Experiences of Health Centers in Implementing Telehealth Visits for Underserved Patients During the COVID-19 Pandemic

Results from the Connected Care Accelerator Initiative

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About This Report

In the early months of the coronavirus disease 2019 (COVID-19) pandemic, telehealth use grew to maintain continuity of care and protect patients and providers. The sudden change in delivery posed challenges for some providers. Such organizations as the California Health Care Foundation (CHCF) sought to support providers, particularly those that serve low-income individuals—including Federally Qualified Health Centers (FQHCs)—in developing high-volume telehealth programs. In this report, we examine the experiences of health center providers in California that participated in CHCF's Connected Care Accelerator program, which helped providers navigate this transition. This work provides data on health centers' experiences with telehealth both before and during the pandemic, offering valuable insight into the policy implications of the use of telehealth as the pandemic continues and ultimately wanes.

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Summary

In early 2020, the coronavirus disease 2019 (COVID-19) pandemic emerged, and widespread social-distancing efforts suspended much of the delivery of nonurgent health care. Telehealth proved to be a viable alternative to in-person care, at least on a temporary basis, and utilization skyrocketed. Many Federally Qualified Health Centers (FQHCs) serving low-income patients started delivering telehealth visits in high volume in March 2020 to help maintain access to care.

Before the pandemic, most health centers did not offer telehealth visits for primary care or behavioral health, in large part because of reimbursement policy. In spring 2020, dramatic policy changes removed many of the restrictions on telehealth delivery, and health centers responded by standing up large telehealth programs.

This sudden and dramatic change in health care delivery posed numerous challenges. Health centers had to quickly make changes to technology, workflows, and staffing to accommodate telehealth visits. To support health centers in these efforts, the California Health Care Foundation established the Connected Care Accelerator (CCA) program, a quality improvement initiative that was launched in July 2020. The goal of CCA was to facilitate the transition to telehealth services by providing funding and technical assistance to 45 health centers in California. The study we describe in this report evaluated the progress of health centers that participated in CCA by exploring changes in telehealth utilization and health center staff experiences with implementation.

In this report, we consider recent literature on telehealth implementation in safety net settings. We also present new information on the experiences of the 45 CCA health centers, drawing from data on visit trends, interviews with health center leaders, and surveys of health center providers and staff.

We first present quantitative data on in-person, video, and audio-only visits from February 2019 to August 2021. These data were reported by participating health centers using a standardized reporting tool. We then summarize findings on the experiences and perceptions of health center leaders and staff. These qualitative data were collected through semistructured interviews with more than 100 staff members from 23 health centers. Interviews with staff who were involved in telehealth implementation occurred at three time points: fall 2020, spring 2021, and fall 2021. Lastly, we present findings from a health center provider and staff survey that was fielded in April 2021. The survey was administered to more than 500 providers from 30 health centers and covered knowledge, attitudes, and experiences with telehealth.

Key Findings

Although overall visit volumes remained about the same from the prepandemic to the pandemic study periods, the share of audio-only and video visits dramatically increased during the pandemic, particularly for behavioral health. Monthly visit volumes during the pandemic study period (August 2020–August 2021) were largely similar to those of the prepandemic period (February 2019–February 2020),[1] with the exception of reduced primary care volume during three months in summer and fall (August, October, and November 2020) and reduced behavioral health volume during two months in the fall (October and November 2020).

Audio-only visits were the highest-volume telehealth modality for primary care and behavioral health throughout the entire pandemic study period; at the end of the study period, however, audio-only visits were eclipsed by in-person visits for primary care but not for behavioral health. Audio-only visits for primary care peaked in April 2020 and remained the dominant telehealth modality throughout the pandemic study period. However, by February 2021, in-person visits regained the position of dominant modality among the three modalities as audio-only visits declined. In the final three months of the pandemic study period (June–August 2021), 66 percent of total visits for primary care were conducted in person, while 30 percent and 4 percent were audio-only visits and video visits, respectively. For behavioral health, audio-only visits exceeded in-person visits and were the dominant modality of care delivery throughout the entire pandemic study period. In the final three months of the pandemic study period, 28 percent of total behavioral health visits were conducted in person, while 52 percent and 20 percent were audio-only visits and video visits, respectively.

The use of video visits varied substantially across health centers, particularly for behavioral health; health centers that delivered numerous video visits and replaced audio-only visits with video visits over time had some common promising practices that could have contributed to their success. From January 2021 to August 2021, video visits represented a median of 3 percent (range: 0–39 percent; see Figure 3.5 in Chapter 3) of all primary care visits and a median of 14 percent (range: 0–98 percent; see Figure 3.6 in Chapter 3) of all behavioral health visits across different health centers. Interviews provided insights into the factors that facilitated the use of video visits. Interviewees suggested that telehealth platforms that did not require patients to use patient portals facilitated video telehealth use. The health centers that had telehealth platforms that were embedded in the electronic health record (EHR) (and that required patients to log into patient portals to access) often were preferred by providers compared with stand-alone systems that did not require portal use. However, platforms that did not require portal use and that allowed providers to send a link to the patient so that they could access the video visit were easier for patients to use, particularly those with low digital literacy. Because of challenges with

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[1] Data from March 2020 through July 2020 are not included here because of volatility associated with the pandemic at that time.

the digital divide, many health centers found it helpful to actively address potential barriers to engagement in both audio and video by adding onboarding processes to screen patients for technology access, offering one-on-one support for information technology (IT) issues, and having providers use their relationships with patients to encourage telehealth use. Health centers found such processes particularly important in facilitating video visits, in addition to scheduling video as the default modality and setting targets for each modality.

Patients with limited English proficiency participated in a significantly lower percentage of video visits. To address disparities in access, clinics engaged in a variety of creative solutions to address the digital divide. The population of patients who received health care prior to the pandemic (in August 2019) varied notably from the population of patients who received video visits in August 2020 and 2021, both in primary care and behavioral health. Most notably, patients who preferred a language other than English participated in 45.5 percent of total primary care visits in August 2019 but only 37.7 percent of video visits in August 2020 and 35.8 percent of video visits in August 2021 ($p < 0.01$). These differences might reflect variations in digital literacy, a lack of instructions in multiple languages, and a cultural preference for in-person care. In interviews, staff described difficulties providing comprehensive interpretive services within and outside the actual telehealth visit (e.g., in communications from the health center about the visit).

Perceptions of whether telehealth provided an acceptable level of care were relatively positive, but perceptions of its sustainability—as well as perceptions of equity and quality of care—were nuanced. Interviewees noted the importance of telehealth in maintaining patient access to care and in overcoming barriers to in-person care, such as transportation. However, some expressed concern about inequities in access, particularly for patients who were most affected by the digital divide. Although many interviewees viewed telehealth as "here to stay," they noted that patients appeared to be increasingly comfortable with in-person care. Some health centers were seeking more information on what modalities work best for patients, while others were expanding telehealth offerings for patients with access challenges. Staff survey findings also suggest nuanced conclusions about telehealth. Providers and staff who responded to the survey had a positive experience with telehealth overall, with most respondents agreeing with positive statements on the resources and training provided to them, the team-based care and workflows implemented in their clinics, the access to care provided to patients, the encouragement that leadership provided on telehealth implementation, and their satisfaction with the work they have done through telehealth. However, some reported a preference for in-person visits, while others reported a preference for telehealth visits. Furthermore, providers and staff did not agree on the quality of care provided by telehealth overall and specifically for patients with limited English proficiency.

The implementation of telehealth required significant changes to workflow and staff roles. Key facilitators of telehealth implementation were leadership support, patient willingness to use the technology, platforms that were easy to use and access, a sense of urgency within clinics

because of the public health emergency, changes in reimbursement policy, and training opportunities for staff. Interviewees and survey participants suggested that support to pursue telehealth among executive-level and clinician leaders facilitated telehealth implementation, built buy-in among staff, and helped coordinate efforts across organizations. Patient and caregiver willingness to try telehealth, as well as access to easy-to-use telehealth technology, also factored into success. Interviewees described a sense of urgency to deliver telehealth to maintain patient access—and to keep health centers afloat financially. This might help explain greater telehealth use at the start of the pandemic study period, when uncertainty about the impact of the pandemic on services and the sense of urgency were highest. Changes in reimbursement policies (particularly for the reimbursement of audio visits at rates equivalent to those of in-person visits) also enabled the shift to telehealth. CCA and other peer-learning and collaborative opportunities also helped health centers share promising ideas for implementation.

Implications for Policy, Practice, and Future Study

As health centers and policymakers consider the role that telehealth should play in safety net settings moving forward and how to implement needed changes, both might want to factor in some of the key findings of this study, particularly with regard to health equity, quality of care, and implementation in low-resource settings. In the following sections, we offer some key considerations for policy, practice, and future study within each of these domains.

More Work Is Needed to Understand How Telehealth Helps and Hinders Health Equity and to Improve Equitable Telehealth Access

Although most studies to date are somewhat inconsistent on differences in telehealth utilization by race and ethnicity, studies (that are not limited to safety net settings or populations) do consistently show that rural populations and patients with limited English proficiency are less likely to engage in video visits. Although this study did not look at differences in utilization by rurality, our findings echo prior data on limited video usage for those with limited English proficiency in particular (Hsueh et al., 2021; Rodriguez et al., 2021; Sachs et al., 2021).

Billing modifiers that differentiate between modalities are needed to further understand disparities. Because visit data collected for this evaluation were reported in the aggregate, not at the individual level, our evaluation team could not explore granular questions on disparities that adjust for multiple demographic characteristics. In future studies, it will be particularly important to find ways to structure utilization data to include information on which modality was used (i.e., video versus audio only). Currently, Medicaid billing modifiers in California do not distinguish between telehealth visit types, which limits the utility of Medicaid data in assessing disparities in use of different modalities and in surfacing quality issues that are specific to audio-only or video visits. Policymakers are considering incorporating and requiring audio-only modifiers to improve

data quality, and we argue that this is a key improvement to better track and evaluate telehealth access and quality.

Data Are Needed to Understand the Impact of Audio-Only Visits on Quality of Care to Inform Reimbursement Policy

The impact of audio-only visits on quality of care needs to be empirically tested. Perhaps one of the most striking findings regarding telehealth utilization since the pandemic started— both in this study and in previous work—is the ongoing use of audio-only visits among health centers. However, even though audio-only visits undoubtedly helped health centers stay afloat when patients and providers were avoiding in-person visits for safety reasons, it is important to remember that audio-only visits, which are delivered either alone or as a component of hybrid care, are relatively untested from a quality perspective. It would be particularly helpful for future research to focus on determining what types of visits are clinically appropriate for the audio-only modality. With this knowledge, health centers could set up workflows in which audio-only visits are offered only under certain conditions so that patients using that modality do not receive inferior care. Until more evidence emerges on effectiveness, policymakers should consider setting up guardrails to prevent overuse of audio-only visits.

Health Centers Should Be Permitted to Serve as Distant Sites on a Permanent Basis

The high and sustained use of telehealth in safety net settings suggests that health centers and their patients derive certain benefits from telehealth. It is clear that some of the policy waivers put in place for the public health emergency, such as permitting health centers to serve as distant sites (i.e., sites where providers delivering telehealth services are located), should be maintained. Prematurely restricting health centers' ability to deliver telehealth visits would reduce access to care for underserved populations. It would also prevent the research community from documenting the real-world impacts of telehealth on access, quality, and costs outside a public health emergency. This information will be critical to crafting effective long-term policy.

Health Centers Need Resources, Time, and Support to Successfully Implement Telehealth

Health centers can be supported in increasing access for patients with limited English proficiency and other populations with access challenges more generally. One issue of clear concern is telehealth access for populations with limited English proficiency. Policymakers and payers can support health centers with grants, technology solutions, and promising practices to better support patients with limited English proficiency who are engaging in telehealth. Health centers should also engage patients with limited English proficiency in the design and rollout of telehealth platforms.

Health centers should take steps to better support patients facing digital barriers. For those patients facing such barriers as limited digital literacy, lack of technology, lack of

broadband, and distrust of telehealth, health centers should consider expanding their capabilities to provide real-time technical support, organize telehealth navigator programs, and provide one-on-one training to patients. Tools and guidance on these and other strategies to facilitate telehealth implementation are widely available. For example, CCA provides several types of online resources (Center for Care Innovations, undated-b).

Knowledge of what works in video visit implementation already exists, and health centers have many tools to grow their video visit programs. Understanding lessons learned from positive deviants (i.e., health centers that successfully implemented video visits) can inform future implementation efforts. Although audio-only visits were the dominant telehealth modality during the pandemic study period in both primary care and behavioral health, the extent of variation in the use of different visit modalities across participating health centers was noteworthy. Whereas audio-only visits made up the majority of telehealth visits for some health centers, other health centers were able to incorporate many more video visits into their care delivery. Those that grew their programs often had common characteristics, such as leadership support and utilization goals. Some health centers experienced particular success with getting their processes set up for delivering video telehealth—or perhaps self-limiting their use of audio-only visits. It would be helpful for these health centers to share and disseminate their processes.

Appropriate staffing is key to telehealth implementation. Telehealth implementation in a hybrid care model, in which patients receive a mix of telehealth and in-person visits, will require appropriate staffing models. Interviews showed that medical assistants played a critical role in successful implementation by viewing their role as malleable and filling gaps in staffing as needed. Health centers will need to consider ways to further support team-based care and formally integrate telehealth across all roles to spread out the resources needed across the organization. Another way to approach easing the burden of telehealth implementation, where possible, is to do what some health centers have already done: establish a new telehealth coordinator role.

Conclusion

This mixed-methods study followed 45 health centers serving low-income populations for 18 months of the COVID-19 pandemic. Although several studies have been conducted throughout the pandemic to capture telehealth utilization and implementation experiences, this study represents one of the most comprehensive analyses to date on the topic of telehealth implementation in the safety net. A unique contribution of this study is its ability to distinguish between different telehealth modalities. The high and ongoing use of audio-only visits throughout the pandemic study period is noteworthy. Although audio-only visits have clearly played a critical role in maintaining access to care during the public health emergency, their ongoing role in the care delivery of low-income populations requires careful consideration. Telehealth has the potential to increase access to care and deliver care that is more convenient

and patient-centered; however, ongoing research is needed to ensure that telehealth is implemented in a way that ensures high-quality care and health equity.

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1. Introduction

Federally Qualified Health Centers (FQHCs) are outpatient health centers that provide comprehensive primary care services to nearly 30 million low-income individuals in the United States (Health Resources & Services Administration [HRSA], 2021c). FQHCs are subject to a specific payment system (i.e., a method of reimbursement that uses a predetermined fixed amount for all qualifying visits) under Medicare and Medicaid (HRSA, undated). Prior to the coronavirus disease 2019 (COVID-19) pandemic, Medicare did not provide payment to FQHCs to deliver telehealth services as distant sites (i.e., sites where providers delivering telehealth services are located). Instead, FQHCs could only host patients receiving telehealth services from remote providers (Medicare Payment Advisory Commission, 2018). Furthermore, the California Medicaid program would reimburse FQHCs only for telehealth services with an established patient that occurred within the "four walls" of an approved FQHC clinic site, thereby discouraging FQHCs from delivering telehealth services to patients in their homes (Gomez, 2021). Although many health centers had experience with telehealth prior to the pandemic, programs were generally small-scale and focused on specialty care. A common model was for a patient to be hosted by the health center within the clinic and receive services from a remotely located specialist.

In March 2020, FQHCs were granted numerous flexibilities at the federal and state levels to furnish video and audio-only (i.e., telephone) visits to patients in any location. Also, many payers, including the California Medicaid program, started reimbursing FQHCs at an equivalent rate for in-person, audio-only, and video visits (Centers for Medicare & Medicaid Services [CMS], 2020b). The temporary regulatory waivers tied to the public health emergency led to the explosive growth of telehealth across the health care delivery system (CMS, 2020a; Verma, 2020). Although detailed data specific to FQHCs and other safety net providers are scant, HRSA reported that 20 percent of all health center visits in the United States and 35 percent of those in California were conducted via telehealth in October 2021 (HRSA, 2021b).

Recognizing that the pandemic was rapidly accelerating the adoption of telehealth, the California Health Care Foundation (CHCF) launched the Connected Care Accelerator (CCA) program in July 2020 to help health centers navigate the transition. CHCF provided funding to expand the capacity of 45 community health centers (including 20 percent of California's FQHCs) to provide telehealth services through 2021 and submit data for evaluation (Center for Care Innovations, undated-a). Organizations participating in CCA received funding, tools, and, in some cases, hands-on technical assistance to enhance their virtual care initiatives. Health centers were engaged in one of two separate tracks within CCA: the Innovation Learning Collaborative track or the Infrastructure and Spread track. Health centers in both tracks received grant funding and provided data for evaluation. However, those in the Innovation Learning

Collaborative generally had more-mature telehealth programs and committed to identifying and sharing promising practices. As part of the initiative, CHCF also provided funding to partners, including the RAND Corporation and the Center for Community Health and Evaluation, which collaborated to conduct this mixed-methods evaluation of the program. CHCF also funded the Center for Care Innovations, which managed the Innovation Learning Collaborative.

