continued to play a prominent role in primary care and behavioral health care delivery in California health centers, accounting for about one-fourth and one-half of all visits, respectively, from September 2022 to August 2024.
- Telehealth visits—and video visits in particular—comprised an incrementally smaller proportion of overall primary care and behavioral health visits over time. For primary care, the share of video visits decreased from 8.9 percent in September 2022 to 5.4 percent in August 2024. Over the same period, audio-only primary care visits declined from 19.5 percent to 17.3 percent.
- Most health centers in California continued to offer all three visit modalities (in-person, video, audio-only) for primary care (n = 20; 83 percent) and behavioral health care (n = 17; 70.8 percent) during the final year of the study period (September 2023–August 2024).
- There were persistent disparities in telehealth use according to patient language preference. Patients whose preferred language was English were overrepresented among primary care and behavioral health patients with video visits. For example, in the case of behavioral health,

patients who preferred English represented 80.1 percent of patients with video visits but 66.6 percent of unique patients with any visits in the final year of the study period (September 2023–August 2024).

Methods

The methods employed in our study have been published in prior publications (Center for Community Health and Evaluation, 2021; Center for Community Health and Evaluation, 2023; Uscher-Pines et al., 2021; Uscher-Pines et al., 2022; Uscher-Pines et al., 2023). In summary, participating health centers provided data for evaluation through a reporting tool that is aligned with the Health Resources and Services Administration's Uniform Data System (Uscher-Pines et al., 2021). FQHCs submitted aggregated data on billable outpatient primary care and behavioral health visits, reporting monthly visit-level data on in-person, audio-only, and video visits, as well as 12-month, person-level data by modality and patient demographics from September 2022 to August 2024.[1] We focused on primary care and behavioral health services because these are among the highest volume services delivered by FQHCs in which telehealth is feasible and clinically appropriate. For this study, we defined telehealth as synchronous audio-only or video visits that connect patients and health care providers.

We calculated descriptive statistics on visit modality (video, audio-only, in-person) and characteristics of patients served by different visit modalities. We used chi-squared tests to compare proportions across modalities. We applied the Bonferroni correction to adjust for multiple comparisons, resulting in statistical significance being defined as a two-sided $p < 0.002$ (0.05/27 comparisons).[2] We were well powered to detect statistical differences in the fraction of visits in each modality over time. Across the three modalities (in-person, video, and audio-only) with approximately 200,000 primary care visits each month, we could detect differences of 0.5 percent or larger with 80 percent power (alpha = 0.001) in the percentage of visits in each modality from month to month. Because there were fewer behavioral health visits each month (approximately 20,000), we were able to detect differences of 1.5 percent or larger in the percentage of visits in each modality. We were statistically powered at 80 percent or better (alpha = 0.001) to detect demographic differences by modality of approximately 1 percentage point or larger across all primary care visits and 5 percentage points or larger across all behavioral health visits from September 2023 to August 2024. The analyses were conducted using Stata version 18 (StataCorp, 2023). The RAND Institutional Review Board declared the study exempt.

Results

From 2022 to 2024, 24 health centers participated in the evaluation. Most health centers in the sample were large organizations with multiple clinic sites. The majority (n = 22; 92 percent) were FQHCs. The health centers were distributed across the state of California (Table 1).

Table 1.

Characteristics of Participating Health Centers (N = 24)

Characteristic	n	Percentage
Organization type[a]		
FQHC	22	92
FQHC look-alike	1	4
Public hospital FQHC	1	4
Region in California[b]		
Northern	5	21
Central	5	21
Southern	14	58
Total unique primary care patients (2023–2024)		
≤9,999	5	21
10,000–49,999	13	54
50,000–99,999	4	17
100,000+	2	8

