



Connected Care Accelerator Innovation Learning Collaborative Final Evaluation Report



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EXECUTIVE SUMMARY

Initiative background

The Connected Care Accelerator Innovation Learning Collaborative (ILC) was a 12-month learning collaborative, launched in August 2020, dedicated to supporting safety net health centers in California with the adoption and implementation of telehealth during the COVID-19 pandemic. The ILC was led by the Center for Care Innovations (CCI) and funded primarily by the California Health Care Foundation, with some support from the Blue Shield of California Foundation and LA Care.

The objectives of the ILC were to:

-  Identify the biggest challenges and opportunities to strengthen population health management, build virtual care teams, and engage patients who face digital barriers to care.
-  Identify and test virtual care delivery changes to better understand the infrastructure, data, staff, and skills necessary to support these changes.
-  Uncover and document the best practices to effectively manage patient populations remotely.
-  Share best practices and bring successful changes to scale.

Multi-disciplinary teams from 23 safety net organizations across California participated in the ILC. They received up to \$100,000 in grant funding, as well as coaching, consulting on human-centered design and process improvement, access to a learning community of peers, and access to virtual resources shared by peers.

Methods

The goals of the ILC evaluation were to assess changes in organizations' capacity related to implementing virtual care, to assess the experience of providers and care teams in delivering telehealth, and to understand the contribution of the learning collaborative to health centers' progress. The evaluation used a mixed methods approach to understand progress, experience, and the contributions of the learning collaborative, including clinical utilization data, a provider and staff survey, interviews with implementation teams, learning collaborative activity observations and document review. The evaluation was funded by the California Health Care Foundation.

Evaluation findings

Based on analysis of these data, the evaluation identified 6 key findings:



Telehealth replaced a large volume of in-person care in the safety net during the COVID-19 pandemic, with audio-only (telephone) visits playing an instrumental role to support widespread access to care.

1



A few health centers provided greater access to video visits by using several key implementation practices, while most health centers experienced only modest gains in video visit utilization.

2



Health centers established the necessary infrastructure—staffing models, technology, operational changes—to facilitate the transition to virtual care.

3



Health centers made progress in meeting a variety of patient needs via telehealth and continue to seek solutions to address digital barriers.

4



Providers and care teams had generally positive experiences providing care through telehealth.

5



The learning collaborative provided health centers with needed support to advance telehealth efforts, address challenges, and plan for the future of telehealth.

6

Next Steps

Participating health centers believed that telehealth was “here to stay” given the perceived positive impact it had on patient access and convenience. As next steps, they mentioned the following focus areas:

Transition from a reactive model of care that emerged during the pandemic to an evidence-based model of care that will be responsive to the needs of their patients.

Develop an operational model for seamless integration of telehealth into clinical practice.

Expanding access for patients experiencing barriers by promoting services available, providing individual support to patients, and helping patients overcome digital barriers to accessing care.

Determining future reimbursement models to sustain telehealth practice, including advocating for continued reimbursement for audio-only (telephone) visits, which were critical for maintaining access during the pandemic.

INITIATIVE BACKGROUND

The Connected Care Accelerator Innovation Learning Collaborative (ILC) was a 12-month learning collaborative dedicated to supporting safety net health centers in California with the adoption and implementation of telehealth. The ILC was established in response to the changes in healthcare delivery brought on by the COVID-19 pandemic and the need to offer virtual care to maintain the safety of patients and the healthcare workforce. Federal and state policymakers removed barriers to telehealth, requiring Medi-Cal managed care plans to pay for telehealth visits at the same rate as in-person visits. Telehealth provides additional ways for patients to access care, and the learning collaborative provided health centers with the support and opportunity to design virtual care solutions that address the needs of their unique patient populations.

The objectives of the ILC were to:

- Identify the biggest challenges and opportunities to strengthen population health management, build virtual care teams, and engage patients who face digital barriers to care.
- Identify and test virtual care delivery changes to better understand the infrastructure, data, staff, and skills necessary to support these changes.
- Uncover and document the best practices to effectively manage patient populations remotely.
- Share best practices and bring successful changes to scale.