Evaluation Aims and Data Sources

This evaluation, which was conducted by RAND and Center for Community Health and Evaluation researchers, used quantitative and qualitative approaches and had the following aims:

1. to describe how telehealth utilization (volume, modality) by CCA health centers changed over the course of the pandemic
2. to assess whether greater use of telehealth during the COVID-19 pandemic affected access to care for different populations of patients and whether certain populations were underrepresented among telehealth users
3. to assess health center leaders' perceptions and experiences with telehealth, including

   a. organizational changes made to support telehealth use
   b. barriers experienced in expanding telehealth programs
   c. positive and negative consequences of telehealth use for patients, clinics, and staff

4. to describe providers' perceptions and experiences with telehealth.

To address these aims, the evaluation team collected several different types of data. First, we developed a data reporting tool and reporting guidance that participating health centers used to extract visit data from their electronic health record (EHR). Data elements and definitions aligned with the HRSA Uniform Data System (UDS) to facilitate standardized reporting and help ensure data quality (HRSA, 2020b). Health centers submitted aggregate data on total visits, in-person visits, video visits, and audio-only visits for each month from February 2019 to August 2021. Data included demographics of patients who received care via each modality each month.

Second, we conducted semistructured interviews with leaders and staff at 23 health centers at three different time points: fall 2020, spring 2021, and fall 2021. Interviews explored experiences with implementing telehealth as the pandemic progressed.

Finally, in April 2021, we fielded an online survey of 559 providers and staff members from 30 health centers. The purpose of the survey was to understand the perceptions and experiences of frontline staff who were tasked with implementing telehealth.

Across all data-collection activities, we narrowly defined a *telehealth visit* as a synchronous interaction between a provider and a patient in different physical locations. Modalities that were considered in scope included video and audio-only visits that could substitute for an in-person

visit and for which health centers could receive their prospective payment system (PPS) rate during the pandemic study period.[2]

Organization of the Report

In Chapter 2, we provide a summary of the published literature on telehealth utilization and the experiences of health centers and low-income patients during the pandemic, with a particular focus on California. Each subsequent chapter presents detailed methods and findings from our analyses of the data sources described earlier. In Chapter 3, we present quantitative data on telehealth utilization trends among CCA health centers. In Chapter 4, we describe qualitative findings from interviews with health center leaders, with a focus on the evolution of telehealth offerings throughout the pandemic, and in Chapter 5, we present the results of the cross-sectional survey with health center providers and staff. In Chapter 6, we offer a summary and implications for policy and practice.

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[2] FQHCs in California receive a single, bundled rate for each qualifying patient visit among Medicaid patients. This single PPS rate covers all services and supplies provided during the visit. The PPS rate is identical for each billable patient visit in a particular clinic location, regardless of such factors as the length of the visit or patient acuity. Visits generally need to be delivered by a medical practitioner, such as a physician or nurse practitioner, to qualify for reimbursement at the PPS rate.

2. Summary of Key Findings from the Research Literature

FQHCs are one of the leading providers of primary care in the California Medicaid program, and they play a critical role in the health care of underserved populations in the state. In 2019, FQHCs in California served 5.3 million patients across approximately 2,000 physical locations (HRSA, 2020a). Among patients served by these health centers, 79 percent identified as racial or ethnic minorities, 36 percent were best served in a language other than English, and 95 percent had incomes at or below 200 percent of the federal poverty level (Backstrom and Coleman, 2021; HRSA, 2020a).

With the start of the COVID-19 pandemic in March 2020, providers across the health care system rapidly implemented telehealth services to maintain access to care and protect patients and health care workers from exposure to the virus. Although providing telehealth was new for many health care providers, FQHCs entered 2020 with even tighter restrictions on the use of telehealth than many other entities in the U.S. health care system (CMS, 2021b). As discussed in Chapter 1, FQHCs were not eligible distant sites for telehealth in Medicare. (Specifically, FQHC clinicians could not provide telehealth services, but they could host patients receiving telehealth services from non-FQHC external providers.) Furthermore, FQHCs could not deliver telehealth services to California Medicaid patients in their homes because visits needed to occur within the "four walls" of the clinic with an established patient to be eligible for reimbursement at the PPS rate.

In March 2020, numerous restrictions were lifted in response to the public health emergency. FQHCs, like many other health care providers, were granted temporary flexibilities to furnish video and audio-only visits to patients in any location (CMS, 2021a). Within the California Medicaid program, FQHCs could receive their PPS rate for all visit modalities, including in-person, audio-only, and video visits; they could also deliver telehealth services to new and established patients. In addition, FQHCs were permitted to deliver telehealth services through non–Health Insurance Portability and Accountability Act (HIPAA) platforms (California Department of Health Care Services, 2020; Gomez, 2021).

Although research documenting the experiences of health systems and physicians' offices in transitioning to telehealth from 2020 to 2021 is increasingly common, data on the experiences of low-income patients and of health centers serving safety net populations are limited (Baum, Kaboli, and Schwartz, 2021; Bosworth et al., 2020; Drake et al., 2022; Mehrotra et al., 2021; Patel et al., 2021; Zachrison, Yan, and Schwamm, 2021). Since CCA launched in July 2020, our team has begun to address this gap in the literature by producing several reports documenting the experiences of health centers (Uscher-Pines, Jones, et al., 2021; Uscher-Pines, Sousa, et al., 2021). In the following sections, we summarize the results of other efforts to understand telehealth utilization among low-income patients and health centers. We present survey data

from U.S. and California health centers and survey and claims data describing telehealth utilization and experiences of low-income Californians.

U.S. and California Health Center Data

HRSA provides federal funding to FQHCs to improve the health of underserved populations. Each year, HRSA requires health center grantees receiving federal funds under the Health Center Program authorized by Section 330 of the Public Health Service Act to report on their performance and operations using the measures included in UDS. In recent years, UDS has included measures of telehealth utilization and volume (CMS, undated). In 2020, 99 percent of FQHCs in the United States and 100 percent of FQHCs in California reported providing remote clinical care services. This level of use is dramatically higher than in 2018, when 49 percent of California FQHCs reported providing remote clinical care services (HRSA, 2020a; Uscher-Pines et al., 2020). Among California health centers in 2020, synchronous telehealth was the most common type of telehealth, with 99 percent of health centers delivering these services. Store-and-forward telehealth (in which data are collected from patients and forwarded on to a practitioner) (32 percent) and remote patient monitoring (11 percent) were less common. Furthermore, almost all California health centers delivered primary care (99 percent) and behavioral health (97 percent) services via telehealth. Fewer than half reported offering oral health, dermatology, nutrition and dietary counseling, and consumer health education via telehealth (HRSA, 2020a).

To obtain detailed data on health centers' responses to the COVID-19 pandemic, HRSA also began fielding a biweekly COVID-19 survey of health centers in 2020. The survey instrument included a question on the percentage of total visits conducted virtually (HRSA, 2021a). In October 2021, 20 percent of all health center visits in the United States and 35 percent in California were conducted via telehealth. Analyses from July 2020 found that 44 percent of health centers across the United States reported that 30 percent or more of their total visits were telehealth visits. Furthermore, health centers in urban areas (55 percent) were more likely to provide more than 30 percent of total visits via telehealth than were those in rural areas (30 percent) (Demeke et al., 2020).

Although efforts by HRSA to understand use of telehealth during the pandemic are informative, these data-collection efforts do not provide details on the use of audio-only versus video telehealth. To provide more evidence on the use of audio-only telehealth, the National Association of Community Health Centers (NACHC) surveyed FQHCs in June 2021. Among the 273 health centers across the United States that participated, almost all (96 percent) reported conducting audio-only visits during the public health emergency. Furthermore, 32 percent reported that at least half of their total visits were audio-only visits. Health center respondents reported multiple benefits of audio-only visits; 92 percent reported that audio-only visits improved patient access, and 85 percent reported that audio-only visits helped health centers

reach vulnerable populations. Also, 91 percent of respondents noted that failure to extend current telehealth flexibilities (including reimbursement for audio-only visits) beyond the public health emergency would create barriers to reaching vulnerable populations. Eighty-one percent reported that a lack of flexibilities would lead to worse outcomes for patients with behavioral health and substance use needs, and 79 percent said that lack of flexibilities would result in higher no-show rates (NACHC, 2021).

To date, little is known about how the unprecedented shift to telehealth services has affected the quality of care provided by FQHCs. One published study that used EHR and UDS data from 36 FQHCs in 19 states observed a steep decline in total visits in spring 2020 and noted that the rapid adoption of telehealth visits was not able to compensate for the loss (Simon et al., 2021). Furthermore, the authors of that study (who compared performance in January–May 2019 with January–May 2020) found that delivery changes associated with the pandemic had negative impacts on several quality measures, including cervical cancer screening rates, childhood and adolescent weight assessment and counseling, and depression screening and follow-up. No meaningful impacts were observed on several other quality measures, including early entry into prenatal care, childhood immunizations, tobacco use screening and intervention, asthma pharmacological therapy, and statin therapy for cardiovascular disease (Simon et al., 2021). Another study of 22 FQHCs in 15 states found that, during spring 2020, 77 percent and 90 percent of health centers suspended breast and cervical cancer screenings, respectively, and half suspended colorectal cancer screenings. Eighty-six percent of health centers reported that patients seen via telehealth who needed cancer screenings were rescheduled for future visits (Fisher-Borne et al., 2021). Although these data sources do not speak to the quality of telehealth visits delivered by health centers compared with in-person visits, they suggest that the conditions of the pandemic negatively affected care quality and that telehealth did not fully compensate for that impact. Furthermore, delivery models that rely on a high percentage of telehealth visits might negatively affect preventive care that requires in-person services and interactions.

Survey and Claims Data on Low-Income Californians

Although many surveys of the general public have been fielded since the start of the COVID-19 pandemic, very little work has focused on the use of telehealth among underserved populations (CMS, 2021c; Fischer et al., 2021; Smith and Blavin, 2021). We identified two data sources that provide insight into access to, utilization of, disparities in, and satisfaction with telehealth among low-income residents of California during the pandemic: California Medicaid claims data and a statewide survey of low-income Californians sponsored by CHCF and conducted by NORC at the University of Chicago (California Department of Health Care Services, 2021a, 2021b, and 2021c; Boyd-Barrett, 2020).

Although the California Medicaid program has not published its analyses of claims data to date, Medicaid staff have shared preliminary analyses in webinars and briefings to inform

evolving telehealth policy (California Department of Health Care Services, 2021c). In fall 2021, the state's Medicaid program reported that from April 2020 to March 2021, 25 percent of Medicaid beneficiaries participated in one or more telehealth visits (California Department of Health Care Services, 2021b). In March 2021, Hispanic beneficiaries had the lowest rate of telehealth visits (10,774 per 100,000 beneficiaries), while White beneficiaries had the highest rate (14,957 per 100,000 beneficiaries) (California Department of Health Care Services, 2021a). Black beneficiaries had 12,575 visits per 100,000 beneficiaries, a rate that was higher than that of Hispanic, American Indian, and Asian beneficiaries but lower than that of White beneficiaries (California Department of Health Care Services, 2021a). Because of inconsistent coding of telehealth visits, the Medicaid program was not able to distinguish between audio-only and video telehealth visits in its data.

In summer 2020, CHCF and NORC conducted a statewide survey of adults in California who had received health care since March 2019 (Boyd-Barrett, 2020). The survey asked about experiences with health care during the pandemic and oversampled low-income residents. The survey found that, among low-income respondents who received care in the first several months of the pandemic, 65 percent received an audio-only or video visit. Use of audio-only visits was more common than that of video visits (43 percent versus 34 percent). Telehealth seems to have played an even larger role in care received by respondents of color. Seventy-six percent of respondents of color who received care during the pandemic participated in a telehealth visit, compared with less than half of White respondents (48 percent). Nearly equal percentages of respondents of color participated in video (47 percent) and audio-only (46 percent) visits.

Most low-income respondents reported positive experiences with telehealth; in fact, 63 percent reported that they would select a phone or video visit over an in-person visit whenever possible, and 71 percent reported that they would always like to have the option of different modalities for care (Boyd-Barrett, 2020).

Although new research on the impact of telehealth is emerging at a rapid pace, there are many unanswered questions with respect to safety net settings and the experiences of low-income patients. Prior research is especially limited with respect to the use of audio-only versus video visits and the impact of telehealth on quality. Furthermore, there is little evidence on variation in the use of telehealth across health centers and on the promising practices of those who have high, sustained utilization of video visits. In the chapters that follow, we describe findings from the CCA initiative, which was launched by CHCF in July 2020, to inform this gap in the literature and to provide support to the 45 participating health centers as they navigated large-scale delivery changes as a result of the COVID-19 pandemic.

3. Trends in Telehealth Use in Connected Care Accelerator Health Centers: Results from Quantitative Analyses

As participants in the CCA initiative, health centers agreed to submit aggregate data on primary care and behavioral health visits by month for the prepandemic year (February 2019–February 2020) and the first 18 months of the COVID-19 pandemic (March 2020–August 2021). The evaluation team requested these data to assess trends in the use of video, audio-only, and in-person visits as the pandemic evolved.

Data were submitted to the evaluation team at three time points (September 2020, April 2021, and September 2021) so that they could be analyzed on an ongoing basis during the CCA implementation period to inform both ongoing quality improvement at the health center level and evolving telehealth policy at the state and federal levels. Results of the first wave of data collection covering February 2019 to August 2020 were published in a *JAMA* research letter in February 2021 (Uscher-Pines, Sousa, et al., 2021). Results from the second wave of data collection covering September 2020 to February 2021 were presented at a CHCF webinar in August 2021 (CHCF, 2021). In this chapter, we present findings for the final six months of data collection (March 2021–August 2021) for the first time and summarize findings from the entire study period (February 2019–August 2021).

Methods

Participating health centers submitted aggregated data on billable outpatient primary care and behavioral health visits using a standardized reporting tool developed by the evaluation team. To reduce reporting burden and improve data quality, data elements and definitions aligned with those in HRSA's UDS, a system that health centers report to on an annual basis (HRSA, 2020b).

Primary care visits were defined as visits delivered by primary care clinicians, including physicians, nurse practitioners, and physician assistants. *Behavioral health visits* were defined as visits delivered by specialty behavioral health providers (BHPs). Health centers reported total visits, in-person visits, audio-only visits, and video visits for each month from February 2019 to August 2021. Data included the demographics (age, sex, payer, race/ethnicity, and language preference) of patients who received care via each modality each month. Because health centers were seldom reimbursed for delivering telehealth visits prior to the pandemic, most health centers reported values of zero for audio-only and video visits from February 2019 to February 2020.

The evaluation team reviewed the quality of each data submission (i.e., we checked for completeness, inconsistencies, and unexpected month-to-month variation, and we confirmed that visit totals summed correctly) and requested clarification and corrected data when issues were

identified. Although 45 health centers participated in the CCA initiative, two did not submit final reports by the time of analysis. We excluded data from two health centers because of data quality issues (e.g., missing prepandemic data, inability to differentiate between audio-only and video visits). In this chapter, we report on the data from the 41 health centers that had nearly complete data on monthly visits.

Imputation, a commonly used statistical method for addressing missing data, estimates missing responses using predictive models. Of the 41 health centers that we included in our analysis, two were missing counts of primary care visits, and one of these two health centers was also missing counts of behavioral health visits for 5–6 months of the study period, all before March 2020. Both health centers indicated that they had not conducted visits via video prior to the pandemic; therefore, we imputed ten sets of plausible values for counts of in-person and audio-only visits by running a linear regression model of visit counts on study month (where February 2019 equaled month 1, March 2019 equaled month 2, and so on), clustering by health center. We calculated the mean of the ten values and added the imputed values of in-person visit counts and audio-only visit counts to arrive at an imputed value of total visits.

To assess visit trends, we calculated the number of primary care and behavioral health visits provided via each modality per 1,000 patients served in 2019. To assess whether the total number of visits (inclusive of all modalities) rebounded after early pandemic drops in visit volume, we estimated fixed-effects regressions that examined changes in the log-transformed number of primary care and behavioral health visits from August 2020 to August 2021 (pandemic study period) relative to the period from February 2019 to February 2020 (prepandemic study period),[3] controlling for time-invariant health center differences; month-by-year interaction terms, which control for the overall trajectory of the COVID-19 pandemic; year; and month. Standard errors were clustered at the health center level. To account for differences in clinic size and allow for interpretation at the patient level, regression models were weighted based on prepandemic patient volume.

To explore variation in telehealth use by health centers after approximately one year of telehealth implementation, we calculated the proportion of total visits delivered via each modality from January 2021 to August 2021. To assess whether patients who used telehealth during the pandemic were representative of the broader patient population of these health centers, we compared the demographics of patients served in August 2019 (exclusively in person) with those who received audio-only and video visits in August 2020 and in August 2021 using chi-square tests. Because some health centers had missing data on patient demographics by visit type (e.g., for the percentage of patients with limited English proficiency who completed video visits), we excluded health centers that had more than 10 percent of data missing for a given variable from this analysis. Analyses were done in Stata 17.

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[3] Data from March 2020 through July 2020 are not included here because of volatility associated with the pandemic at that time.