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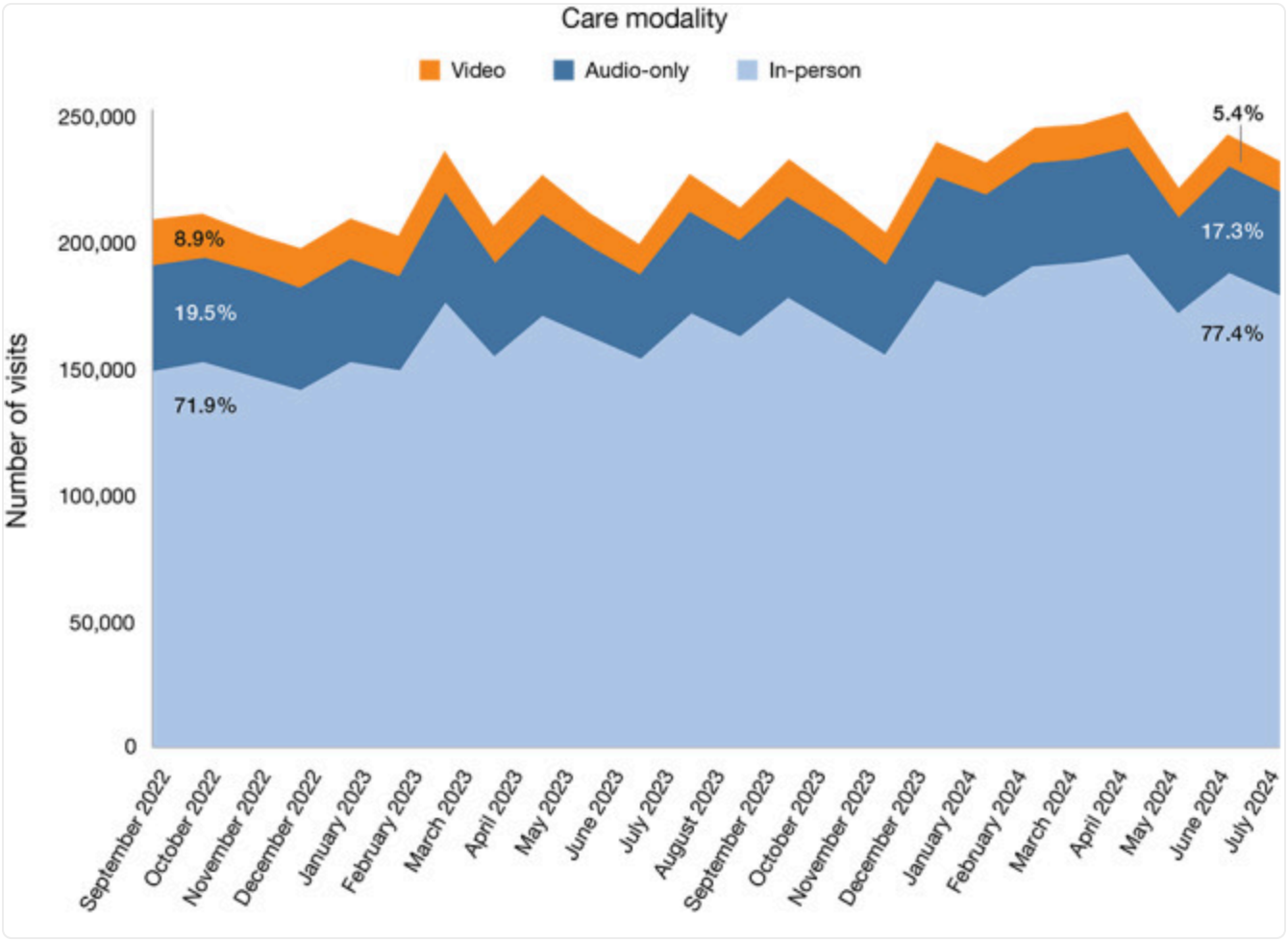
SOURCE: Visit data submitted by participating health centers.
[a]See Health Resources and Services Administration, undated-b.
[b]California is divided into Northern, Central, and Southern regions (Study California, undated).

During the full study period from September 2022 to August 2024, there were 5,321,876 primary care visits, including 4,037,416 (75.9 percent) in-person visits, 945,335 (17.8 percent) audio-only visits, and 339,125 (6.4 percent) video visits. Telehealth visits in general—and video visits in particular—made up an incrementally smaller proportion of overall visits as time progressed. In September 2022, 8.9 percent of visits were via video and 19.5 percent were audio-only, while 71.9 percent were conducted in person. By August 2024, in-person visits had increased by 5.5 percentage points ($p < 0.001$) to 77.4 percent, while the percentage of visits via telephone and video had fallen by 2.2 ($p < 0.001$) and 3.3 ($p < 0.001$) percentage points, respectively (Figure 1).