The ILC provided funding and support for health centers to rapidly design and share solutions in three areas: digital barriers, population health, and care teams. Participating health centers received a

\$100,000 grant, as well as coaching, consulting on human-centered design and process improvement, access to a learning community of peers, and access to virtual resources shared by peers. The learning collaborative was led by the Center for Care Innovations (CCI) and funded primarily by the California Health Care Foundation. The Blue Shield of California Foundation and LA Care contributed funding to support the learning collaborative and its participants.

Multi-disciplinary teams from 23 safety net organizations across California participated in the ILC (see Figure 1). These organizations included federally qualified health centers (FQHCs), FQHC Look-alikes, and county health systems that collectively served over 1.1 million patients annually. See Appendix A for more information about the participating health centers.

Figure 1: Health Centers Participating in the Connected Care Accelerator Innovation Learning Collaborative



Lessons learned from the learning collaborative were collected, analyzed, and used to inform development of best practices, tools, and other resources to facilitate implementation of telehealth¹ in safety net health centers in California and throughout the country.

Methods

The Center for Community Health and Evaluation, part of Kaiser Permanente Washington Health Research Institute, conducted the evaluation of the ILC. The goals of the ILC evaluation were to assess changes in organizations' capacity related to implementing virtual care, to assess the experience of providers and care teams in delivering telehealth, and to understand the contribution of the learning collaborative to health centers' progress.

To achieve these goals and measure progress toward the objectives of the ILC, the evaluation used a mixed methods approach to collecting and analyzing data. More information about the specific data collection methods can be found in Appendix B. The data informing this final report include:

Clinical utilization data from all 23 organizations for the period of February 1, 2019 through August 31, 2021.²

Baseline, mid-point, and final interviews with ILC teams (n=23 teams at each timepoint) conducted in October/November 2020, March/April 2021, and September/October 2021.

Provider and care team survey on telehealth experience (559/1,487 respondents; response rate of 38%), administered in June 2021.

Document review of teams' "rapid testing dashboards" containing telehealth project updates; teams' presentations during learning collaborative events; and team documents produced during the learning collaborative (e.g., workflows, resources for patients, etc.).

¹ Throughout this report, the terms "telehealth" and "virtual care" are used interchangeably to refer to synchronous visits conducted via audio-only (telephone) or video, as well as remote patient monitoring and asynchronous communication with providers using a patient portal. "Visits" are used to refer to synchronous visits conducted via telephone or video, and specific modalities (phone/video) are named when relevant.

² All 23 health centers submitted clinical data. One health center was unable to distinguish between the modality of telehealth visits (phone/video) after September 2020, when they adopted a new electronic health record (EHR) platform. Their data is excluded from all analyses and figures that refer to specific modalities in this report.

EVALUATION FINDINGS

Based on analysis of these data, the evaluation identified six key findings that focus on where clinics started, where they have made progress, and how the learning collaborative has contributed (Box 1). These findings were derived from qualitative and quantitative analyses of each data source and triangulation across the methods.

Box 1. Key Evaluation Findings

- 1** Telehealth replaced a large volume of in-person care in the safety net during the COVID-19 pandemic, with audio-only (telephone) visits playing an instrumental role to support widespread access to care.
- 2** A few health centers provided greater access to video visits by using several key implementation practices, while most health centers experienced only modest gains in video visit utilization.
- 3** Health centers established the necessary infrastructure—staffing models, technology, operational changes—to facilitate the transition to virtual care.
- 4** Health centers made progress in meeting a variety of patient needs via telehealth and continue to seek solutions to address digital barriers.
- 5** Providers and care teams had generally positive experiences providing care through telehealth.
- 6** The learning collaborative provided health centers with needed support to advance telehealth efforts, address challenges, and plan for the future of telehealth.

1. Telehealth replaced a large volume of in-person care in the safety net during the COVID-19 pandemic, with audio-only (telephone) visits playing an instrumental role to support widespread access to care.

Use of telehealth before the pandemic

In the six months leading up to the COVID-19 pandemic (September 2019 to February 2020), health centers in the ILC conducted an average of about 250,000 primary care visits per month, nearly all within the clinic, with a small percentage (<3%) of those visits conducted as audio-only (telephone) telehealth visits. Use of video visits was close to zero, with a total of 13 primary care video visits recorded in the six months leading up to the pandemic. Collectively, the health centers conducted about 25,000 behavioral health visits monthly, with about 2% of visits conducted via phone and 2% via video. While a few health centers offered telehealth services, primarily for specialty care, before the pandemic, most health centers had no previous experience with the development of a robust program for using telehealth to deliver primary care and behavioral health services.