Results

Forty-one health centers with 536 physical locations were included in the analysis. Thirty-two (78 percent) of these health centers were FQHCs, and nine (22 percent) were public hospital FQHCs, FQHC Look-Alikes,[4] and other community health centers (Table 3.1). Participating health centers served 1.7 million patients in 2019 and were similar to FQHCs in California that were not included in the sample with regard to geographic region and patient demographics (e.g., percentage aged over 65 years, percentage patients of color).[5] However, the smallest FQHCs (serving less than or equal to 9,999 patients in 2019) were underrepresented in the CCA initiative (Uscher-Pines, Sousa, et al., 2021).

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[4] FQHC Look-Alikes are health centers that are recognized by HRSA as meeting the eligibility requirements of an FQHC but that do not receive HRSA health center grant funding.

[5] *Patients of color* are defined as patients who self-identified as Hispanic/Latinx; Black; American Indian or Alaska Native; Asian; Native Hawaiian or Pacific Islander; other non-White race; or more than one race.

Table 3.1. Characteristics of Participating Health Centers

Characteristic	N	Percentage (mean SD)
Organization type		
FQHC	32	78.05
FQHC Look-Alike[a]	6	14.63
Public hospital FQHC	3	7.32
Number of physical sites		
3 or fewer	9	21.95
4–9	14	34.15
10–15	9	21.95
16 or more	9	21.95
Region in California		
Central Coast	4	9.76
Greater Bay Area	9	21.95
Inland Empire	2	4.88
Los Angeles County	14	34.15
Northern Sierra County	2	4.88
Other Southern California	6	14.63
Sacramento Area	1	2.44
San Joaquin Valley	3	7.32
Total unique patients in 2019		
9,999 or fewer	7	17.07
10,000–49,999	21	51.22
50,000–99,999	10	24.39
100,000 or more	3	7.32
Demographics of patient population in 2019		
Race[b]		
Black	N/A	10.5 (13.47)
White	N/A	52.8 (31.78)
Asian	N/A	10.7 (22.08)
Ethnicity		
Hispanic/Latino	N/A	50.7 (26.31)

Characteristic	N	Percentage (mean SD)
Payer		
Medicaid or dual eligible[c]	N/A	71.4 (15.78)
Commercial	N/A	9.0 (12.87)
Medicare	N/A	4.7 (4.78)
Uninsured	N/A	15.1 (12.43)

NOTES: N = 41. N/A = not applicable. SD = standard deviation.
[a] This category includes FQHC Look-Alikes, community clinics, Indian Health Service clinics, and rural clinics.
[b] Percentages in the race category do not sum to 100 percent because we do not include categories such as unknown, other race (e.g., Native American), and more than one race.
[c] This category includes Medicaid, Medicaid–Children's Health Insurance Program, Medicaid/Medicare dual eligible, and other public insurance.

Primary Care Visit Trends

In adjusted analyses that excluded the first five months of the COVID-19 pandemic, primary care visit volume during the pandemic study period (August 2020 to August 2021) was largely similar to that of the prepandemic study period. Fixed-effects linear regressions showed a significant decrease in monthly primary care visit counts in three of the months of the pandemic study period relative to prepandemic levels: a 10.1-percent reduction in August 2020 (95-percent confidence interval [CI]: $-16.58 – -3.01$, p-value < 0.01), a 9.7-percent reduction in October 2020 (95-percent CI: $-13.1 – -6.1$, p-value < 0.01), and a 6.9-percent reduction in November 2020 (95-percent CI: $-10.0 – -3.8$, p-value < 0.01). There were no statistically significant changes from prepandemic visit levels in any other months of the pandemic study period (Figure 3.1).

Figure 3.1. Percentage Change in Total Primary Care Visit Volume, August 2020–August 2021, Compared with Prepandemic Study Period
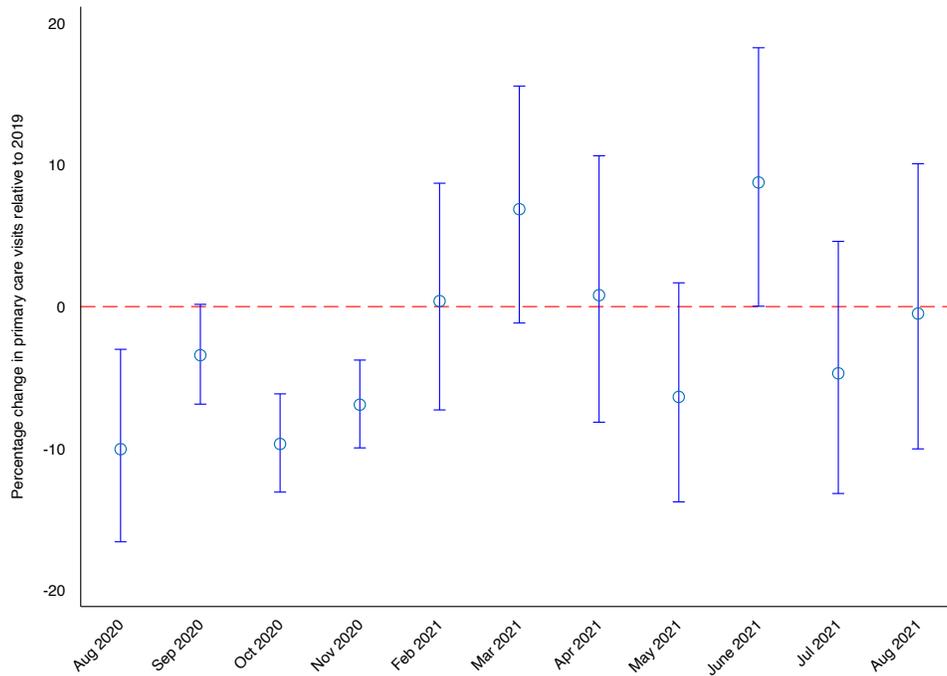
NOTE: The prepandemic study period is February 2019 through February 2020. Data from March 2020 through July 2020 are removed from the model because of volatility associated with the pandemic at that time. Data from December 2020 are excluded from the figure because of collinearity. Data from January 2021 are excluded from the figure because January is the reference month in the model. Significant changes from expected levels are indicated when error bars do not cross the red dotted line.

Differences between the prepandemic and pandemic study periods with respect to visit modality were more pronounced. In unadjusted analyses, prior to the start of the pandemic in March 2020, there was negligible use of video and audio-only visits in primary care (Figure 3.2). Although video visits increased in primary care from zero visits per 1,000 patients in February 2020 to eight visits per 1,000 patients in April 2020, video visit rates remained relatively low and stable through August 2021 (ten visits per 1,000 patients). In contrast, audio-only visits in primary care increased dramatically, from zero visits per 1,000 patients in February 2020 to 140 visits per 1,000 patients in April 2020. Audio-only visits then declined from their April 2020 peak as the pandemic progressed (70 visits per 1,000 patients in August 2021), while in-person visits grew from their nadir in April 2020 (65 visits per 1,000 patients) and eventually overtook audio-only visits as the dominant care modality as of February 2021 (108 in-person versus 105 audio-only visits per 1,000 patients). In the final three months of the pandemic study period (June–August 2021), 66 percent of total visits for primary care were conducted in person, while 30 percent and 4 percent were audio-only visits and video visits, respectively.

Figure 3.2. Primary Care Visits per 1,000 Patients, by Modality, February 2019–August 2021
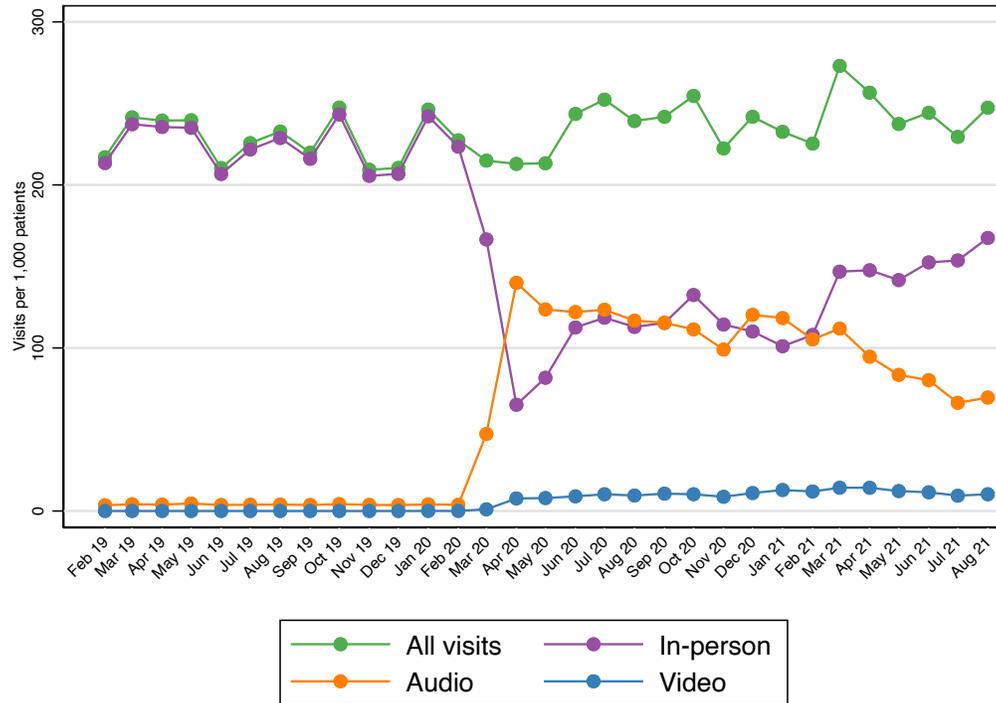
Behavioral Health Visit Trends

Adjusted analyses showed that, like primary care visit volume, behavioral health visit volume during the pandemic study period (August 2020 to August 2021) was largely similar to that of the prepandemic study period. For behavioral health, fixed-effects linear regressions showed a statistically significant decrease in total visit counts for just two months of the pandemic study period, both of which overlapped with decreases in primary care visits: an 8.6-percent reduction in October 2020 (95-percent CI: –15.1 – –1.7, p-value < 0.05) and a 7.7-percent reduction in November 2020 (95-percent CI: –12.9 – –2.2, p-value < 0.01) (Figure 3.3). These two months correspond to the start of the second and largest wave of COVID-19 cases in California as of August 2021.

Figure 3.3. Percentage Change in Total Behavioral Health Visit Volume, August 2020–August 2021, Compared with Prepandemic Study Period
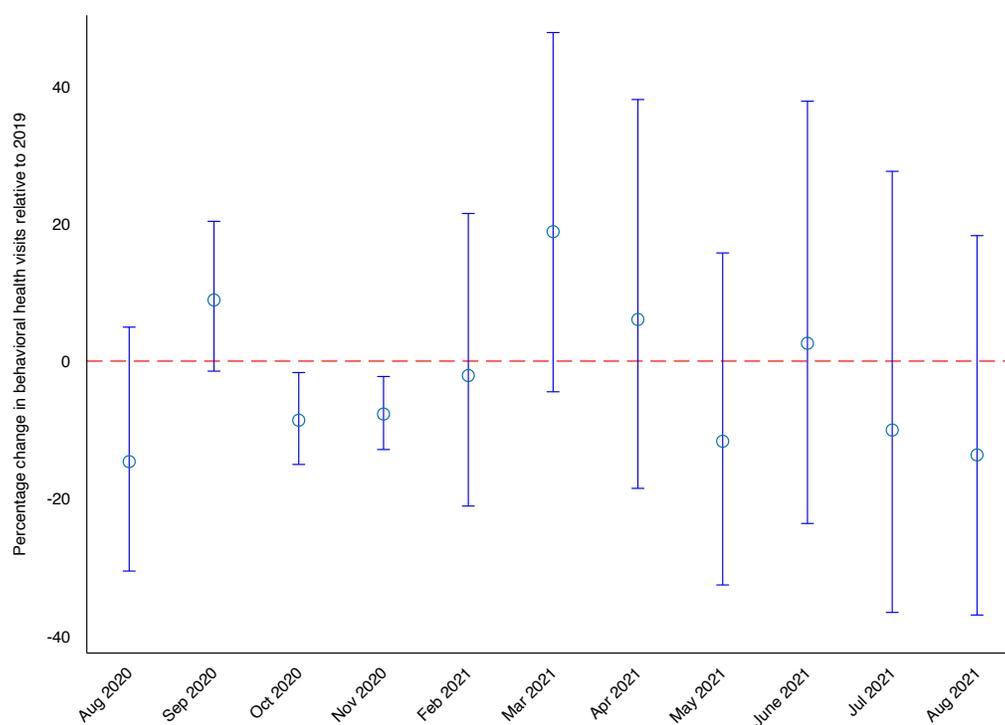
NOTE: The prepandemic study period is February 2019 through February 2020. Data from March 2020 through July 2020 are removed from the model because of volatility associated with the pandemic at that time. Data from December 2020 are excluded from the figure because of collinearity. Data from January 2021 are excluded from the figure because January is the reference month in the model. Significant changes from expected levels are indicated when error bars do not cross the red dotted line.

Although behavioral health and primary care were quite similar with respect to trends in the total number of visits, patterns for different visit modalities in unadjusted analyses varied considerably. In general, behavioral health had greater reliance on telehealth visits throughout the study period. Like in primary care, audio-only visits became the dominant modality for behavioral health in April 2020, with 22 visits per 1,000 patients (Figure 3.4). However, although the use of audio-only behavioral health visits declined over time, as of August 2021, audio-only visits remained the dominant modality (15 audio-only visits versus eight in-person visits per 1,000 patients). Video visits for behavioral health continued to grow through the pandemic study period, from four per 1,000 patients in April 2020 to six visits per 1,000 patients in August 2021. In the final three months of the pandemic study period, 28 percent of total behavioral health visits were conducted in person, while 52 percent and 20 percent were audio-only visits and video visits, respectively.

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Figure 3.4. Behavioral Health Visits per 1,000 Patients, by Modality, February 2019–August 2021
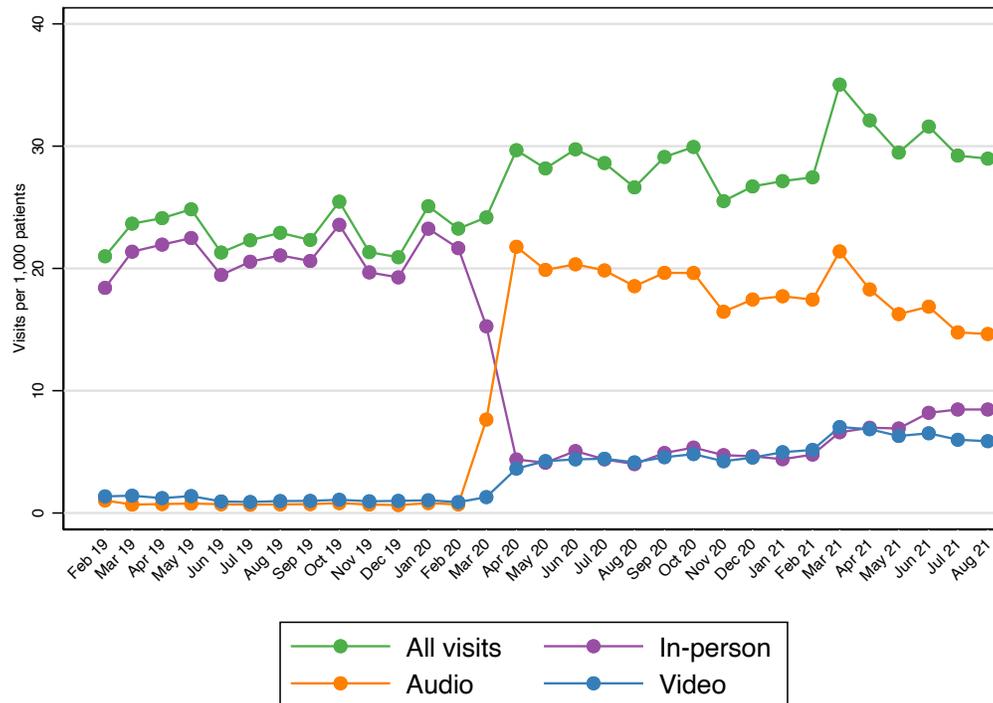
Variation in the Use of Video Visits Across Health Centers

Although audio-only visits were the dominant telehealth modality in the majority of health centers during the pandemic study period in both primary care and behavioral health, there was considerable variation in the extent of video telehealth use across heath centers approximately one year into the COVID-19 pandemic. Health centers with a high percentage of video visits are worthy of study because they can provide insights. Their practices and workflows can be described, disseminated, and adopted by other organizations that aim to grow their telehealth programs. From January 2021 to August 2021, video visits represented a median of 3 percent (range: 0–39 percent; Figure 3.5) of all primary care visits and a median of 14 percent of all behavioral health visits across different health centers (Figure 3.6).

In six health centers (14 percent), video visits constituted 20 percent or more of all primary care visits. Furthermore, in five health centers (12 percent), video visits were used more frequently than audio-only visits in primary care. In 17 health centers (41 percent), video visits constituted 20 percent or more of all behavioral health visits, and in nine health centers (22 percent), video visits were used more frequently than audio-only visits for behavioral health.