Figure 1.



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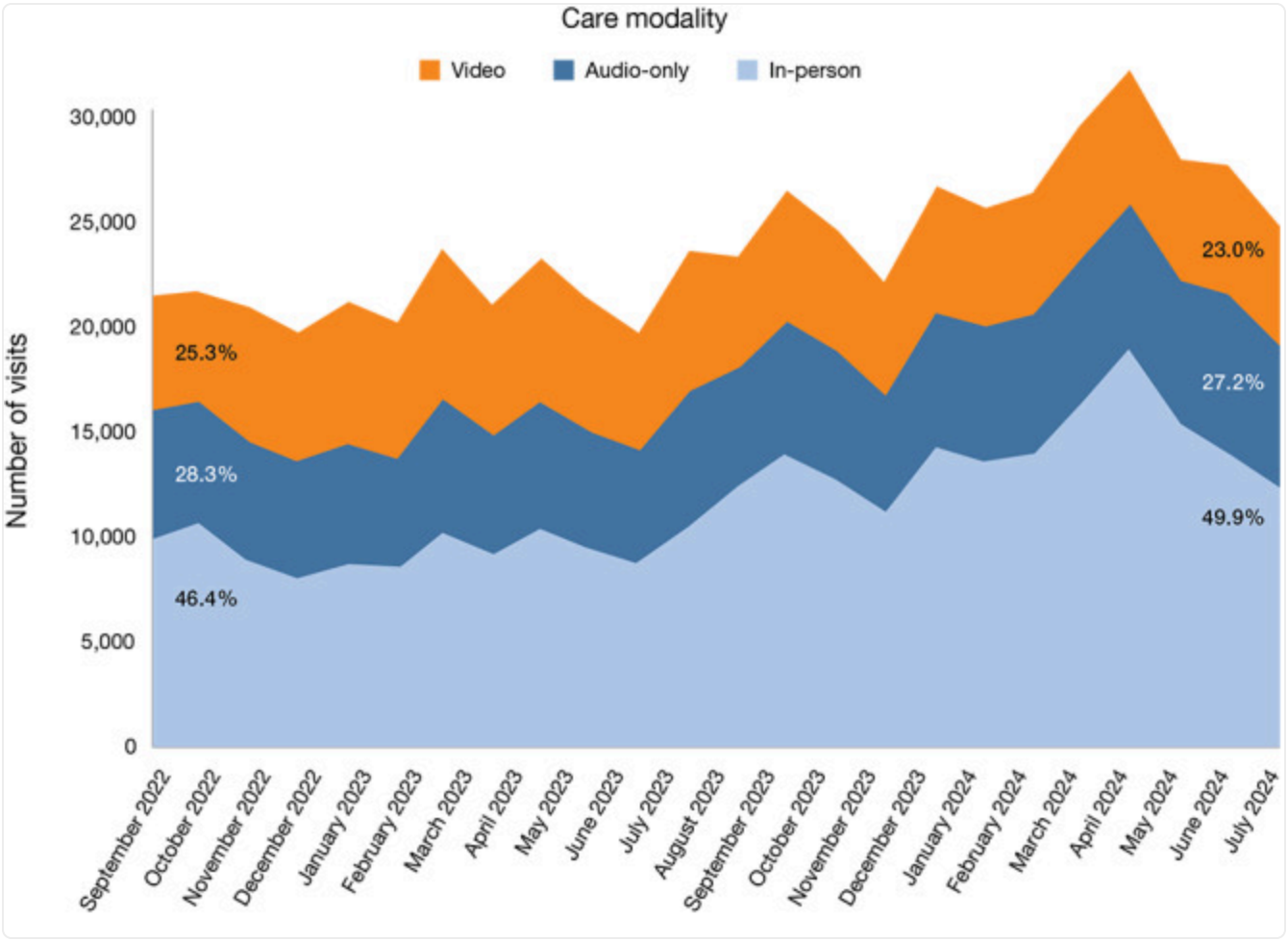
Total Primary Care Visits, by Modality (September 2022–August 2024)

NOTE: This graph uses data reported by 23 out of 24 participating health centers. One health center's data were excluded because of data quality issues.