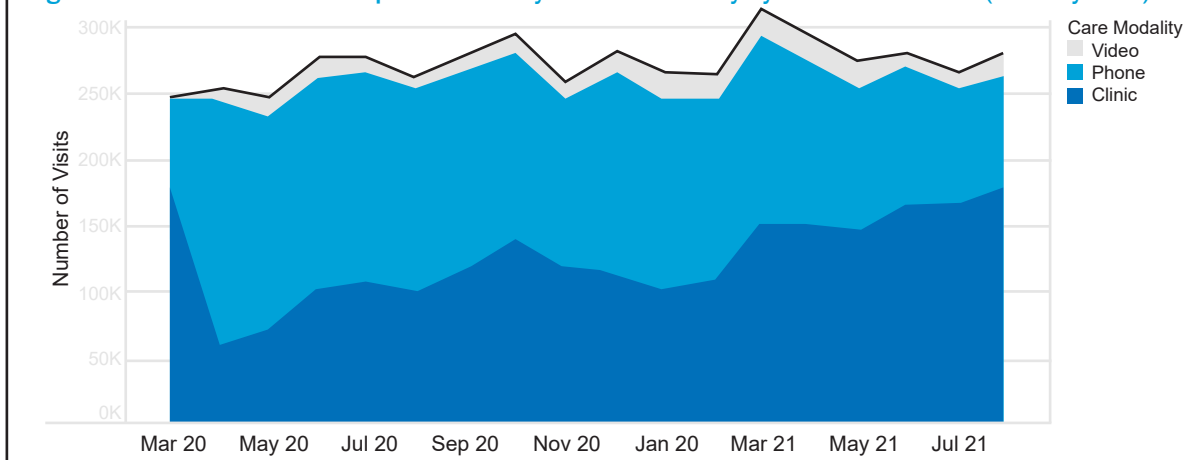
Use of telehealth in primary care during the pandemic

Use of telehealth visits for primary care grew rapidly during the 11 months of the pandemic after stay-at-home orders were announced in California (April 2020 to February 2021), with telehealth visits comprising 61% of all primary care visits during this time period. Beginning in March 2021, a year after the start of the pandemic, clinics began to offer a greater number of in-person visits; as proportion of in-person visits began to increase, the proportion of audio-only (telephone) visits began to decline slightly. See Table 1 and Figure 2 for trends in telehealth use for primary care.

Table 1: Telehealth use in primary care over time

		% of primary care visits delivered by telehealth	Monthly average number of patients reached by phone visits	Monthly average number of patients reached by video visits
Mar. 2019–Feb. 2020 ...	Before COVID-19	3%	6,000	<10
Mar. 2020	Stay at home orders announced in California	27%	60,000	700
Apr. 2020–Feb. 2021 ..	Rapid transition to telehealth	61%	128,000	11,000
Mar.–Aug. 2021	Beginning to return to more in-person care	43%	96,000	13,000

Figure 2: Number of visits completed monthly in each modality by all health centers (Primary Care)