Figure 3.5. Distribution of Modalities for Primary Care Visits by Smaller and Larger Health Centers, January 2021–August 2021
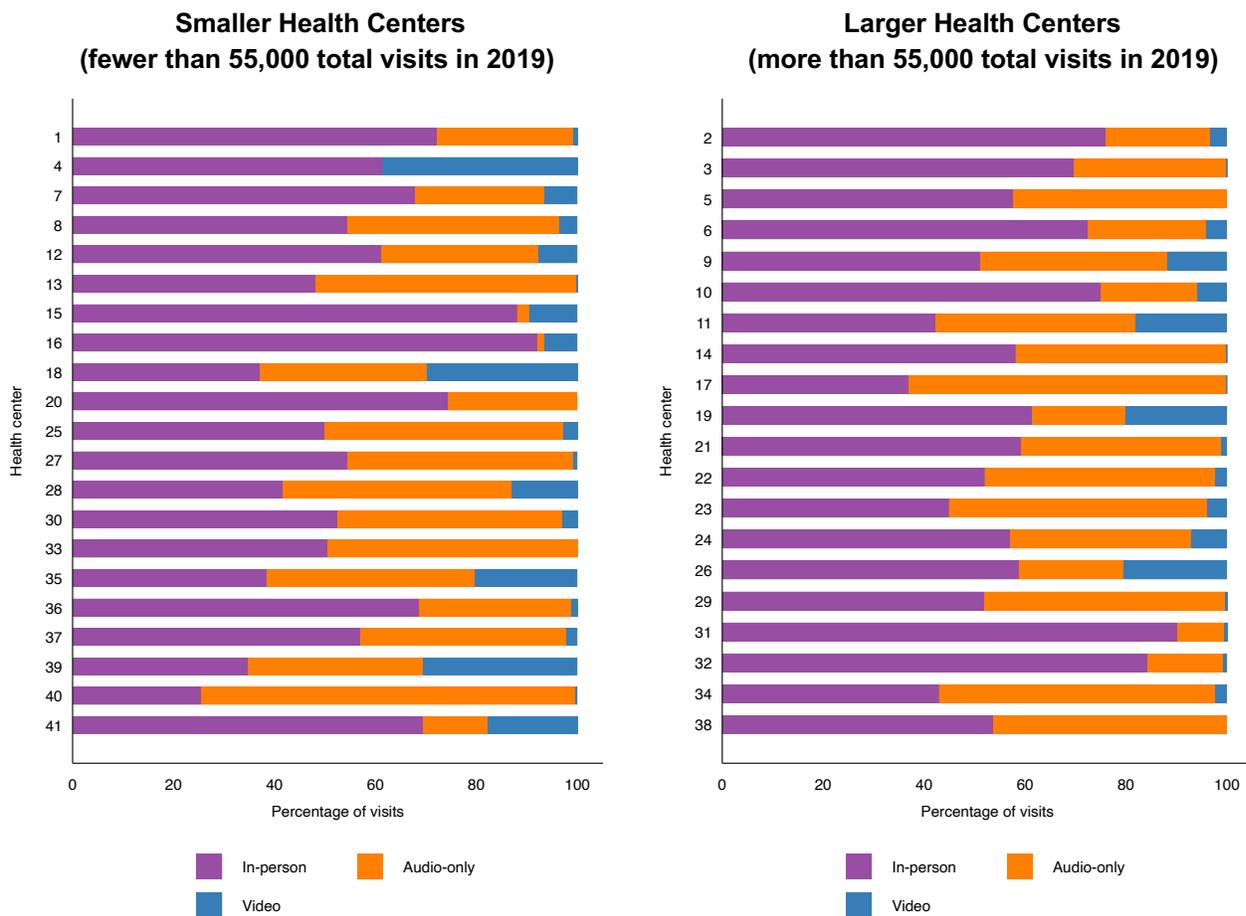
NOTE: Health centers were assigned numbers for the purposes of anonymity.

Figure 3.6. Distribution of Modalities for Behavioral Health Visits by Smaller and Larger Health Centers, January 2021–August 2021

Smaller Health Centers
(fewer than 55,000 total visits in 2019)

Larger Health Centers
(more than 55,000 total visits in 2019)
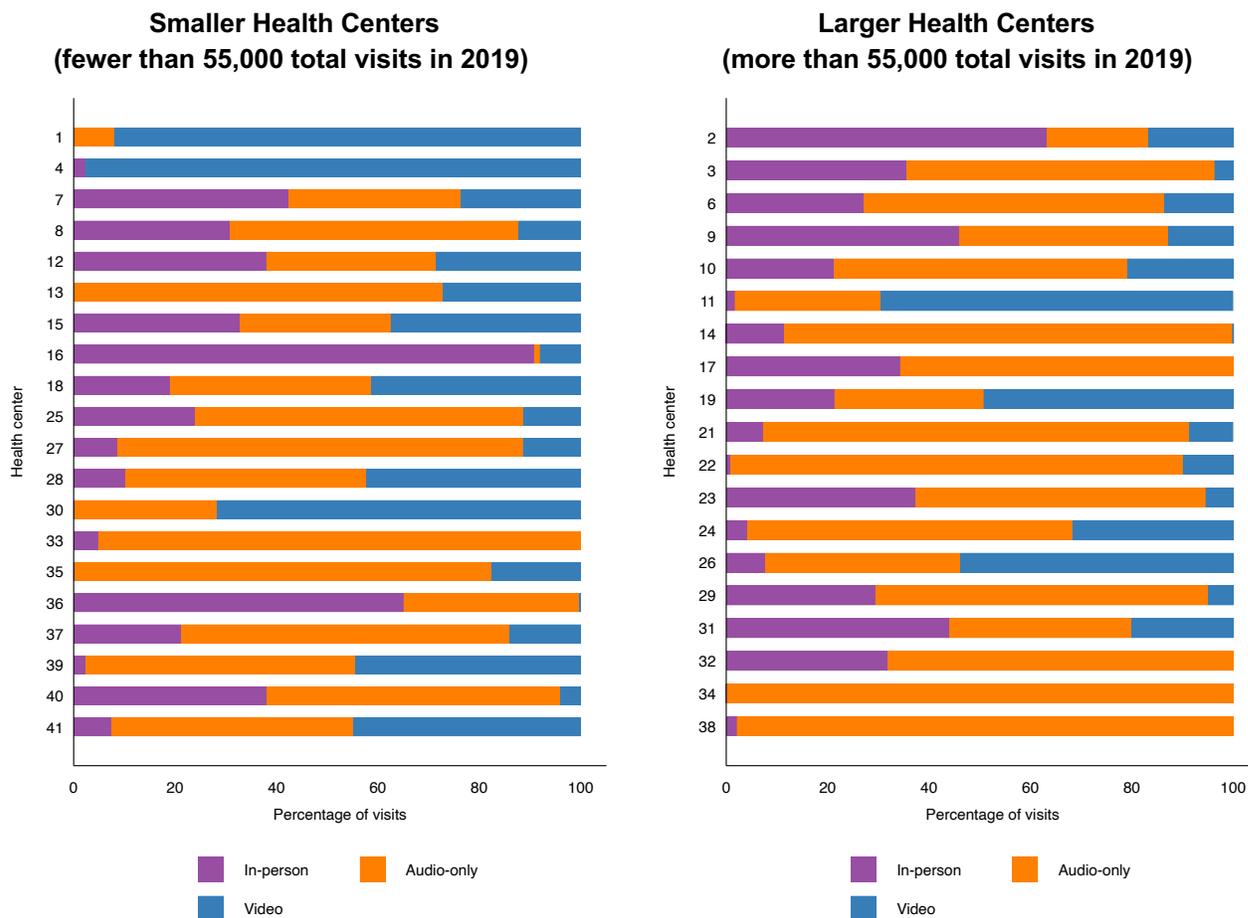
NOTE: Health centers were assigned numbers for the purposes of anonymity.

Characteristics of Patients Receiving In-Person, Video, and Audio-Only Visits

To assess whether patients who received telehealth visits (i.e., video and audio-only visits) during the pandemic were representative of the overall clinic population, we compared those served in person in August 2019 (prior to the pandemic when only in-person visits were offered) with those served via telehealth in August 2020 and August 2021. We looked at August 2020 and August 2021 to see whether any observed differences were temporary (i.e., unique to the first few months of the pandemic) versus persistent over the full pandemic study period.

There were some notable differences between patients receiving primary care in person in 2019 and those receiving primary care via video visits in 2020 and in 2021 (Table 3.2). Most notably, patients who preferred a language other than English participated in 45.5 percent of total primary care visits in August 2019 but only 37.7 percent of video visits in August 2020 and 35.8 percent of video visits in August 2021 ($p < 0.01$). Furthermore, patients who were 17 or younger were overrepresented in video visits. Although these younger patients made up 31.3 percent of

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the patient population who received primary care visits in August 2019, they constituted 36.4 percent of patients receiving video primary care visits in August 2020 and 40.0 percent in August 2021 ($p < 0.01$). Other differences, including by race, ethnicity, and payer, were also statistically significant given the large sample size. However, these differences are less noteworthy because the effect size was smaller and/or patterns were inconsistent over time.

Table 3.2. Unique Patients with Primary Care Visits in August 2019, August 2020, and August 2021, by Modality

Characteristic[a]	August 2019 Population (all in person) n (%)	August 2020		August 2021	
		Audio Only n (%)	Video n (%)	Audio Only n (%)	Video n (%)
Age					
17 or younger	78,615 (31.3)	20,651 (15.2)[b]	5,175 (36.4)[b]	14,726 (17.5)[b]	5,402 (40.0)[b]
18–44	71,434 (28.4)	44,931 (33.2)	4,664 (32.8)	28,363 (33.7)	4,670 (34.6)
45–64	70,593 (28.1)	49,873 (36.8)	2,987 (21.0)	30,380 (36.1)	2,483 (18.4)
65 or older	30,165 (12.0)	19,914 (14.7)	1,313 (9.2)	10,642 (12.7)	954 (7.1)
Not specified	341 (0.1)	140 (0.1)	90 (0.6)	0 (0.0)	0 (0.0)
Preferred language					
English	125,059 (54.5)	65,966 (53.1)[b]	7,954 (62.3)[b]	41,526 (52.9)[b]	7,577 (62.9)[b]
Other than English	104,272 (45.5)	58,304 (46.9)	4,807 (37.7)	36,551 (46.6)	4,306 (35.8)
Not specified	0 (0.0)	0 (0.0)	0 (0.0)	394 (0.5)	160 (1.3)
Race					
Black	12,159 (8.4)	7,348 (9.5)[b]	415 (7.1)[b]	4,151 (8.0)[b]	372 (9.4)[b]
White	60,088 (41.8)	26,701 (34.6)	2,975 (50.7)	18,473 (35.7)	2,264 (57.3)
Asian	22,349 (15.5)	13,083 (17.0)	1,324 (22.6)	8,222 (15.9)	438 (11.1)
Other, more than one, or not specified	49,303 (34.3)	30,025 (38.9)	1,152 (19.6)	20,891 (40.4)	879 (22.2)
Ethnicity					
Hispanic/Latino	51,427 (59.8)	26,650 (55.4)[b]	3,815 (58.1)[b]	15,999 (56.7)[b]	4,928 (69.4)[b]
Not Hispanic/Latino	32,088 (37.3)	19,708 (41.0)	2,424 (36.9)	11,167 (39.6)	1,902 (26.8)
Not specified	2,517 (2.9)	1,713 (3.6)	332 (5.1)	1,053 (3.7)	270 (3.8)
Payer[c]					
Medicare	16,833 (5.2)[b]	11,273 (6.3)[b]	510 (3.1)[b]	5,505 (5.4)[b]	635 (4.1)[b]
Medicaid/dual	256,707 (79.4)	136,347 (76.4)	13,501 (83.3)	80,673 (79.1)	12,979 (83.9)

Characteristic[a]	August 2019 Population (all in person) n (%)	August 2020		August 2021	
		Audio Only n (%)	Video n (%)	Audio Only n (%)	Video n (%)
Commercial	18,601 (5.8)	10,244 (5.7)	1,053 (6.5)	5,078 (5.0)	1,010 (6.5)
Uninsured	31,134 (9.6)	20,556 (11.5)	1,151 (7.1)	10,659 (10.5)	838 (5.4)
Not specified	0 (0.0)	0 (0.0)	0 (0.0)	28 (0.0)	0 (0.0)

[a] Complete age data were reported by 28 health centers, preferred language by 25, race by 14, ethnicity by 16, and payer by 30.
[b] Each distribution is compared with the August 2019 distribution, and all differences are statistically significant ($p < 0.01$).
[c] Payer is counts of unique visits in the month.

Results for behavioral health visits were very similar to those for primary care, with patients preferring a language other than English underrepresented and patients aged 17 or younger overrepresented in video visits in both August 2020 and August 2021 (Table 3.3). Patients who preferred a language other than English participated in 20.6 percent of total behavioral health visits in August 2019 before the pandemic but participated in only 13.2 percent of video visits in August 2020 and 15.5 percent of video visits in August 2021 ($p < 0.01$). Although patients 17 years old or younger constituted 19.7 percent of the patient population in August 2019, they made up 32.9 percent of patients receiving video behavioral health visits in August 2020 and 27.7 percent in August 2021 ($p < 0.01$).

For both primary care and behavioral health visits, there were also differences in the use of video visits by race, ethnicity, and payer that were statistically significant. However, given that differences were small or not persistent, the evaluation team did not interpret these to be clinically meaningful.

Table 3.3. Unique Patients with Behavioral Health Visits in August 2019, August 2020, and August 2021, by Modality

Characteristic[a]	August 2019 Population (all in person) n (%)	August 2020		August 2021	
		Audio Only n (%)	Video n (%)	Audio Only n (%)	Video n (%)
Age					
17 or younger	3,246 (19.7)	2,468 (16.8)[b]	1,073 (32.9)[b]	1,666 (13.4)[b]	1,489 (27.7)[b]
18–44	6,953 (42.2)	6,181 (42.2)	1,326 (40.6)	5,326 (43.0)	2,285 (42.6)
45–64	5,017 (30.4)	4,754 (32.5)	739 (22.6)	4,158 (33.6)	1,160 (21.6)
65 or older	1,277 (7.7)	1,246 (8.5)	128 (3.9)	1,243 (10.0)	435 (8.1)

Characteristic[a]	August 2019 Population (all in person) n (%)	August 2020		August 2021	
		Audio Only n (%)	Video n (%)	Audio Only n (%)	Video n (%)
Not specified	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Preferred language					
English	10,178 (79.4)	8,311 (79.2)	2,236 (86.8)[b]	7,090 (80.3)[b]	3,745 (84.5)[b]
Other than English	2,645 (20.6)	2,182 (20.8)	341 (13.2)	1,725 (19.5)	687 (15.5)
Not specified	0 (0.0)	0 (0.0)	0 (0.0)	18 (0.2)	2 (0.0)
Race					
Black	258 (5.1)	213 (5.0)[b]	72 (6.2)[b]	260 (8.4)[b]	118 (6.5)[b]
White	4,288 (84.5)	3,640 (86.3)	892 (76.6)	2,138 (69.2)	1,336 (73.2)
Asian	100 (2.0)	64 (1.5)	25 (2.1)	182 (5.9)	45 (2.5)
Other, more than one, or not specified	430 (8.5)	303 (7.2)	175 (15.0)	510 (16.5)	325 (17.8)
Ethnicity					
Hispanic/Latino	2,525 (44.2)	2,560 (58.2)[b]	543 (45.2)	1,861 (51.7)[b]	929 (50.9)[b]
Not Hispanic/Latino	3,042 (53.2)	1,718 (39.0)	621 (51.7)	1,614 (44.8)	828 (45.4)
Not specified	150 (2.6)	124 (2.8)	38 (3.2)	128 (3.6)	67 (3.7)
Payer[c]					
Medicare	1,977 (7.2)	2,390 (9.7)[b]	218 (3.8)[b]	2,271 (12.6)[b]	645 (8.2)[b]
Medicaid/dual	18,871 (68.5)	17,419 (71.0)	4,149 (72.7)	12,994 (72.1)	5,949 (75.4)
Commercial	1,338 (4.9)	765 (3.1)	257 (4.5)	652 (3.6)	357 (4.5)
Uninsured	5,375 (19.5)	3,944 (16.1)	1,084 (19.0)	2,099 (11.7)	942 (11.9)
Not specified	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

[a] Complete age data were reported by 28 health centers, preferred language by 25, race by 14, ethnicity by 16, and payer by 30.
[b] Each distribution is compared with the August 2019 distribution, and all differences are statistically significant ($p < 0.01$).
[c] Payer is counts of unique visits in the month.

Limitations

Although we discuss the implications of these findings in Chapter 6, it is important to acknowledge some limitations of this analysis. First, health centers submitted aggregate—rather than individual-level—data, limiting the types of analyses we were able to conduct. For example, we could not adjust for multiple patient characteristics in assessing telehealth use among different populations of patients. Second, data were entered manually by health center staff into a

data entry tool that we developed, a process that can introduce human error. Third, although we identified some differences in utilization of video and audio-only visits by patient demographics, it is important to note that not all differences could be evidence of inequities in access. For example, pediatric patients could participate in a higher percentage of video visits because clinicians might believe that audio-only visits are less clinically appropriate for younger patients.

4. Health Center Leaders' Perceptions of Telehealth Implementation: Results from Semistructured Interviews

As suggested by the quantitative findings presented in Chapter 3, health centers undertook significant efforts to develop their telehealth programs during the early phases of the COVID-19 pandemic and continued to build on those efforts throughout the CCA initiative. CCA health centers agreed to participate in interviews with members of the evaluation team to share their experiences with telehealth implementation, promising practices, facilitators, and challenges. We summarize themes and findings from these interviews in this chapter.