Among individual health centers in the sample, three (12.5 percent) delivered no video visits and one (4 percent) delivered no audio-only visits for primary care in the final year of the study period (September 2023–August 2024). Most health centers (n = 20; 83 percent) offered all three visit modalities.

In contrast, telehealth use was significantly more prominent for behavioral health visits than for primary care, comprising 49.3 percent of all visits (difference with primary care visits = −0.26, $p < 0.001$). From September 2022 to August 2024, there were a total of 575,396 behavioral health visits, including 283,610 (49.3 percent) in-person visits, 145,852 (25.3 percent) audio-only visits, and 145,934 (25.4 percent) video visits. In-person visits increased by 3.5 percentage points ($p < 0.001$), from 46.4 percent of all behavioral health visits to 49.9 percent over the full study period. Audio visits decreased by 1.1 percentage points ($p = 0.008$), and video visits decreased by 2.3 percentage points ($p < 0.001$). These patterns are similar to those observed among primary care visits, though the changes were smaller in magnitude (Figure 2).

Figure 2.



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Total Behavioral Health Visits, by Modality (September 2022–August 2024)

NOTE: This graph uses data reported by 23 out of 24 participating health centers. One health center's data were excluded because of data quality issues.

Among individual health centers in the sample, four (16.7 percent) delivered no video visits and three (12.4 percent) delivered no audio-only visits for behavioral health in the final year of the study period (September 2023–August 2024). The majority of health centers (n = 17; 70.8 percent) offered all three visit modalities.

Health centers reported on the characteristics of patients who participated in different visit types in the final year of the study period (September 2023–August 2024). Table 2 shows differences by modality, but comparisons for some measures are problematic because of missing data. Therefore, we highlight differences by English proficiency, which had the smallest fraction of patients for whom the visit type was unknown or unreported. For primary care, patients who were proficient in English represented 57.8 percent of patients who participated in video visits compared with 54.0 percent of patients who received any visits (inclusive of all modalities) (difference significant at $p < 0.001$). For behavioral health, patients who were proficient in English represented 80.1 percent of patients who participated in video visits compared with 66.6 percent of patients who received any visits (Table 3) (difference significant at $p < 0.001$).

Table 2.

Primary Care Patient Characteristics: Unique Patients with Primary Care Visits in September 2023–August 2024

Characteristic	Patients with One or More Primary Care Visit							
	Video (*N* = 71,651)		Audio-Only (*N* = 196,018)		In-Person (*N* = 686,509)		All Patients (*N* = 774,524)	
	n	%	n	%	n	%	n	%
Race								
White	32,665	45.6	104,013	53.1	371,474	54.1	415,751	53.7
Black	4,893	6.8	12,309	6.3	32,977	4.8	40,307	5.2
Asian	18,410	25.7	36,415	18.6	102,442	14.9	104,951	13.6
Other	4,011	5.6	9,291	4.7	31,637	4.6	50,680	6.5
More than one	2,653	3.7	4,603	2.3	20,165	2.9	24,548	3.2
Unreported	9,019	12.6	29,387	15.0	127,814	18.6	138,287	17.9
Ethnicity								
Hispanic	33,363	46.6	95,670	48.8	316,702	46.1	366,200	47.3
Not Hispanic	33,373	46.6	80,749	41.2	234,636	34.2	264,450	34.1
Unreported	4,915	6.9	19,599	10.0	135,171	19.7	143,871	18.6
Age in years								
17 and younger	20,315	28.4	30,126	15.4	207,157	30.2	222,281	28.7
18–44	23,943	33.4	69,058	35.2	216,596	31.6	255,320	33.0
45–64	17,892	25.0	64,823	33.1	174,976	25.5	198,445	25.6
65 and older	9,501	13.3	32,011	16.3	87,780	12.8	98,478	12.7
Language								
English	41,405	57.8	96,705	49.3	342,299	49.9	418,133	54.0

Characteristic	Patients with One or More Primary Care Visit							
	Video (*N* = 71,651)		Audio-Only (*N* = 196,018)		In-Person (*N* = 686,509)		All Patients (*N* = 774,524)	
	n	%	n	%	n	%	n	%
Other than English	29,964	41.8	99,256	50.6	339,921	49.5	352,059	45.5
Unreported	282	0.4	57	0.0	4,289	0.6	4,332	0.6

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NOTE: *N* = 19 health centers contributed data.