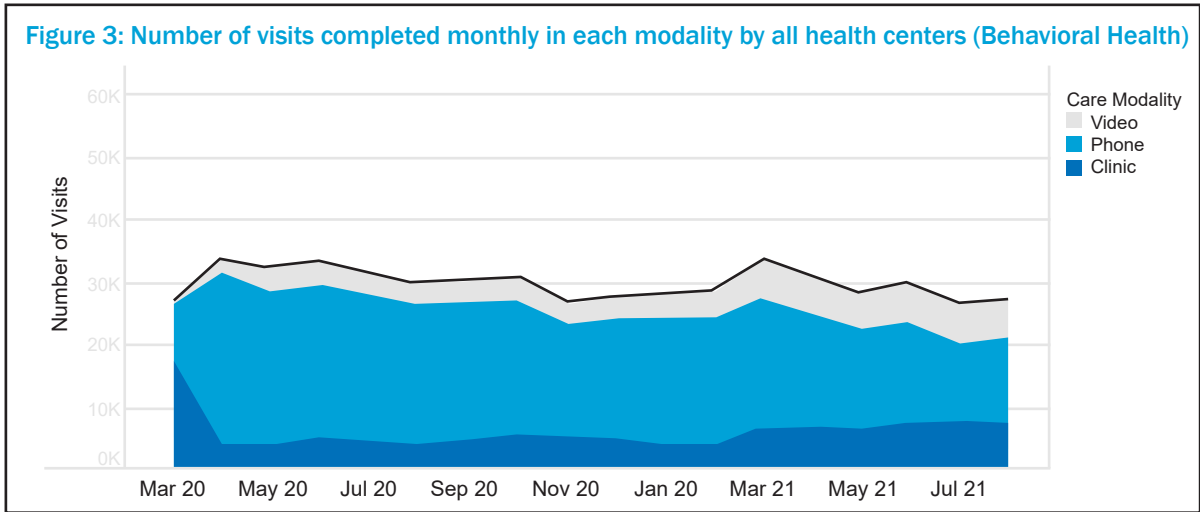


While telehealth overall was an important modality of care for all health centers throughout the initiative, health centers varied widely in the percentage of visits that they delivered via telehealth. For example, in August 2021, the percentage of primary care visits conducted by telehealth at individual health centers was 22% at the lowest, and 55% at the highest. Health centers' use of telehealth varied based on local infection transmission, their patient needs, and the operational resources they invested in deploying telehealth (see Key Finding 3).

Use of telehealth in behavioral health during the pandemic

Similar to primary care, use of telehealth visits for behavioral health increased dramatically at the start of the pandemic. Given the ability to meet a greater variety of patient needs, telehealth made up an even higher proportion of visits for behavioral health, accounting for 84% of visits from April 2020 to February 2021 and 75% of visits from March to August 2021 (the same period where there started to be a decline in the proportion of telehealth visits in primary care). See Table 2 and Figure 3 for trends in telehealth use for behavioral health.

Table 2: Telehealth use in behavioral health over time				
		% of primary care visits delivered by telehealth	Monthly average number of patients reached by phone visits	Monthly average number of patients reached by video visits
Mar. 2019–Feb. 2020 ...	Before COVID-19	4%	300	500
Mar. 2020	Stay at home orders announced in California	36%	6,000	600
Apr. 2020–Feb. 2021 ..	Rapid transition to telehealth	84%	15,000	2,000
Mar.–Aug. 2021	Beginning to return to more in-person care	75%	11,000	4,000



As with primary care, health centers varied widely in the percentage of behavioral health visits that they delivered via telehealth. For example, in August 2021, the percentage of behavioral health visits conducted by telehealth at individual health centers ranged from 22% to 92%. 18 out of 23 health centers continued to conduct more than half of their behavioral health visits by telehealth in August 2021.