Methods

We conducted semistructured interviews with leaders and staff at the 23 health centers participating in the CCA Innovation Learning Collaborative at three time points: October/November 2020, March/April 2021, and October 2021 ($n = 69$ interviews). Between one and four health center leaders and/or staff members participated in each interview, representing their CCA implementation team, which included leaders and staff from a variety of roles. The same set of leaders and staff generally participated in each interview round.

Participants included chief executive officers, chief medical officers, operations leadership and staff (e.g., clinic managers, quality improvement managers and staff), medical leadership (e.g., medical directors), clinical staff (e.g., physicians, nurses, pharmacists, and medical assistants [MAs]), and information technology (IT) staff (e.g., information specialists, network administrators). To recruit staff for interviews, the evaluation team initially contacted the designated lead for each organization's CCA grant, and leads were asked to invite other individuals who were involved in efforts related to the CCA grant or who were knowledgeable about telehealth implementation at the health center. All health centers participated in interviews at all three time points.

Interview protocols were semistructured and aligned with the research questions presented in Chapter 1. Key topics covered in the interviews were lessons learned regarding the implementation of telehealth (including workflows and operational changes; the roles of providers, care teams, and other staff; telehealth platforms and hardware; and patient engagement and capacity-building), promising practices for the implementation of video visits, overall barriers and facilitators to telehealth implementation, the impact of telehealth on access to and quality of care, and the future of telehealth. Interviews were conducted via video teleconference using Microsoft Teams and were 40 to 60 minutes in length. They were recorded and transcribed.

To analyze data, the evaluation team developed an initial code list based on the interview protocol. After the interviews were complete, interviewers discussed emerging themes (e.g., key barriers, facilitators, promising practices) across all interviews and refined the code list to ensure that emergent themes would be captured. Interview transcripts were coded using ATLAS.ti version 8.4 qualitative research software. Coding occurred at three different time points after each round of interviews was completed. Key themes from the first and second rounds of interviews were reviewed for accuracy and relevance by health center participants and external partners, and the code list was modified before coding the final set of interviews to ensure that it captured themes of interest. As a first step, we identified overall themes. Then, we compared themes for health centers with high video utilization (which we defined as more than 25 percent of primary care telehealth visits by video in the past six months of the study period) and lower video utilization to identify the promising practices of high utilizers. We discuss themes from all interviews in this chapter and include quotes from interviewees to provide illustrative examples. Results from the first and second interview time points were previously published in a *Health Affairs* blog article in March 2021 (Uscher-Pines, Jones, et al., 2021) and presented at a CHCF webinar in August 2021 (CHCF, 2021).

Findings

Findings are organized by interview topic, as follows: telehealth implementation (including focused attention on video visits), overall barriers and facilitators to telehealth, the impact of telehealth on access to care and quality of care, and the future of telehealth.

Telehealth Implementation

Context of Telehealth Implementation During the COVID-19 Pandemic

Although some health center staff were familiar with the use of telehealth for specialty care, particularly with externally contracted providers, most interviewees did not have experience providing primary care or behavioral health services via telehealth prior to the COVID-19 pandemic. In interviews, many staff members commented on the challenges they faced as they rapidly pivoted from in-person to telehealth visits. As one participant described, the decision to initiate telehealth services was one born of necessity:

> We at the leadership level . . . made a concerted effort and decision that we were going to keep our staff and our patients safe, and that we needed to make this transition [to telehealth] almost overnight so we could do that, while still trying to provide care for patients. All FQHCs serve an underserved population that has a lot of need, so how do we ensure that we're taking care of [our patients]? Collectively, we decided we were going to invest in making this transition [to telehealth]. . . . As we faced challenges and they came up, we really worked together as a team to solve them.

The pandemic increased strain on health center staff and patients. In addition to determining how to provide telehealth services, health center staff had to make a variety of other operational, staffing, and clinical decisions to protect patients and staff from exposure to the virus that causes COVID-19. Additionally, the pandemic resulted in staffing shortages and concerns about financial sustainability for nearly all health centers. As the pandemic progressed, health center staff acted quickly to address additional emergent priorities, including COVID-19 testing and vaccination.

Because many health centers were relatively inexperienced with using telehealth to provide primary care and behavioral health services, they needed to develop and adopt new workflows and practices. Most health center staff acted rapidly to meet patient demand at the beginning of the pandemic, and, as time went on, many gradually began to think about longer-term needs and sustainable models of telehealth beyond the pandemic. Key changes were needed in the areas of workflows and operations, staffing, technology, and patient engagement—both to support the initial adoption of telehealth and to ensure its sustainability. In the following sections, we describe the changes that health centers made in these areas, along with promising practices identified.

Workflows and Operational Changes

All health center staff made changes to workflows and operational procedures to provide telehealth visits to their patients. Participants noted that more changes were needed to implement video visits than to implement audio-only visits, which contributed to greater reliance on audio-only visits by some health centers at the beginning of the pandemic.

Across health centers, workflows needed to be changed for most aspects of clinical encounters, including

- scheduling visits
- communicating reminders
- checking patients in for visits
- completing paperwork and documentation
- conducting visit prework and screenings
- conducting visit follow-up.

In addition, new processes needed to be established for determining the type of visit that was appropriate for a patient's clinical need (i.e., in person, video, audio only). Several health center interviewees identified the importance of developing standardized scripts for schedulers to help them determine which appointment type should be offered.

Changes to individual workflows varied widely across health centers, but several themes emerged (see the "Implementation Facilitators: Workflows and Operational Changes" box). Teams identified several facilitators, including having defined goals, developing standardized workflows, and using rapid-cycle improvement processes to refine and improve changes throughout the implementation. Additionally, given the dependence of telehealth on IT,

interviewees noted the importance of collaborating across IT, operations, and clinical teams, and providing strong IT support.

Implementation Facilitators: Workflows and Operational Changes

Health center respondents noted the following workflows and operational changes as facilitators to the implementation of telehealth:

1. developing standardized scripts for schedulers, call center staff, patient care representatives, and other nonclinical staff who were involved in determining appointment types
2. creating standardized workflows for all aspects of clinical encounters, including scheduling visits, communicating reminders, checking in patients, completing paperwork and documentation, conducting visit prework and screenings, and conducting visit follow-up
3. having clearly defined goals when making changes to workflows
4. using rapid-cycle improvement processes
5. coordinating across IT, operations, and clinical teams
6. providing IT support to providers and other patient-facing staff.

Staffing

To shift to telehealth, all health centers had to reevaluate—and, in some cases, modify—existing staff roles. Nearly all health centers made staffing decisions for telehealth implementation while facing staffing shortages.

For most health centers, the introduction of telehealth—and video visits in particular—placed additional responsibilities on clinical and operational staff, including providers, MAs, nurses, and front desk and call center staff. Changes to MAs' roles were most pronounced. MAs at many health centers took on a variety of new tasks for telehealth appointments, including supporting providers with technology use, supporting patients with access, troubleshooting technology issues, and making pre- and postvisit calls to coordinate care for patients. In many cases, MAs also were working with a higher volume of patients than usual because of staffing shortages. Additionally, MAs often were collaborating with providers who were working from home, which made communication and care coordination more challenging. In contrast, at a few health centers, MAs had fewer clinical responsibilities at the outset of the COVID-19 pandemic, when screenings and other previsit tasks were reduced.

Similarly, the dynamics and methods of coordination of care teams needed to be revisited in light of the transition to a fully virtual or hybrid (i.e., part in person, part remote) environment. Participants noted that care teams were most effective when existing configurations were preserved and when provider-MA communication remained strong.

The ability of care teams to effectively communicate and coordinate depended, in part, on the quality and reliability of the technology available to them (see the "Implementation Facilitators: Staffing" box). For example, one health center used breakout rooms in the video conferencing platform Zoom in which care team members could "huddle" virtually and coordinate care. An interviewee from this health center felt that the virtual platform helped facilitate collaboration across the care team in a manner that was similar to in-person care models. In other cases, MAs

and providers continued to work together in the same physical clinic. Alternatively, some health centers allowed providers to work from home, which necessitated the use of other methods of communication, such as instant messaging that was separate from the telehealth platform and was accessible to patients. In several cases, health center staff indicated that the technology available did not allow for adequate communication between providers and MAs, which created challenges and dissatisfaction among staff.

Implementation Facilitators: Staffing

Health center respondents noted the following staffing changes as facilitators to the implementation of telehealth:
1. ensuring venues for digital communication and collaboration among providers, MAs, and other care team members
2. ensuring that there is adequate staffing for additional responsibilities associated with virtual visits (e.g., supporting providers with technology, supporting patients with access, troubleshooting technology) within the clinical team or within newly developed telehealth roles
3. delegating responsibility for overall telehealth implementation to a manager or coordinator role.

Several health centers piloted changes in the roles and responsibilities of their MA staff. In one health center, two MAs were paired with each clinic provider, with one MA assigned to technology-related tasks and the other assigned to more-traditional clinical tasks. One health center successfully adopted this model as a standardized practice in one clinic location, with the goal of rolling it out to other locations. Another health center trained a subset of MA staff to be dedicated to telehealth operations and paired them with providers who were conducting video visits. In this model, MAs were responsible for supporting both patients and providers with technology-related needs and challenges (e.g., troubleshooting issues with the webcam), in addition to their clinical responsibilities. In other cases, health centers intentionally declined to make specific changes to roles to maintain existing provider-MA dyads and to minimize disruption associated with changes to workflows.

In addition to changes among care team roles, several health centers added new staff roles. Most often, they added telehealth coordinators who served the dual purpose of onboarding patients onto the telehealth platform and supporting providers and care team members with the use of the telehealth platform. One health center created a telehealth system support role, which assumed many of the telehealth responsibilities previously assigned to MAs, allowing MAs to focus on clinical care within telehealth visits. When asked about the effectiveness of telehealth coordinator roles, participants viewed these roles positively but noted that it was hard to assess their effectiveness given overall staffing shortages and the fact that their health centers had not returned to normal operations. Using the experience of interview participants alone, we could not identify a single promising model or set of practices around the creation of telehealth coordinator roles. Each health center created a unique model based on its existing care team and practices, along with the available resources and technology.

Additionally, several health centers leveraged the support of student volunteers, medical students, or other volunteers in "tech advocate" roles. These volunteers had varied responsibilities, such as enrolling patients in a patient portal and onboarding patients onto the health center's video visit platform. Health center staff commended the enthusiasm and dedication of their volunteers and noted that volunteers alleviated some of the burden on the MAs. In addition to these tactical roles, participants noted the importance of having a manager or coordinator—such as an operations manager, clinic manager, or quality improvement manager— who would be responsible for the overall rollout of the telehealth program. According to one interviewee, "This type of program needs a project coordinator, somebody who is able to bridge our push from the leadership team."

In summary, health center staff cited numerous staffing changes to support telehealth implementation (see the Staffing box earlier in this section). Strategies included creating a venue or method for collaboration among care team members, ensuring adequate staffing to implement telehealth while maintaining existing clinical responsibilities, and finding ways to delegate the responsibility for overall telehealth implementation to a telehealth coordinator or manager role.

Technology: Telehealth Platforms and Supportive Web-Based Platforms

Most health centers needed to identify new telehealth platforms for implementing synchronous video visits and expand other platforms to support new workflows. For example, in addition to implementing new telehealth platforms, many health centers adopted or expanded the use of patient portals and patient text-messaging platforms.

Participants pointed out that the feature they most valued in telehealth platforms was real-time web communication, which allows patients attending a video appointment to click on a link to enter a synchronous videoconference without needing to download an app or software. Health center staff using platforms with this feature indicated that this significantly facilitated patients' ability to access appointments. Furthermore, health center staff who did not have real-time web communication mentioned that this was a desired feature.

Participants also noted that platforms with which their patients were already familiar (e.g., FaceTime, Zoom) often were easier for patients to access. In some cases, health center staff chose to use multiple platforms for video visits while working under the emergency use authorization that allowed for the use of non–HIPAA-compliant platforms.[6] Participants also described a variety of other features that supported patients' ability to access video visit platforms, which we list in the "Video Visit Platform Features That Were Valued or Desired by Implementation Teams" box.

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[6] During the public health emergency, the U.S. Department of Health and Human Services Office for Civil Rights allowed health care providers to use widely available communication software to conduct telehealth visits, even if the software did not meet HIPAA privacy and security requirements.

In selecting platforms—especially for video visits—health center staff had to decide whether to enable the use of a platform that was integrated with the EHR and typically was accessed via a patient portal (which created a more seamless workflow for clinic staff but was more difficult for patients) or to provide a platform that allowed for easier access for patients. Given low patient portal enrollment rates and the digital literacy barriers experienced by many patients, the use of a video visit platform that is only accessible via a portal was described by participants as a deterrent to video visit use.

Video Visit Platform Features That Were Valued or Desired by Implementation Teams

Features That Were Valuable for Patient Experience
- web real-time communication
- technology that is familiar to patients
- a virtual waiting room in which communication with clinic staff is enabled and messages can be displayed
- three-way calling for interpreter services and/or to include family members or caregivers
- photo uploads (from patient to provider)
- file- and image-sharing (from provider to patient)
- the ability to flip the camera
- the ability to complete electronic registration forms within the platform
- the ability to test a video call ahead of the appointment.

Features That Were Valuable for the Provider, Staff, or Back-End User Experience
- integration with EHR
- integration with patient portal
- the ability to facilitate digital communication and collaboration across the care team
- the ability for all clinical roles—not just providers—to conduct visits
- the capacity for group visits.

Patient Engagement and Capacity-Building

A consistent challenge for health centers was ensuring that patients could access telehealth services. A variety of patient-level barriers to participating in telehealth visits—particularly in synchronous video visits—were described by interviewees, including challenges accessing the telehealth platform or related technology, challenges with literacy or digital literacy, and limited connectivity and resources (i.e., limited availability of computers and smartphone devices) in rural areas. Many participants also emphasized the strengths of their patients in overcoming barriers to use telehealth; they described the willingness and eagerness of patients to try new things, the support provided within families and across generations to troubleshoot technology, and the responsiveness of patients to provider encouragement.

Many health center staff screened patients for telehealth readiness at the time of appointment scheduling to identify patients who experienced digital barriers, including those without access to a device or to the internet and those who were likely to need additional support to engage in a telehealth visit (Figure 4.1). Participants indicated that screening helped them schedule the right types of appointments for patients and connect them with their health center's resources to support patients with technology use.

Figure 4.1. Example of a Digital Screening Tool Used by Call Center Staff

1. Are you willing to participate in virtual care services with a Health Provider/Practitioner?
   a. Yes
   b. No
2. Do you have internet access at home?
   a. Yes
   b. No

3. Does your device (i.e. tablet, smartphone, IPAD, computer) have a camera to support video calls?
   a. Yes
   b. No
       Questions number 1-3 must be yes. If yes, please proceed to question 4.

4. How confident do you feel about doing the following tasks without any help?
   a. Navigating the LAC DHS my wellness portal?
      1- Not at all Confident
      2- Somewhat Confident
      3- Confident
      4- Very Confident

   b. If you're not confident, do you have someone available to help with video calls?
      (question B only applies question to A 1-2)
      Yes
      No

SOURCE: Provided to the authors by the Center for Community Health and Evaluation.
NOTE: LAC DHS = Los Angeles County Department of Health Services.

Health center staff identified and adopted a variety of strategies to support patients' capacity to use their telehealth platforms (see the "Implementation Facilitators: Patient Engagement and Capacity-Building" box). Successful strategies included posting demonstration videos on their websites; conducting text message campaigns to provide patients with links to information; and engaging health education staff, telehealth coordinators, or volunteers to provide one-on-one technical assistance or conduct practice visits with patients. Health center staff felt that these efforts facilitated increased access to telehealth for patients who would be unlikely to engage without dedicated support. Dedicated, one-on-one support was viewed as the most important strategy for supporting patient telehealth use; however, it was resource-intensive for many health centers. According to one interviewee, "For me, having a dedicated patient-facing support is important . . . plenty of times, our patient population have that digital barrier. . . . We always call [the tech advocate] and make sure that the patient gets connected with their doctors."

Participants also emphasized the role of providers in obtaining patient buy-in for telehealth visits. They noted that patients often were more receptive to outreach efforts and encouragement to try telehealth from trusted providers than to efforts from other clinic staff.

Despite the many efforts of health center staff to support patient use of telehealth, numerous barriers persisted. Interview participants discussed the ongoing challenges faced by patients without smartphones or computers and challenges using telehealth among elderly patients, patients experiencing homelessness, patients with limited English proficiency, and patients living in rural communities or working as migrant farmworkers. According to one interviewee, "A lot of our patients are agricultural workers and don't have access to good Wi-Fi. Or paying for internet is not a priority . . . so we wanted to support patients . . . like if someone needs help logging on, someone can help them to practice on their phone." Some health centers began to pilot new initiatives in an effort to ameliorate patient barriers, such as making Wi-Fi available for telehealth visits in clinic parking lots and introducing telehealth in mobile medical units. These efforts were in their early phases at the time of our interviews, but participants felt that they held promise for increasing patient access to telehealth.