Table 3.

Behavioral Health Patient Characteristics: Unique Patients with Behavioral Health Visits in September 2023–August 2024

Characteristic	Patients with One or More Behavioral Health Visit							
	Video (*N* = 13,258)		Audio-Only (*N* = 25,440)		In-Person (*N* = 53,046)		All Patients (*N* = 74,660)	
	n	%	n	%	n	%	n	%
Race								
White	7,959	60.0	13,761	54.1	27,444	51.7	40,730	54.6
Black	983	7.4	2,064	8.1	4,189	7.9	5,798	7.8
Asian	953	7.2	2,526	9.9	3,689	7.0	5,503	7.4
Other	701	5.3	1,434	5.6	3,954	7.5	4,919	6.6
More than one	514	3.9	725	2.8	1,984	3.7	2,892	3.9
Unreported	2,148	16.2	4,930	19.4	11,786	22.2	14,818	19.8
Ethnicity								
Hispanic	4,851	36.6	12,203	48.0	24,191	45.6	34,055	45.6
Not Hispanic	6,003	45.3	11,225	44.1	19,743	37.2	28,458	38.1
Unreported	2,404	18.1	2,012	7.9	9,112	17.2	12,147	16.3
Age in years								
17 and younger	2,365	17.8	3,963	15.6	14,204	26.8	18,954	25.4
18–44	6,757	51.0	11,413	44.9	20,147	38.0	30,375	40.7
45–64	3,335	25.2	7,406	29.1	13,125	24.7	17,493	23.4
65 and older	801	6.0	2,658	10.4	5,570	10.5	7,838	10.5
Language								
English	10,622	80.1	17,009	66.9	33,975	64.0	49,716	66.6

Characteristic	Patients with One or More Behavioral Health Visit							
	Video (*N* = 13,258)		Audio-Only (*N* = 25,440)		In-Person (*N* = 53,046)		All Patients (*N* = 74,660)	
	n	%	n	%	n	%	n	%
Other than English	2,551	19.2	8,420	33.1	15,833	29.8	21,695	29.1
Unreported	85	0.6	11	0.0	3,238	6.1	3,249	4.4

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NOTE: *N* = 19 health centers contributed data.

Discussion

More than four years have elapsed since COVID-19 was first declared a public health emergency in the United States in January 2020. Although the urgent need to conduct telehealth visits to protect patients and health center staff has subsided, telehealth continues to play a prominent role in the delivery of primary care and behavioral health services in safety net settings in California. From 2023 to 2024, telehealth represented approximately one-fourth and one-half of all primary care and behavioral health visits, respectively. Furthermore, although audio-only visits continued to dominate in primary care (representing 74 percent of all telehealth visits), both audio-only and video visits played a prominent role in behavioral health services. What is especially noteworthy is that health centers seem to have entered a steady state with their telehealth use; we observe only modest declines over the past two years with respect to total telehealth use and little change in the balance of the different visit modalities. Video visits have not substituted for audio-only visits despite additional implementation time. In fact, video visits have slightly declined along with telehealth more broadly. Despite efforts to identify and address disparities in use across the health system, patients with limited English proficiency continued to be underrepresented in the population of patients who accessed video visits in 2023 to 2024.

Telehealth use and reliance on audio-only visits are unlikely to change substantially in California's health centers in the short term. Telehealth reimbursement policy in California's Medicaid program is permanent (Center for Connected Health Policy, 2023), and given payment parity for all three visit types, health centers have little incentive to transition away from telehealth or from

audio-only visits, particularly when such visits are used to overcome access barriers for patients. Nonetheless, it is unclear whether the Medicare program will continue to reimburse FQHCs for primary care telehealth and at what level after 2024. Although Medicare is not a leading payer for California's FQHCs, Medicare policy is highly influential in shaping the decisions of payers across the health care system.