Reliance on audio-only (telephone) visits to maintain access to care

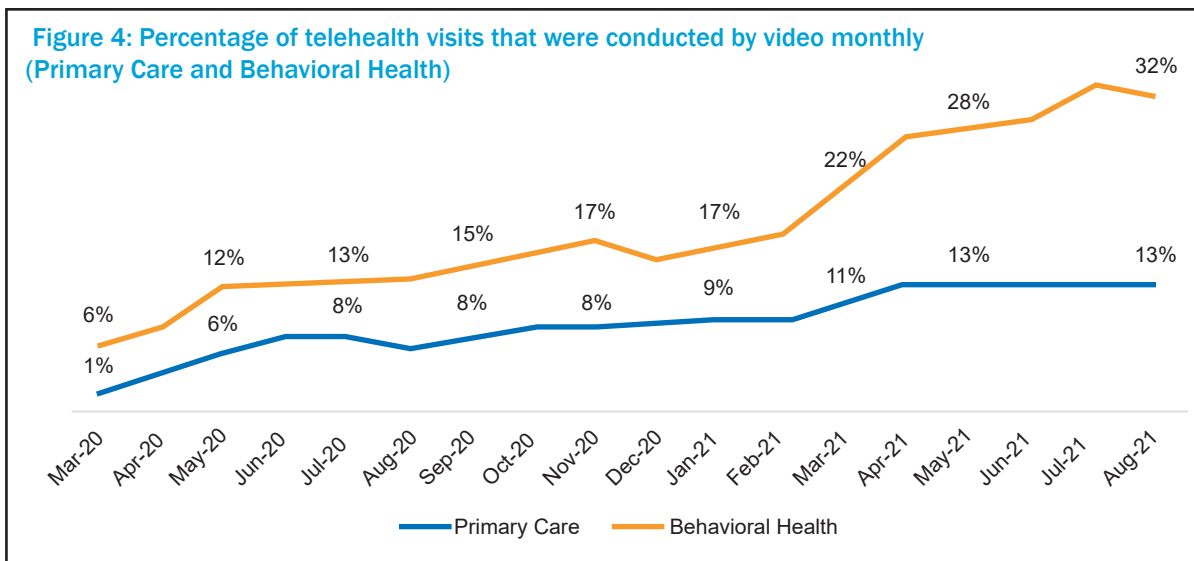
Telephone became the primary mode of delivering care during the COVID-19 pandemic in the safety net and was by far the dominant modality used for telehealth visits. Of all primary care telehealth visits conducted from March 2020 to August 2021, 91% were conducted by phone and 9% were conducted by video; for behavioral health, 82% of telehealth visits were conducted by telephone and 18% were conducted by video. Health center teams described several reasons to explain why audio-only (telephone) visits were adopted as the default mode of telehealth delivery at the beginning of the pandemic. Audio-only (telephone) visits could be implemented quickly and were accessible to patients, most of whom had access to cell phones and were comfortable with communication via telephone. Some clinicians discussed the utility of audio-only (telephone) visits in addressing a variety of patient concerns and chronic care needs. Implementation teams described the ways in which audio-only (telephone) visits increased patients' access to care, providing patients the option to receive care without needing to take time away from work or childcare responsibilities, or needing to obtain transportation to a clinic. While collecting data on no-show rates was beyond the scope of this evaluation, several health centers indicated that their no-show and cancellation rates had decreased in response to the improved patient access afforded by audio-only (telephone) visits.

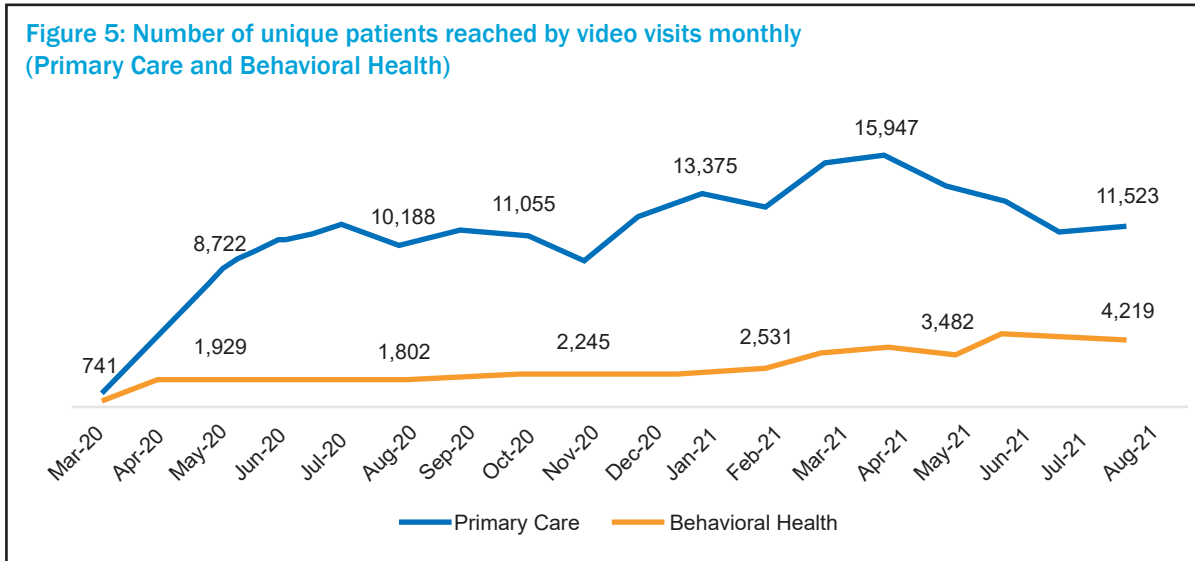
2. A few health centers provided greater access to video visits by using several key implementation practices, while most health centers experienced only modest gains in video visit utilization.