Video Visits

Although many health centers began to provide audio-only visits for primary care and behavioral health at the start of the pandemic, the implementation of video visits proceeded more slowly and required more resources. According to one interviewee, "One thing I think we've really acknowledged now is just how critical the support staff are to conducting a video visit. . . . It's the setup that's very complicated. Scheduling the patients, getting them to download an app they may not have used before, or don't know how to use. Who's doing that?"

Video visits were viewed by some health center leaders and clinicians as essential to providing quality care. Furthermore, nearly all participants felt that video visits were more sustainable because they (in contrast with audio-only visits) were likely to be reimbursed by most payers in the long term. For these reasons, the implementation of video visits became a central focus for several health centers.

To explore themes that are unique to the implementation of video visits (as opposed to those applicable to telehealth more broadly), we asked participants about the use of video visits and barriers, facilitators, and promising practices related to video visits.

The extent to which health centers were able to deploy video visits varied widely, as described in Chapter 3. Health center staff who participated in interviews differed substantially in the degree to which they were conducting video visits in fall 2021.

In comparison with audio-only visits, participants reported that barriers to conducting video visits included complex technology, infrastructure, and operational resources from health centers, along with lack of patient access to devices, access to internet, and digital literacy. Providers and staff at some health centers reported that they were sometimes hesitant to use video visits because the associated workflows and technology troubleshooting were time-consuming. For example, according to one interviewee, "We had a number of staff who actually were not comfortable with the idea of video visits, because, frankly, it's a new way of delivering care for many of us. Some were a little reluctant even when their medical leadership was like, 'This is a good thing, these are the clinical justifications for deploying video.'"

As we examined data from interviews with health centers that conducted more than 25 percent of their primary care telehealth visits by video by the end of the study period, several facilitators to successful video visit implementation emerged. Many of these themes were similar to facilitators of telehealth implementation more broadly, but in focusing on promising practices among health centers with more video utilization, we sought to identify facilitators of video telehealth use in particular. We discuss several facilitators to video visits in the following sections.

Use of Telehealth Platforms That Provide Easy Access for Patients

Although staff in health centers with high video utilization used a variety of telehealth platforms, they tended to select platforms that they described as easy to access. As we discussed earlier in the section on technology, real-time web communication that did not require patients to download an app or log into a patient portal was reported as being the most essential feature.

Scheduling Telehealth Appointments as Video by Default

Several health center interviewees emphasized the use of video visits at the beginning of the transition to telehealth by encouraging their schedulers to schedule as many video visits (as opposed to audio-only visits) as possible. One health center continued to maintain a "video by default" policy for telehealth appointment scheduling; patients were offered audio-only appointments only if they did not have access to adequate technology. Other health center interviewees indicated that they were able to increase video visits by using telephone scripts that encouraged the use of video at the time of scheduling (e.g., by stating, "Your provider would like to see you by video"). Provider encouragement, adoption of clinic scheduling policies, and use of a script to encourage video visits were all described as successful strategies to boost utilization.

Setting Targets or Quotas for Appointment Modalities

Interviewees at several health centers with relatively high video adoption indicated that leaders set specific targets for the percentage of video versus audio-only visits conducted among providers. Some health centers had a system for regularly monitoring metrics and communicating about meeting these goals. Interviewees stated that several health plans offered payment incentives to health centers that met targets for rates of video utilization, which provided additional motivation.

Dedicating Operational Resources to Video Visit Implementation

Although nearly all health centers struggled with the operational bandwidth to implement new telehealth practices while juggling other health center priorities, such as COVID-19 testing and vaccination, those at health centers with high video utilization reported that they allocated adequate operational resources and staff time. In particular, interviewees from health centers with higher video utilization stated that they were able to develop new workflows and modify care team models that allowed them to onboard and connect patients to video platforms, complete previsit and postvisit tasks, maintain communication between providers and care team members, and complete documentation efficiently. Furthermore, such health centers were able to troubleshoot technology challenges on both the health center and patient sides, and they were successful in training providers and care teams in the use of new technology.

Providing Dedicated Support to Patients on the Use of Video Visit Platforms

Staff at health centers with high rates of video visits provided dedicated support to patients. As discussed in the previous section, this support could take multiple forms.

Overarching Barriers to and Facilitators of Telehealth Implementation

In addition to barriers to and facilitators of specific aspects of telehealth implementation (e.g., workflows) described in the previous sections, we describe key overarching barriers and facilitators to health centers adopting new or expanded telehealth programs more generally.

Barriers to Telehealth Implementation

The most frequently discussed barriers were related to staffing, patient access to devices, the limitations of telehealth platforms available to health centers, and the availability of language interpretation services for telehealth.

Staffing

Health center staffing was the most common barrier to implementing telehealth. Staffing shortages were prevalent and were described as affecting provider and clinical support staff roles, along with operations and IT roles. As a result of staffing shortages, many health center interviewees were not able to execute the operational changes they had planned, or they had to move at a slower pace. In addition to staffing shortages associated with pandemic-related

workforce trends, many health centers had to deploy remaining staff to work on other competing priorities (e.g., COVID-19 testing, vaccinations, and catching up with the demand for in-person care once pandemic precautions were scaled back).

Patient Access to Devices and the Digital Divide

A variety of aforementioned patient-level barriers to accessing telehealth were described by participants, including challenges with accessing technology, challenges with literacy or digital literacy, and limited connectivity and resources in rural areas. Health center staff identified and adopted a variety of strategies to support patient access to technology, which we discuss further in the next section.

Limitations of Telehealth Platforms

Health center staff often expressed frustration with aspects of their telehealth platforms. The two challenges within this domain that were most often described by participants were the need to use platforms that were difficult to operate and the lack of integration with EHRs and other health center information systems.

Language Interpretation Services

In many cases, health centers were not able to directly connect with interpreters—particularly those who were contracted using external agencies—through their video telehealth platforms, which created a barrier to equitable access for patients with limited English proficiency. Not all video visit platforms supported three-way calling to connect with an interpreter or with a bilingual care team member in a different location from that of the provider. Furthermore, some external vendors of interpretation services were willing to provide video-based interpretation using only particular platforms or could join visits only if they received a call directly rather than entering the visit via a web-based link. Health centers with bilingual providers and staff had fewer overall challenges with interpretation, but they could not provide interpretation in all languages needed by their patients. Participants also noted that the user interfaces of their platforms—such as in automated text message reminders, patient portal login and messaging pages, and messages in the video platform waiting room—posed challenges for patients with limited English proficiency. In some cases, translated materials were available in Spanish, but they were rarely available in other languages.

Additional Challenges

Other barriers described by health center interviewees included resistance to telehealth from some providers and patients, inadequate IT infrastructure and staff resources within the health center, difficulties in standardizing and spreading practices across large organizations, and competition with other health center priorities (e.g., with respect to the response to COVID-19 or in the transition to a new EHR system).

Facilitators of Telehealth Implementation

Participants described numerous facilitators of overall telehealth implementation, including leadership support, the perceived urgency of making changes, the availability of funding, patient willingness to use telehealth, and peer learning opportunities.

Leadership Support

Many participants emphasized the importance of leadership support, including that of executive and clinician leadership, in implementing telehealth. Leaders who expressed support tended to foster buy-in from providers and staff. The engagement of supportive health center leaders also facilitated coordination across teams and departments. According to one interviewee, "I think there was a real recognition from leadership in our organization that [telehealth] was something that was important and something we needed to do and learn to do well, because as much as it was a crisis, there really was a big opportunity for us, and I think they recognized that. I felt like there was support at the leadership level to get this moving."

Sense of Urgency

When asked about facilitators of telehealth implementation, participants frequently described the urgent need for access to care during the pandemic. Participants explained that telehealth became critical to maintaining access to care and that, by delivering telehealth services, health centers could remain financially viable.

Funding

Changes in reimbursement policies and the provision of external grant funding allowed organizations to maintain their existing services while investing in new hardware and telehealth platforms. In some cases, health centers were able to create designated roles related to telehealth.

Patient Engagement

Participants described patient willingness to try telehealth as another important facilitator. They described patients as being willing to test out new platforms and noted that patients often seemed particularly responsive to encouragement from a trusted provider. For example, one interviewee said, "We have a lot of [patients] in their 50s through 70s who are super used to helping grandkids with Zoom or using FaceTime with family [and] who would love the opportunity to do that with their clinician." Participants also described the support provided by family members or other community members in orienting patients to video visits.

Peer Learning Opportunities

Participants found that the peer learning opportunities provided by CCA, collaboration across care teams at their health centers, and other educational initiatives in their respective communities were helpful in identifying promising practices and ideas for future health implementation.

The Impact of Telehealth on Access to and Quality of Care

Participants discussed the perceived impact of telehealth utilization on patient access to and quality of health care. Participants unanimously agreed that telehealth facilitated access to care and that telehealth visits—particularly audio-only visits—were an important facilitator of continued access for safety net patients during the COVID-19 pandemic. Unrelated to the pandemic, clinicians provided examples of patients who had previously struggled with transportation or scheduling barriers who were able to access care more easily through a virtual or hybrid model (i.e., some telehealth and some in-person visits). Participants often spoke about the success of telehealth in providing access to behavioral health care in particular. Although we did not track no-show and canceled appointment rates in this evaluation, several participants noted that no-show rates decreased when the majority of appointments pivoted to audio-only and video visits.

Although telehealth more broadly was an important tool for maintaining access to care, participants noted that it was not equally accessible to all patients. Participants expressed concerns about equitable access to telehealth for elderly patients, patients in rural areas, patients with limited English proficiency, and patients experiencing homelessness. They also noted that, in the later stages of the pandemic, many patients returned to in-person visits, and that health centers found that they needed to remind patients about the reasons for telehealth and social distancing; not all patients felt that telehealth was an adequate substitute for in-person care. Access to care for patients with limited English proficiency appeared to be affected by challenges with securing and connecting with an interpreter for video visits.

Participants were asked about telehealth's impact on quality of care. However, most participants did not have a clear sense of this, and many cited the need for ongoing research. Physicians and other providers had mixed views on the relative quality of video, audio-only, and in-person visits. Health center staff attempts to measure quality of care during telehealth visits were complicated by other pandemic-related factors (e.g., the need for social distancing, avoidance of some necessary care) and by the fact that many commonly used population health metrics require in-person screenings.

The Future of Telehealth

Participants were asked about their future plans for telehealth, including immediate goals over the next year and long-term goals for telehealth offerings. Nearly all participants felt that telehealth was "here to stay," given the improved access and convenience it provided.

Health center interviewees frequently discussed their interest in transitioning from a model of care that emerged in response to the immediate needs of the pandemic to one that was evidence-based and responsive to patients' needs. Interviewees described needing more information about the conditions in which various care modalities were optimal for patients and wanted to find ways to support call center staff to ensure that appointments were scheduled appropriately.

Participants also were curious about opportunities for telehealth to provide a "leaner" model of care—i.e., consuming less provider and support staff time while maintaining quality of care.

Some participants placed a particular emphasis on expanding access to telehealth services for patients who faced the greatest ongoing barriers to accessing care, including those experiencing homelessness. Health center interviewees were interested in pursuing patient engagement strategies to inform patients about their telehealth offerings and support utilization. For example, two health centers were exploring how to integrate telehealth services into their mobile care units, which serve patients experiencing homelessness. Participants also described the need to address barriers related to patient digital literacy (e.g., by distributing devices or finding other ways to connect patients to care, such as using telehealth kiosks in rural areas). Lastly, interviewees at many health centers also expressed concerns about the future of reimbursement, particularly for audio-only visits.

Limitations

There were three major limitations of the semistructured interviews we conducted. First, the professional roles of interview participants varied by health center. Although the variety of perspectives included in our analysis enriches the data, the themes we present do not reflect the perceptions or opinions of a consistent set of staff members. Future work should compare and contrast the perceptions of health center leadership with those of frontline providers or support staff. Second, the promising practices presented are strategies that health center leaders and staff reported that they believe are effective. To definitively categorize a practice as promising would require further validation using a variety of data sources. Finally, we did not directly capture patients' perspectives. Patient barriers were identified by health center staff. Health center staff might misrepresent patient barriers and/or might not be aware of certain aspects of the patient experience. Future work should engage low-income patients regarding their experience with telehealth.

5. Provider and Staff Attitudes About Telehealth: Results from Surveys

The successful implementation of innovations in health care delivery typically requires support and buy-in from frontline staff. It follows that obtaining a better understanding of staff attitudes about telehealth can help explain and provide context for successes and challenges faced in implementing telehealth. As we discussed in Chapter 4, health center providers and other care team members (i.e., nurses and MAs) took on significant new responsibilities related to telehealth implementation throughout the pandemic study period. MAs in particular were often tasked with ensuring that patients were able to access telehealth platforms and providing technical assistance to both patients and providers. Furthermore, the transition to telehealth altered the composition and responsibilities of primary care teams at many health centers. Within behavioral health departments, which rely on individual providers rather than care teams, telehealth often emerged as a particularly promising solution.

To ensure comprehensiveness of the CCA evaluation, we explored the attitudes and experiences of providers and other care team members at participating health centers through a cross-sectional survey fielded in April 2021. The goal of the survey was to capture the experiences of key implementation stakeholders and to triangulate findings against those obtained through the utilization data analysis and semistructured interviews.

Methods

Survey Design and Administration

The survey was designed by the evaluation team and included questions related to overall experiences with telehealth, confidence facilitating telehealth visits, job satisfaction, and facilitators of and barriers to telehealth delivery. Several questions were adapted from previously administered surveys, including those used by the evaluation team in related program evaluations and a published survey (Willard-Grace et al., 2014). Questions were reviewed by several external reviewers prior to fielding the survey. The final version of the survey consisted of five questions on demographics, 37 Likert-type scale questions (six of which were asked of only BHPs and primary care providers [PCPs]), two multiple-choice questions, and two open-ended questions.

The survey was administered online via the Research Electronic Data Capture (REDCap) platform. REDCap is a secure, web-based software platform for electronic data capture (Harris et al., 2009; REDCap Consortium, undated). One organization requested printed copies of the survey and administered hard-copy surveys, which were manually entered into REDCap by the

evaluation team. To incentivize participation, respondents were entered into a lottery for the chance to receive one of 20 $100 gift cards.

Sampling

The survey sample comprised providers and other staff at 30 health centers, including PCPs (e.g., primary care or internal medicine physicians, pediatricians, nurse practitioners, physician assistants), BHPs (e.g., psychiatrists, clinical social workers, licensed professional counselors, marriage and family therapists), registered nurses, and MAs. Participation in the survey was required for all health centers participating in the Innovation Learning Collaborative track (*n* = 23) as a condition for funding and was optional for health centers in the Infrastructure and Spread track (*n* = 22). Seven health centers (32 percent) in the Infrastructure and Spread track volunteered to participate after receiving information on survey content and administration requirements from the evaluation team, in addition to the 23 health centers (100 percent) in the Innovation Learning Collaborative that were required to participate.

The 30 health centers that agreed to participate were asked to select one physical clinic site at which to distribute the survey to clinic staff. For clinic sites with fewer than 25 PCPs, the survey was distributed to all providers and staff in indicated roles. At clinic sites with 25 or more PCPs, health center leaders chose to sample either (1) all providers and staff in the roles indicated or (2) 50 percent of the providers and staff in the indicated roles, selected by choosing every other name on an alphabetized staff list. These methodological options were provided to offer flexibility to the health centers under strain from the pandemic. Responses from one health center were excluded because of our inability to obtain information on the number of providers and staff sampled, resulting in the inclusion of 29 health centers.

The link to the survey was sent to health center leaders at each participating health center, and they forwarded the link to the sampled participants. Health center leaders also sent up to three reminders to sampled participants via email to complete the survey. The survey was open for three weeks in April 2021.

The survey was distributed to a total of 1,487 individuals, and we received 559 responses, for a response rate of 38 percent. A breakdown of response rates by role is displayed in Table 5.1.

Table 5.1. Survey Response Rates, by Role

Role	Number Sampled	Number Responded	Response Rate (%)
PCP	599	239	40
BHP	234	65	28
Registered nurse	152	50	33
MA	502	205	41

NOTE: PCPs include primary care or internal medicine physicians, pediatricians, nurse practitioners, physician assistants, and related roles. BHPs include psychiatrists, clinical social workers, licensed professional counselors, marriage and family therapists, and similar roles.

Analysis

Data were analyzed using STATA/MP version 15.1 statistical software. Analyses were primarily descriptive.

For all Likert-type scale and multiple-choice questions, responses are reported only for providers and staff who provided or supported the provision of video or audio-only telehealth services to at least five patients per week ($n = 542$). Responses from individuals who responded to fewer than half of the survey questions were removed from the data set.

Comparisons were made among the respondents in each of the four different sampled roles, but similarities and differences are meant to be suggestive of possible trends rather than conclusive. Responses to Likert-type scale questions were assigned to a five-point numeric scale,[7] and averages were compared using pairwise comparisons. No adjustments were made for multiple comparisons because the evaluation team intended for analyses to be exploratory.