Given that telehealth use may remain fairly stable in California health centers in coming years, it is important to reflect on whether the observed level of telehealth is an intended consequence of policy changes. Is this level of use ideal from the perspective of patients, providers, and policymakers? On the one hand, it is important that telehealth enables access to a variety of convenient options for care and that health centers have new strategies to address access barriers and workforce shortages (e.g., by recruiting remote behavioral health clinicians to provide telehealth visits) (Finocchio et al., 2021). On the other hand, it is important to consider care quality. Although health centers in California are still recovering from a particularly challenging period in 2020, their performance on multiple quality measures (e.g., colorectal cancer screening, diabetes and blood pressure control) in 2023 still lagged behind 2019 (Health Resources and Services Administration, undated-a). Many factors can influence performance on clinical quality measures, including staffing (Sun et al., 2024), payment models (Markowski et al., 2024), and the availability of resources to support patient outreach (Cole et al., 2023). It is important to assess whether high telehealth use is influencing performance on key quality measures and the potential impacts of reliance on audio-only visits.

More work is needed to support FQHCs in overcoming the digital divide to ensure that patients have equal access to video visits regardless of English proficiency, rurality, race, ethnicity, income or insurance type, and other factors. Disparities in access to telehealth—and video visits in particular—are well established and have important implications for health equity (Rodriguez et al., 2021; Chang et al., 2021; Hsueh et al., 2021; Weber et al., 2023; Gallegos-Rejas et al., 2023). Low digital literacy, the lack of a reliable broadband connection or video-enabled device, and the use of telehealth workflows that are incompatible with third-party translation services are just some of the barriers that can keep patients from accessing video visits (O'Shea et al., 2023). As a result of these challenges, video visits may require more time and effort on the part of providers and health center staff to troubleshoot technical issues, interface with interpreter services, and assist patients with lower digital literacy (Benjenk et al., 2021; Sharma et al., 2023). Audio-only visits are important for maintaining access to care but may not be of equivalent quality for some care needs (Chen et al., 2022). In the absence of research confirming the effectiveness of audio-only treatment models, health centers should take steps to replace audio-only visits with video visits. A combination of strategies will likely yield the greatest benefit. Health centers should be provided

with technical and financial assistance to support staff training and integrate third-party translation services into workflows. They should also develop resources and engagement strategies for supporting patient digital literacy and implement other best practices that have been identified in a variety of tool kits and guidance documents that have been published since 2022 (Gallegos-Rejas et al., 2023; Center for Community Health and Evaluation, 2023; Lyles et al., 2022; Health Resources and Services Administration, 2024).

Limitations

There are several limitations to note. First, health centers submitted data reports to our team using a standardized tool. Although the tool aimed to collect measures consistently across centers, measurement error is still a potential problem because centers reported information instead of providing access to administrative records. Second, health centers submitted aggregate data on visits by month. Without patient-level data, we were limited in the types of analyses that we could conduct on disparities in use. Third, we are well powered to detect monthly trends in modality by type of care and by demographics, except in examining demographic differences for behavioral health visits, for which we have smaller samples. Furthermore, missing data and differences in how clinics reported on race and ethnicity limited our ability to draw conclusions on disparities by race and ethnicity. Future research should explore this in-depth. Finally, our analytic sample included only FQHCs in California, and results may not generalize to other settings or to other states.

Conclusion

When the COVID-19 pandemic began, many experts asserted that telehealth was here to stay (Henry, 2021). Our results indicate that, in some care settings serving low-income patients, this prediction was correct. Compared with settings serving other populations or similar settings in other states, telehealth use in California's FQHCs has been particularly robust in part because of supportive state policies (FAIR Health, undated). Ongoing research is needed to inform the specific role that telehealth, as well as audio-only visits, should play in the care of low-income patients.

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Notes

[1]FQHCs provided 12-month data on the number of unique patients who completed one or more visits in-person, by audio-only, by video, and by any modality, organized by race, ethnicity, age group, and language.

[2]There were 24 months of data and three modalities.

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