In comparison to the implementation of audio-only (telephone) visits—which many health centers achieved almost overnight—the roll-out of video visits presented significant challenges to health centers. Health centers began their implementation of video visits from different starting points. At the beginning of the pandemic, some had previously adopted video telehealth platforms or had platforms that were available within their electronic health record (EHR), but many had to search for and adopt new technology. Many other elements went into making video visits successful, including:

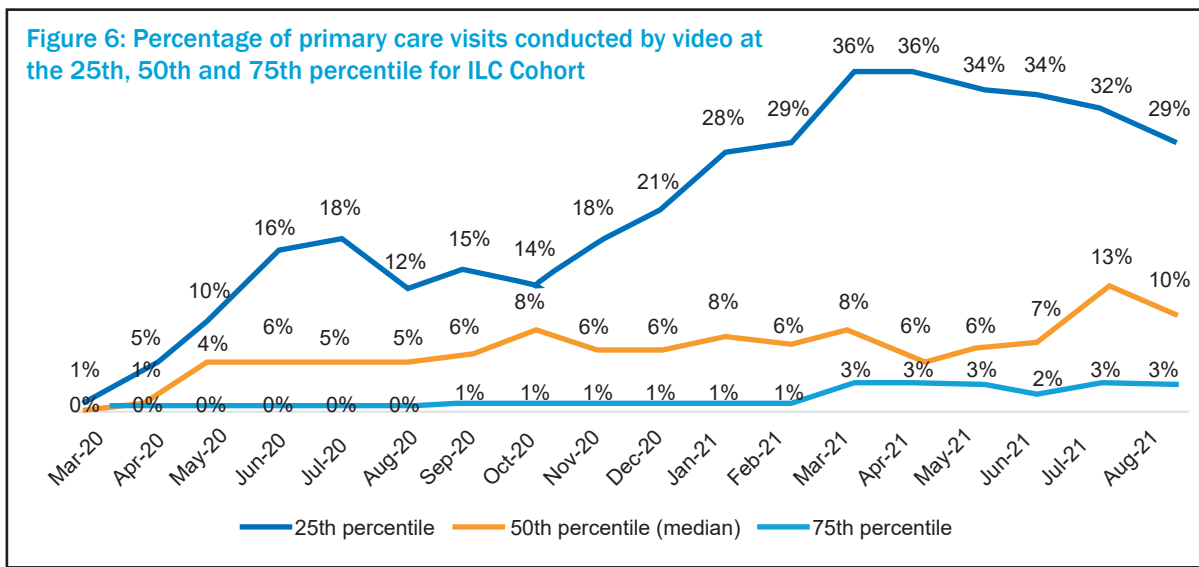
- Creating procedures and workflows to determine when video visits would occur and how to schedule them
- Determining how to onboard patients to use the video visit platform, including patients who had digital barriers, limited literacy or technology literacy, and limited English proficiency
- Establishing care team models that were effective for the delivery of video-based virtual care
- Determining how to connect interpreters, or care team members providing interpretation, to video visits

For these reasons, the availability and utilization of video visits looked different across different health centers. For the entire ILC cohort, video utilization began very low and increased to 13% of all primary care telehealth visits and 32% of all behavioral health telehealth visits in August 2021, about eighteen months after the beginning of the COVID-19 pandemic (Figure 4). The number of patients reached monthly by primary care video visits more than doubled throughout the course of seventeen months, from about 5,500 in April 2020 to 11,500 in August 2021 (Figure 5).





While data aggregated across all health centers shows a slow but steady climb in the number of video visits provided monthly, the trajectories of individual health centers in delivering video visits differed meaningfully. Figure 6 shows the trajectories of video utilization, as a percentage of all telehealth visits, at the median (50th percentile), 25th percentile, and 75th percentile each month for all health centers. The median health center completed 10% of telehealth visits by video in August 2021. The seven health centers who completed the highest volume of video visits completed an average of 29% of their telehealth visits by video in August 2021. Meanwhile, seven health centers remained at below 3% video; their efforts were focused on piloting video visits with a small group of providers, adopting new technology, enrolling patients in portals that provide access to video, or planning for future implementation efforts. Behavioral health followed a similar pattern to primary care, with higher video utilization overall.