Findings

Sample Description

The age distribution of the 559 respondents representing 29 health centers is displayed in Table 5.2. Nearly all respondents (97 percent) provided or supported audio-only or video visits for five or more patients per week at the time that they responded to the survey, and 69 percent provided both audio-only and video visits. The majority of PCPs and BHPs provided audio-only visits. More BHPs provided video visits than did PCPs (Table 5.3). Fewer than 20 percent of respondents provided telehealth services before the pandemic.

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[7] For most questions, the five-point numeric scale was as follows: 1 = strongly agree; 2 = agree; 3 = partly agree, partly disagree; 4 = disagree; and 5 = strongly disagree. For the job satisfaction question, the scale was as follows: 5 = significant positive impact, 4 = some positive impact, 3 = no impact, 2 = somewhat negative impact, and 1 = significant negative impact.

Table 5.2. Distribution of Respondents, by Age Range

Age	Under 25	25–35	36–45	46–55	56–65	Over 65	No Response
Number of respondents	36	201	145	89	64	23	1
Percentage of respondents	6	36	26	16	11	4	0

Table 5.3. Percentage of Respondents Providing Video and Audio-Only Visits to Five or More Patients per Week

Role	N	Percentage Providing Audio-Only Telehealth	Percentage Providing Video Telehealth	Percentage Providing Both Video and Audio-Only Telehealth
PCP	239	95	74	69
BHP	65	88	88	78
Registered nurse	50	82	62	56
MA	205	83	80	67

NOTE: PCPs include primary care or internal medicine physicians, pediatricians, nurse practitioners, physician assistants, and related roles. BHPs include psychiatrists, clinical social workers, licensed professional counselors, marriage and family therapists, and similar roles.

Resources and Training

Survey respondents were asked about the extent to which they felt that they had adequate resources and training to deliver telehealth visits. Respondents generally agreed that they had the resources and technical support available to deliver telehealth visits, with 70–86 percent of all respondents indicating that they agreed or strongly agreed with each of the three Likert-scale questions on receiving adequate training, having adequate resources, and feeling prepared to complete tasks (Table 5.4). Responses to questions on resources and training varied to a large degree across health centers, with the percentage of respondents from individual health centers selecting "agree" or "strongly agree" for each statement ranging from as few as 25 percent to more than 90 percent.[8] PCPs rated the availability of technical support lower than respondents in other roles, with an average rating of 3.6, compared with average ratings of 3.9 to 4.1 for other roles.

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[8] These percentages include health centers that had at least ten respondents who provided telehealth services to five or more patients per week.

Table 5.4. Agreement with Likert-Type Scale Questions on Resources and Training

	Distribution of All Responses					Mean Response Value, by Role[a]				
	N	Strongly Agree (%)	Agree (%)	Partly Agree, Partly Disagree (%)	Disagree (%)	Strongly Disagree (%)	All	PCP	BHP	RN	MA
Adequate resources for technical support are available when I have technical difficulty with a telehealth visit.	541	28	42	20	8	2	3.9	3.6	4.1	3.9	4.0
Providers and staff regularly take time to consider ways to improve how we do telehealth at my clinic.	540	29	42	21	6	2	3.9	3.7	3.9	3.9	4.1
I received adequate training to support my use of my clinic's telehealth system(s).	539	33	44	18	5	1	4.0	3.9	4.2	3.9	4.2
I feel prepared for many of the telehealth-related tasks that I am asked to do every day.	537	39	47	10	3	0	4.2	4.1	4.3	4.1	4.3

NOTE: RN = registered nurse.
[a] 5 = strongly agree; 4 = agree; 3 = partly agree, partly disagree; 2 = disagree; 1 = strongly disagree.

Team-Based Care and Telehealth Workflows

Survey respondents were asked about their experiences with team-based care and telehealth workflows. Most respondents endorsed that their health centers had adopted standard telehealth workflows (Table 5.5).

Views were slightly more mixed on other questions related to team-based care. About 75 percent of respondents agreed that they could explain all team members' roles in a telehealth visit and that telehealth fits well within each day's workflow. Responses to questions on team-based care also varied to a large degree across health centers. Differences were also noted across roles, with BHPs demonstrating stronger agreement than PCPs with the statement "Telehealth fits well within each day's workflow."

Table 5.5. Agreement with Likert-Type Scale Questions on Team-Based Care and Workflows

		Distribution of All Responses					Mean Response Value, by Role[a]				
	N	Strongly Agree (%)	Agree (%)	Partly Agree, Partly Disagree (%)	Disagree (%)	Strongly Disagree (%)	All	PCP	BHP	RN	MA
If asked, I could explain every team member's role in a telehealth visit.	541	36	40	18	6	1	4.0	3.9	3.9	3.9	4.2
Telehealth fits well with each day's workflow.	539	36	41	17	6	1	4.1	3.9	4.4	4.0	4.1
There are standard telehealth workflows in my clinic.	541	43	45	9	3	1	4.3	4.1	4.4	4.2	4.3

NOTE: RN = registered nurse.
[a] 5 = strongly agree; 4 = agree; 3 = partly agree, partly disagree; 2 = disagree; 1 = strongly disagree.

Access to and Quality of Care

Respondents generally agreed that telehealth increased access to care but expressed more-varied views on the quality of care. Ninety percent of respondents indicated agreement or strong agreement with the statement "Telehealth increases access to care" (Table 5.6). Twenty-eight percent of respondents had mixed views or disagreed that the quality of care received by patients through telehealth is high. No clear differences were evident across roles.

Respondents were also asked about their perceptions of the quality of care for patients with limited English proficiency, and opinions were split. Nearly half of respondents indicated that the quality of telehealth for patients with limited English proficiency is lower than for patients with English proficiency. MAs, who often provide language interpretation services or share language and cultural backgrounds with patients, indicated the highest level of agreement with the statement that quality of care is lower for patients with limited English proficiency.

Table 5.6. Agreement with Likert-Type Scale Questions on Perceptions of Access to Care and Quality of Care

	Distribution of All Responses					Mean Response Value, by Role[a]				
	N	Strongly Agree (%)	Agree (%)	Partly Agree, Partly Disagree (%)	Disagree (%)	Strongly Disagree (%)	All	PCP	BHP	RN	MA
The quality of care received through telehealth for all patients is high.	537	33	39	22	5	1	4.0	3.8	4.1	3.9	4.1
Telehealth increases access to care.	541	61	29	9	0	0	4.5	4.6	4.8	4.6	4.2
The quality of telehealth for patients with limited English proficiency is lower than the quality for patients with English proficiency.	540	18	28	22	24	8	3.2	3.0	2.9	3.2	3.5

NOTE: RN = registered nurse.
[a] 5 = strongly agree; 4 = agree; 3 = partly agree, partly disagree; 2 = disagree; 1 = strongly disagree.

Satisfaction with Work Done Through Telehealth

Respondents reported a high level of satisfaction with telehealth. Eighty-six percent agreed or strongly agreed with the statement "I am satisfied with the work I've done through telehealth," and 84 percent agreed or strongly agreed with the statement "After the COVID-19 pandemic, I would continue to use telehealth as a regular part of patient care" (Table 5.7). No clear differences in ratings for these statements were observed across roles.

Table 5.7. Agreement with Likert-Type Scale Questions on Satisfaction with Work Done Through Telehealth

| | Distribution of All Responses | | | | | Mean Response Value, by Role[a] | | | | |
| | | | | | | | | | | |
	N	**Strongly Agree (%)**	**Agree (%)**	**Partly Agree, Partly Disagree (%)**	**Disagree (%)**	**Strongly Disagree (%)**	**All**	**PCP**	**BHP**	**RN**	**MA**
I am satisfied with the work I've done through telehealth.	539	45	41	13	1	0	4.3	4.2	4.3	4.2	4.4
After the COVID-19 pandemic, I would continue to use telehealth as a regular part of patient care.	537	51	33	11	4	1	4.3	4.4	4.5	4.2	4.1

NOTE: RN = registered nurse.
[a] 5 = strongly agree; 4 = agree; 3 = partly agree, partly disagree; 2 = disagree; 1 = strongly disagree.

Leadership Encouragement of Telehealth

When asked about whether health center leaders encouraged telehealth implementation, nearly all respondents agreed or strongly agreed that their leaders encouraged its use (Table 5.8). No clear differences in ratings for this statement were observed across roles.

Table 5.8. Agreement with Likert-Type Scale Question on Leadership Encouragement of Telehealth

| | Distribution of All Responses | | | | | Mean Response Value, by Role[a] | | | | |
| | | | | | | | | | | |
	N	**Strongly Agree (%)**	**Agree (%)**	**Partly Agree, Partly Disagree (%)**	**Disagree (%)**	**Strongly Disagree (%)**	**All**	**PCP**	**BHP**	**RN**	**MA**
Clinic leadership encourages the use of telehealth.	365	54	36	8	1	1	4.4	4.5	4.7	4.4	4.2

NOTE: RN = registered nurse.
[a] 5 = strongly agree; 4 = agree; 3 = partly agree, partly disagree; 2 = disagree; 1 = strongly disagree.

Experience with Conducting Audio-Only and Video Visits

A set of questions on experiences delivering audio-only and video visits was asked of all providers and staff, and three questions were asked of PCPs and BHPs only. Nearly all

respondents (94–95 percent) indicated that they were confident setting up and conducting audio-only visits (Table 5.9). Most respondents (81–86 percent) indicated that they were confident setting up and conducting video visits. In general, MAs indicated higher confidence conducting video and audio-only telehealth visits as compared with PCPs.

Providers and staff most often indicated that they partly agreed and partly disagreed when asked about their preference for use of telehealth versus in-person care and were divided on their experiences with using interpreter services with different modalities. Respondents in all roles, and particularly PCPs, more often disagreed with the statements "I prefer video visits over visits that are in person" and "I prefer telephone visits over visits that are in person."

Providers shared mixed—but generally positive—opinions on their ability to use telehealth to diagnose new conditions, manage chronic conditions, and meet new patient needs (Table 5.10). Video visits received slightly more positive responses than audio-only visits. BHPs indicated particularly positive opinions on their experiences managing chronic conditions using video telehealth.

Table 5.9. Agreement with Likert-Type Scale Questions on Experience with Conducting Telephone and Video Visits

		Distribution of All Responses					Mean Response Value, by Role[a]				
	N	Strongly Agree (%)	Agree (%)	Partly Agree, Partly Disagree (%)	Disagree (%)	Strongly Disagree (%)	All	PCP	BHP	RN	MA
I am confident when setting up a telephone visit.	538	59	35	4	1	0	4.5	4.4	4.7	4.4	4.6
I am confident when setting up a video visit.	508	43	38	12	5	1	4.2	3.9	4.5	3.8	4.2
I am confident when conducting a telephone visit.	537	59	36	4	1	0	4.5	4.5	4.5	4.5	4.5
I am confident when conducting a video visit.	507	45	41	9	3	1	4.3	4.2	4.6	3.9	4.2
I prefer telephone visits over visits that are in person.	537	9	12	40	29	10	2.8	2.6	2.7	2.9	3.1
I prefer video visits over visits that are in person.	504	8	11	41	30	11	2.8	2.5	3.0	2.8	2.9
Working with interpreter services during a telephone visit is more difficult than during an in-person visit.	529	21	26	24	24	4	3.3	3.2	3.3	3.3	3.5
Working with interpreter services during a video visit is more difficult than during an in-person visit.	486	18	33	30	16	3	3.5	3.4	3.2	3.6	3.5

NOTE: RN = registered nurse.
[a] 5 = strongly agree; 4 = agree; 3 = partly agree, partly disagree; 2 = disagree; 1 = strongly disagree.

Table 5.10. Provider Agreement with Likert-Type Scale Questions on Diagnosing and Managing Patient Conditions

		Distribution of All Responses					Mean Response Value, by Role[a]		
	N	Strongly Agree (%)	Agree (%)	Partly Agree, Partly Disagree (%)	Disagree (%)	Strongly Disagree (%)	All	PCP	BHP
I am confident in my ability to manage new patient needs using telephone visits.	337	12	43	33	10	3	3.5	3.4	3.9
I am confident in my ability to manage new patient needs using video visits.	313	19	44	29	6	1	3.7	3.6	3.6
I am confident in my ability to manage my patients' chronic conditions using telephone visits.	339	21	45	28	6	1	3.8	3.8	3.8
I am confident in my ability to manage my patients' chronic conditions using video visits.	313	27	47	21	4	1	4.0	3.9	4.4
I am confident in my ability to diagnose new conditions using telephone visits.	333	8	36	38	15	3	3.3	3.2	3.6
I am confident in my ability to diagnose new conditions using video visits.	313	16	41	32	10	2	3.6	3.5	4.2

[a] 5 = strongly agree; 4 = agree; 3 = partly agree, partly disagree; 2 = disagree; 1 = strongly disagree.

Barriers and Facilitators to the Use of Video Visits

Respondents were asked about facilitators of and barriers to using video telehealth. Patient access to technology was by far the most frequently identified barrier (Table 5.11). Other barriers, which were cited less frequently, were

- technological barriers on the clinic side, including difficulties with the telehealth platform and challenges receiving technical support
- clinical challenges, including the inability to meet patients' clinical needs using telehealth and concerns about the quality of provider-patient interactions.

Respondents most often identified support from leadership and availability of technology as the most important facilitators of their use of video visits (Table 5.12).

Table 5.11. Barriers to Telehealth Implementation Selected by Respondents

Barrier	Percentage of Respondents Selecting Response[a]
Access to technology for patients	77
Inability to meet the clinical needs of my patients via telehealth	27
Difficulties with the use of the telehealth platform	26
Concerns about the quality of provider-patient interactions during telehealth visits	24
The availability of technical support when needed	22
The availability of interpreter services	19
The availability of technology within my clinic	16
Lack of training in use of the telehealth system	7

[a] Respondents could select up to three responses.

Table 5.12. Facilitators of Video Telehealth Implementation Selected by Respondents

Facilitator	Percentage of Respondents Selecting Response[a]
Support from clinic leadership	58
Availability of technology within my clinic	55
Patients' access to technology	27
Ease of use of the telehealth system	25
The availability of technical support when needed	19
Reimbursement policies	19
Training in use of the telehealth system	16
The availability of interpreter services	11

[a] Respondents could select up to three responses.

Job Satisfaction

Respondents were asked about the impact of telehealth on their job satisfaction (Table 5.13). About three-quarters of respondents indicated that delivering care via telehealth (both audio-only and video visits) had a positive impact on their job satisfaction during the COVID-19 pandemic. Respondents were split on the impact of other factors, such as changes in role, workload, and staffing.

Table 5.13. Ratings of Impact on Job Satisfaction

		Distribution of All Responses						Mean Response Value, by Role[a]				
	N	Significant Positive Impact (%)	Some Positive Impact (%)	No Impact (%)	Somewhat Negative Impact (%)	Significant Negative Impact (%)	Don't Know (%)	All	PCP	BHP	RN	MA
Delivering care via telephone visits	539	34	44	12	8	2	1	4.0	3.9	4.0	3.9	4.2
Delivering care via video visits	521	33	44	11	7	1	4	4.1	4.0	4.3	4.2	4.2
Changes in your workload during the COVID-19 pandemic	535	24	33	16	21	5	1	3.5	3.3	3.4	3.2	3.9
Changes in your role during the COVID-19 pandemic	536	23	31	28	14	3	1	3.6	3.4	3.6	3.5	3.8
Changes to staffing at your clinic during the COVID-19 pandemic	533	19	23	21	25	10	2	3.2	2.9	3.3	3.2	3.6

[a] 5 = significant positive impact; 4 = some positive impact; 3 = no impact; 2 = somewhat negative impact; 1 = significant negative impact.

Limitations

There were several limitations of our survey methods. First, the sample was a convenience sample; it was not designed to be representative of staff in all participating health centers or of health center staff in California. Second, although the response rate was higher than that of many provider surveys, the risk of nonresponse bias is high. We did not have adequate data to assess differences between responders and nonresponders, but it is likely that there were differences between the two groups. Third, staff who were willing to respond to a survey on telehealth likely had more-extreme views of telehealth (both positive and negative) and might have been experiencing less immediate work-related stress. The survey also did not capture the views of staff who were part of the large turnover experienced by health centers throughout the pandemic. Staff who left their positions prior to the administration of the survey might have had more-negative views of telehealth and its impact on their job satisfaction. Fourth, it should be noted that survey responses about quality reflect providers' experiences with telehealth during the pandemic and could differ with the return of more in-person care and the ability to assess the appropriateness of different care modalities for a particular patient more effectively. Finally, although we attempted to identify some key differences among respondents in different roles, this survey was not designed to facilitate comparisons across groups. Therefore, these differences should be interpreted with caution.

6. Implications for Policy, Practice, and Future Study

The COVID-19 pandemic disrupted health care delivery on an unprecedented scale, boosting the adoption of telehealth across the health care delivery system. Many providers were not ready for a transition of this magnitude in health care delivery.

Although numerous studies have been conducted since the beginning of the pandemic to help inform postpandemic telehealth policy, this study provides unique and in-depth insight into the experiences of 45 FQHCs in California as they implemented telehealth, both before and throughout the first year and a half of the pandemic.

In this chapter, we summarize key study findings based on EHR data and draw from interviews and surveys with key clinic staff to help explain and expand on these findings and to inform policy and practice and further research.