Practices of health centers with high video utilization. Several implementation practices, described below, appeared to facilitate the ability to roll out video visits and increase video utilization.

- **Use of technology platforms that provide easy access for patients.** While health centers with high video utilization used a variety of video platforms, they tended to select platforms that they described as easy to access by their patients. Technology is discussed further under Key Finding 3.
- **Scheduling telehealth appointments as video by default.** Patients' video visit adoption was believed to be increased through provider encouragement, scheduling policies, and scripting to encourage video usage. Several implementation teams emphasized the use of video visits at the beginning of the transition to telehealth by encouraging their schedulers to schedule as many telehealth visits as possible by video. One health center continued to maintain a "video by default" policy for telehealth appointment scheduling; patients were only offered phone appointments if they did not have access to adequate technology. Other implementation teams indicated that they were able to encourage video utilization by using scripts that encouraged video use at the time of scheduling (e.g., by stating "your provider would like to see you by video").
- **Setting targets or quotas for appointment modalities.** Several health centers with relatively high video adoption indicated that leaders set specific targets for the percentage of video versus audio-only (telephone) visits. Some health centers had a system for regular monitoring and communication about meeting these goals. A few health plans offered payment incentives to health centers who met targets for rates of patient video utilization, which provided additional motivation.

Differences between primary care and behavioral health. In general, behavioral health departments used video visits at higher rates than primary care departments. During interviews, sites indicated that behavioral health was often a natural starting point in their clinics to initiate the use of video visits given the longer duration of behavioral health visits and the more frequent visits with providers that allowed time for troubleshooting challenges with video access. In many cases, behavioral health providers became independently proficient at using the video platform and troubleshooting issues that came up during the visit, eliminating the need to obtain additional support from other care team members or operations/IT staff.

Differences in use of video among specific populations. Compared to other modalities (clinic and audio-only (telephone) visits) and to primary care utilization before the pandemic, patients who preferred a language other than English were underrepresented among patients using video visits.³ Implementation teams discussed how underutilization by patients who preferred a language other than English may reflect overall challenges with access to technology or may relate to challenges providing interpretation via video visits.

Patients 17 or younger were over-represented in video visits. In interviews, teams noted that this may reflect familiarity with and access to technology in younger families and may relate to the clinical utility of engaging more directly with pediatric patients in video visits, whereas providers might more frequently engage with the caregiver during audio-only (telephone) visits.

³ Differences in utilization by modality was found for patients with a preferred language other than English and patients age 17 and under in the ILC data. Differences in utilization from the pre-pandemic time period were not examined in this analysis, but differences were found in RAND's analysis of data from 41 health centers, including 21 of the ILC health centers.

- **Dedicating operational resources to video visit implementation.** While nearly all health centers struggled with the operational bandwidth to implement new telehealth practices and had to compete with other health center priorities, such as COVID-19 testing and vaccination, those with high video utilization allocated adequate operational resources and staff time to achieve several key aspects of video visit implementation. They were able to develop new workflows associated with video visits, establish care team models that allowed them to support patients with access to video, troubleshoot technology challenges on both the clinic and patient side, and train providers and care teams in the use of new technology (see Key Finding 3).
- **Providing dedicated support to patients to orient them to video platforms.** Health centers with high rates of video visits provided dedicated support to orient patients to their video platforms. Examples of health centers' efforts to support patients experiencing digital barriers are described under Key Finding 4.

Additional facilitators and barriers to video use. Respondents to a provider and care team survey also provided insights on facilitators and barriers to use of video telehealth. Respondents most often identified support from leadership and availability of technology as the most important facilitators of their use of video visits. Patient access to technology was by far the most frequently identified barrier. Other barriers, cited less frequently, included technological barriers on the clinic side, including difficulties with the telehealth platform and challenges receiving technical support; and clinical challenges including inability to meet patients' clinical needs using telehealth and concerns about the quality of provider-patient interactions virtually (see Appendix C for full survey results).

Box 2. Implementation facilitators: video visits

- | | |
|---|--|
| ● Use of technology platforms that provide easy access for patients | ● Scheduling telehealth appointments as video by default |
| ● Setting targets or quotas for appointment modalities | ● Dedicating operational resources to video visit implementation |
| ● Providing dedicated support to patients to orient them to video platforms | |

3. Health centers established the necessary infrastructure—staffing models, technology, operational changes—to facilitate the transition to virtual care.