Key Findings

Although overall visit volumes remained about the same from the prepandemic to the pandemic study periods, the share of audio-only and video visits dramatically increased during the pandemic, particularly for behavioral health. Monthly visit volumes during the pandemic study period (August 2020–August 2021) were largely similar to those of the prepandemic period (February 2019–February 2020), with the exception of reduced primary care volume during three months in the summer and fall (August, October, and November 2020) and reduced behavioral health volume during two months in the fall (October and November 2020). Steady visit volumes throughout most of the pandemic study period and similarities to the volumes during the prepandemic study period suggest that telehealth played a pivotal role in preventing large service gaps. It is unclear why visit volumes dropped significantly during the summer months of the pandemic compared with the prepandemic study period, but drops in October and November correspond with the start of the second wave of COVID-19 cases in California.

Audio-only visits were the dominant telehealth modality for primary care and behavioral health throughout the entire pandemic study period. At the end of the study period, however, audio-only visits were eclipsed by in-person visits for primary care but not for behavioral health. Audio-only visits for primary care peaked in April 2020 and remained the dominant telehealth modality throughout the pandemic study period. However, by February 2021, in-person visits regained the position of dominant modality among the three modalities as audio-only visits declined. In the final three months of the pandemic study period (June–August 2021), 66 percent of total visits for primary care were conducted in person, while 30 percent and 4 percent were audio-only and video visits, respectively. For behavioral health,

audio-only visits exceeded in-person visits and were the highest-volume modality of care delivery throughout the entire pandemic study period. In the final three months of the pandemic study period, 28 percent of total behavioral health visits were conducted in person, while 52 percent and 20 percent were audio-only and video visits, respectively.

In interviews conducted with health center leaders and staff, participants pointed out that the shift to telehealth during the pandemic required dramatic changes to operational processes and workflows, particularly for video visits. This shift also required the reexamination of staff roles, with pronounced changes for MAs in particular, including working with remote providers, troubleshooting technology, and coordinating care before and after visits. Some health centers dedicated some of their MAs' responsibilities solely to telehealth or added new roles, such as telehealth coordinator, telehealth system support, or volunteer advocate. Some health center interviewees also experienced general resistance to telehealth among providers or patients, and some worried about the quality of provider-patient interactions compared with that of in-person visits, which might explain the return to in-person visits as the pandemic progressed—at least for primary care.

The use of audio-only visits during the study period could reflect the fact that video visits require more provider and patient resources. Given that audio-only and video visits were reimbursed at the same rate throughout the study period, there was no urgency to phase out audio-only visits over time. Furthermore, greater use of audio-only versus video visits might reflect provider and patient preferences and patient access barriers related to the digital divide. Sustained, high-volume use of audio-only visits and increased use of video visits for behavioral health toward the end of the study period might reflect greater acceptability among BHPs, whose work does not generally require physical examinations or laboratory testing, and among patients who might see a greater need to be examined in person by their PCP as compared with their specialty BHP.

The use of video visits varied substantially across health centers, particularly for behavioral health; health centers that delivered numerous video visits and replaced audio-only visits with video visits over time had some common promising practices. From January 2021 to August 2021, video visits represented 0–39 percent of all primary care visits and 0–98 percent of all behavioral health visits across different health centers. The variation in video visit uptake might reflect differences in patient populations, clinic size and resources, provider and patient preferences, and ease of use and satisfaction with relevant digital technology. Furthermore, health centers in different geographic areas likely were affected by the pandemic in different ways at different times. Interviewees commented that it was difficult to focus on video visit implementation when the pandemic introduced competing demands, such as COVID-19 testing and staffing shortages.

Interviews provided insights into facilitators of video visit implementation. Interviewees suggested that health centers with telehealth platforms that were embedded in the EHR (and that required patients to log into patient portals) often were preferred by providers compared with

stand-alone systems. However, platforms that did not require portal use and that allowed providers to send a link to the patient so that they could access the video visit were easier for patients to use, particularly those with low digital literacy.

Because of challenges with the digital divide, many health centers found it helpful to actively address potential barriers by adding onboarding processes to screen patients for technology access, offering one-on-one support for IT issues, and having providers use their relationships with patients to encourage telehealth use. Health centers found such processes particularly important in facilitating video visits, in addition to scheduling video as the default modality and setting targets for each modality.

Patients with limited English proficiency participated in a significantly lower percentage of video visits compared with the percentage of patients who typically receive in-person care. To address disparities in access, clinics engaged in a variety of creative solutions to address the digital divide. The population of patients who received health care prior to the pandemic (in August 2019) varied notably from the population of patients who received video visits in August 2020 and 2021, both in primary care and behavioral health. Most notably, patients who preferred a language other than English participated in 45.5 percent of total primary care visits in August 2019 but only 37.7 percent of video visits in August 2020 and 35.8 percent of video visits in August 2021 ($p < 0.01$). These differences could reflect variations in digital literacy, a lack of instructions in multiple languages, and a cultural preference for in-person care. In interviews, staff described difficulties providing comprehensive interpretive services within and outside the actual telehealth visit (e.g., in communications from the health center about the visit). Interviewees and survey respondents also indicated that difficulties with using or accessing the technology to support telehealth proved problematic for providers and patients at times and that many of these difficulties centered around patient populations that were most affected by the digital divide, such as the elderly, those with unstable housing, and those with limited English proficiency.

Perceptions of whether telehealth provided an acceptable level of care were relatively positive; however, there were differing views on its sustainability and its impact on equity and quality. Interviewees noted the importance of telehealth in maintaining patient access to care and in overcoming barriers to in-person care, such as transportation. However, some expressed concern about inequities in access, particularly for patients who were most affected by the digital divide. Although many interviewees viewed telehealth as "here to stay," they also noted that patients appeared to be increasingly comfortable with in-person care. Some health centers were seeking more information on what modalities work best for patients, while others were expanding telehealth offerings for patients with access challenges.

Staff survey findings also suggest nuanced conclusions about telehealth. Providers and staff who responded to the survey had positive experiences with telehealth implementation overall, with most respondents agreeing with positive statements on the resources and training provided to them, the team-based care and workflows implemented in their clinics, the access to care

provided to patients, the encouragement that leadership provided on telehealth implementation, and their satisfaction with the work they have done through telehealth. However, staff did not agree on their preference for telehealth visits compared with in-person visits and on the quality of care provided by telehealth overall and specifically for patients with limited English proficiency.

Key facilitators of telehealth implementation were leadership support, patient willingness to use the technology, platforms that were easy to use and access, a sense of urgency within clinics, changes in reimbursement policy, and training opportunities for staff. Interviewees and survey participants suggested that support to pursue telehealth among executive-level and clinician leaders facilitated telehealth implementation, built buy-in among staff, and helped coordinate efforts across organizations. Patient and caregiver willingness to try telehealth, as well as access to easy-to-use telehealth technology, also factored into success. Interviewees described a sense of urgency to deliver telehealth to maintain patient access—and to keep health centers afloat financially. This might help explain greater telehealth use at the start of the pandemic study period, when uncertainty about the impact of the pandemic on services and the sense of urgency were highest. Changes in reimbursement policies (particularly for the reimbursement of audio-only visits at rates equivalent to those of in-person visits) also enabled the shift to telehealth. CCA and other peer-learning and collaborative opportunities also helped health centers share promising ideas for implementation.

Implications for Policy, Practice, and Future Study

As health centers and policymakers consider the role that telehealth should play in safety net settings moving forward and how to implement needed changes, both might want to factor in some of the key findings of this study, particularly with regard to health equity, quality of care, and implementation in low-resource settings. In the following sections, we offer some key considerations for policy, practice, and future study within each of these domains.

More Work Is Needed to Understand How Telehealth Helps and Hinders Health Equity and to Improve Equitable Telehealth Access

Although most studies to date are somewhat inconsistent on differences in telehealth utilization by race and ethnicity, studies (that are not limited to safety net settings or populations) do consistently show that rural populations and patients with limited English proficiency are less likely to engage in video visits. Although we did not look at differences in utilization by rurality, our findings echo prior data on limited video usage for those with limited English proficiency in particular (Hsueh et al., 2021; Rodriguez et al., 2021; Sachs et al., 2021).

Billing modifiers that differentiate between modalities are needed to further understand disparities. Because visit data collected for this evaluation were reported in the aggregate rather than at the individual level, our evaluation team could not explore granular questions on

disparities that adjust for multiple demographic characteristics. In future studies, it will be particularly important to find ways to structure utilization data to include information on which modality was used (i.e., video versus audio only). Currently, Medicaid billing modifiers in California do not distinguish between telehealth visit types, which limits the utility of Medicaid data in assessing disparities in the use of different modalities and in surfacing quality issues that are specific to audio-only or video visits. Policymakers are considering incorporating and requiring audio-only modifiers to improve data quality, and we argue that this is a key improvement to better track and evaluate telehealth access and quality overall and to identify disparities in utilization.

Data Are Needed to Understand the Impact of Audio-Only Visits on Quality of Care to Inform Reimbursement Policy

The impact of audio-only visits on quality of care needs to be empirically tested. Perhaps one of the most striking findings regarding telehealth utilization since the pandemic started—both in this study and in previous work—is the ongoing use of audio-only visits among health centers. However, even though audio-only visits undoubtedly helped health centers stay afloat when patients and providers were avoiding in-person visits for safety reasons, it is important to remember that audio-only visits, which are delivered either alone or as a component of hybrid care, are relatively untested from a quality perspective. Although surveyed staff indicated that they felt confident about setting up audio-only visits, few preferred the format to an in-person visit, and few were able to comment on the impact of telehealth more generally on the quality of care. Further research on quality of care delivered through audio-only visits is needed.

It would be particularly helpful for future research to focus on determining what types of visits are clinically appropriate for the audio-only modality. With this knowledge, health centers could set up workflows in which audio-only visits are offered only under certain conditions so that patients using that modality do not receive inferior care. Until more evidence emerges on effectiveness, policymakers should consider setting up guardrails to prevent the overuse of audio-only visits, such as requiring in-person visits with some frequency or requiring that providers conducting audio-only visits have the capability to conduct video visits and document why an audio-only visit is needed. Policymakers should also set reimbursement rates for different modalities that not only reflect the cost of delivering the care but also do not inadvertently incentivize providers to offer lower-value services. One option is for payers to reimburse FQHCs for audio-only visits at a lower rate, outside the PPS rate. In some states, such services as group services, ambulance services, durable medical equipment, and hospice services can be billed for payment outside the PPS rate (Strange, 2018).

Health Centers Should Be Permitted to Serve as Distant Sites on a Permanent Basis

The high and sustained use of telehealth in safety net settings suggests that health centers and their patients derive certain benefits from telehealth. It is clear that some of the policy waivers

put in place for the public health emergency, such as permitting health centers to serve as distant sites, should be maintained. It is true that additional data on quality and costs of care will be needed to inform decisions about telehealth policy in the coming years. However, prematurely restricting health centers' ability to deliver telehealth visits would reduce access to care for underserved populations. It would also prevent the research community and policymakers from observing the real-world impacts of telehealth on access, quality, and costs outside a public health emergency. This information will be critical to crafting effective long-term policy.

Health Centers Need Resources, Time, and Support to Successfully Implement Telehealth

Health centers need support to increase access for patients with limited English proficiency and other populations with access challenges more generally. One issue of clear concern is telehealth access for populations with limited English proficiency. Policymakers and payers can support health centers with grants, technology solutions, and promising practices to better support patients with limited English proficiency, who might face digital literacy and other access challenges, as they engage in telehealth. Health centers should also engage patients with limited English proficiency in the design and rollout of telehealth platforms. For example, it is important to engage patients in improving the user interface and developing instructions on how to use platforms.

Health centers should take steps to better support patients facing digital barriers. Health centers across the United States are increasingly addressing social determinants of health as part of daily work. For those patients facing such barriers as limited digital literacy, lack of technology, lack of broadband, and distrust of telehealth, health centers should consider expanding their capabilities to provide real-time technical support, organize telehealth navigator programs, and provide one-on-one training to patients. Tools and guidance on these and other strategies to facilitate telehealth implementation are widely available. For example, CCA provides several types of online resources (Center for Care Innovations, undated-b). It is important to note that health centers should not feel the responsibility to address the digital divide on their own. Health centers can partner with community organizations, payers, and vendors to better support patients in accessing telehealth services.

Knowledge of what works in video visit implementation already exists, and health centers have many tools to grow their video visit programs. Understanding lessons learned from positive deviants (i.e., health centers that successfully implemented video visits) can inform future implementation efforts. Although audio-only visits were the highest-volume telehealth modality during the pandemic study period in both primary care and behavioral health, the extent of variation in the use of different visit modalities across participating health centers was noteworthy. Whereas audio-only visits constituted the majority of telehealth visits for some health centers, other health centers were able to incorporate many more video visits. This level of variation is striking, in part because all health centers in the sample worked with similar

underserved populations and faced similar challenges related to the pandemic (e.g., staffing shortages, competing priorities). Because some health centers adapted differently to similar circumstances, it is instructive to study health centers that had success with video visit implementation. Those that grew their programs often had common characteristics, such as leadership support and utilization goals. Some health centers experienced particular success with getting their processes set up for delivering video telehealth—or perhaps self-limiting their use of audio-only visits. It would be helpful for these health centers to share and disseminate their processes. Reflecting on lessons learned while experiences are still fresh could help health centers replace more audio-only visits with video visits. It could also help give health centers and other providers a place to start should a similar surge in telehealth capacity be needed in the future.

Appropriate staffing is key to telehealth implementation. Telehealth implementation in a hybrid care model, in which patients receive a mix of telehealth and in-person visits, will require appropriate staffing models. Interviews in particular showed that MAs played a critical role in successful implementation by viewing their role as malleable and filling gaps in staffing as needed. Health centers will need to consider ways to further support team-based care and formally integrate telehealth across all roles to spread the resources needed across the organization. Another way to approach easing the burden of telehealth implementation, where possible, is to do what some health centers have already done: establish a new telehealth coordinator role. Interviewees from health centers with telehealth coordinators observed that allowing one person to focus on telehealth was a promising approach. Staff in this role, they found, helped with onboarding patients while easing the implementation burden on other clinic staff.

Conclusion

This mixed-methods study followed 45 health centers serving low-income populations for 18 months of the COVID-19 pandemic. Although several studies have been conducted throughout the pandemic to capture telehealth utilization and implementation experiences, this study represents one of the most comprehensive analyses to date on the topic of telehealth implementation in the safety net. A unique contribution of this study is its ability to distinguish between different telehealth modalities. The high and ongoing use of audio-only visits throughout the pandemic study period is noteworthy. Although audio-only visits have clearly played a critical role in maintaining access to care during the public health emergency, their ongoing role in the care delivery of low-income populations requires careful consideration. Telehealth has the potential to increase access to care and deliver care that is more convenient and patient-centered; however, ongoing research is needed to ensure that telehealth is implemented in a way that ensures high-quality care and health equity.

The telehealth utilization and visit trends identified in this study largely support the research detailed in prior literature on the use of telehealth by low-income patients and within FQHCs. For example, similar to analyses of HRSA data (Demeke et al., 2020), this study documented the large-scale shift to telehealth services by FQHCs during the pandemic period. Although data on audio-only telehealth utilization are scant, our findings on the topic are similar to those of the NACHC survey from summer 2021, which showed extensive and ongoing use of audio-only visits (NACHC, 2021).

Our findings differ somewhat from those of prior research on the topic of disparities in telehealth utilization. We did not identify substantial differences in video visit use by race and ethnicity as other data sources have, including analyses of California Medicaid and NORC survey data (Boyd-Barrett, 2020; California Department of Health Care Services, 2021a). However, this discrepancy is likely attributable to methodological differences across studies and limitations of our data. For example, to date, the California Medicaid program has not been able to differentiate between types of telehealth visits. Although our data differentiate between telehealth modalities, they are limited in other ways (e.g., we do not have individual, patient-level data that would better support analyses by race and ethnicity). Nevertheless, like other literature that has emerged since the start of the pandemic, our data show that patients with limited English proficiency are accessing video visits at lower rates.

At the completion of this report in early 2022, the COVID-19 pandemic continues to influence all facets of life. But with vaccination and evidence of limited transmission within health care settings when proper precautions are in place, in-person visits are again a viable option for many patients. With the easing of the initial alarm over access to care, providers and policymakers would do well to distinguish which barriers to care are the result of restrictions on in-person activities because of the public health emergency and which are persistent barriers from before the pandemic. It could be true that we can accept lower-quality care and experiment out of necessity in the midst of a public health emergency. However, as in-person care becomes increasingly safe, telehealth visits should be held to a higher standard than in an emergency. Ongoing research, appropriate changes in policy, and implementation support are all needed to improve telehealth delivery moving forward, both during and after the pandemic.

Abbreviations

BHP	behavioral health provider
CCA	Connected Care Accelerator
CHCF	California Health Care Foundation
CI	confidence interval
CMS	Centers for Medicare & Medicaid Services
COVID-19	coronavirus disease 2019
CPT	Current Procedural Terminology
EHR	electronic health record
FQHC	Federally Qualified Health Center
HIPAA	Health Insurance Portability and Accountability Act
HRSA	Health Resources & Services Administration
IT	information technology
MA	medical assistant
NACHC	National Association of Community Health Centers
PCP	primary care provider
PPS	prospective payment system
REDCap	Research Electronic Data Capture
UDS	Uniform Data System

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