In order to facilitate the transition to virtual care, health centers developed and expanded infrastructure in the areas of staffing models, technology, and operational changes. As described under Key Finding 2, video visits in particular required health centers to make a variety of changes to their operational models. Facilitators and barriers to establishing the infrastructure for effective virtual care implementation are described below.

Staffing and care team models. To shift to telehealth, all health centers had to re-evaluate, and in some cases modify, existing staff roles. Nearly all health centers made their staffing decisions in the context of facing staff shortages.

For most health centers, the introduction of telehealth – video visits in particular – placed additional responsibilities on clinical and operational staff, including providers, medical assistants (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 post-visit calls to coordinate care for patients. Additionally, MAs were often collaborating with providers who were working from home, which made communication and coordinating care more challenging.

ILC implementation teams noted that care teams were most effective when existing care team 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 functionality of the technology available to them, particularly for teams in which some providers worked from home. For example, one health center used breakout rooms in Zoom for care team members to “huddle” virtually and coordinate care. For other health centers, the use of instant messaging separate from the telehealth platform accessible to patients was an effective tool for communicating within care teams. In other cases, all providers remained working in physical clinics and communication within teams occurred in-person. Implementation teams who felt that the technology available did not allow for adequate communication between providers and MAs cited this as a challenge that contributed to dissatisfaction among staff.

Several health centers piloted changes in the roles and responsibilities of their MAs. Examples of changes to MA roles are displayed in Box 3. 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, also described in Box 3. Based on interviews with implementation teams, most teams were satisfied with their use of new clinical and non-clinical telehealth roles. However, health centers did not feel they could measure the overall effectiveness of these new roles, particularly since clinics had not returned to stable operations as of the end of the ILC.

Box 3. Examples of changes in care team and staff roles piloted by health centers

- **Telehealth coordinator role:** Three health centers created dedicated telehealth coordinator or telehealth system support roles, which took on many of the virtual care responsibilities otherwise assigned to MAs, including supporting both provider and patient technology needs.
- **MAs specifically dedicated to telehealth:** One health center paired two MAs with each provider, with one assigned to technology-related tasks and another assigned to regular clinical tasks. Another health center trained some MAs to be specifically dedicated to telehealth and paired them with providers who were trained in video telehealth.
- **Volunteer tech advocates:** Three health centers used volunteers to support their patients with telehealth access, including training patients in use of video platforms and enrolling patients in patient portals. One implementation team noted that the use of volunteers took some of the burden off of MAs.

In addition to clinical and care coordination roles, implementation teams noted the importance of having a manager or coordinator – such as an operations manager, clinic manager, or quality improvement manager – responsible for the overall roll-out of the telehealth program.

Technology. 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 new telehealth platforms, many health centers also adopted or expanded the use of patient portals, patient text-messaging platforms, and remote patient monitoring equipment.

Implementation teams indicated that the feature that they most valued in telehealth platforms was real-time web communication, which allowed patients attending a video appointment to click on a link to enter a synchronous videoconference without needing to download an app or software. Health centers using platforms with this feature indicated that this significantly facilitated patients' ability to access appointments. Further, health centers that did not have real-time web communication mentioned 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 centers chose to use multiple platforms for video visits while working under the emergency use authorization⁴ that allowed for the use of non-HIPAA-compliant platforms. Participants also described a variety of other features that supported patients' ability to access video visit platforms, listed in Box 4.

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

Remote patient monitoring (RPM) was also a significant focus for several health centers given its potential for increasing quality of care and the ability to monitor and manage chronic conditions without bringing patients into the clinic.⁵

Box 4. Video visit platform features valued or desired by implementation teams

Features valuable for patient experience

- Real-time web communication, which allows patients to access visits via a browser with no additional software downloads
- Technology familiar to patients
- Virtual waiting room in which communication with clinic staff is enabled and messages can be displayed
- Three-way calling for interpreter services and/or including family members/caregivers
- Photo uploads (from patient to provider)
File and image sharing (from provider to patient)
- Ability to flip camera in order to visualize injuries or skin conditions
- Ability to complete electronic registration forms within the platform
- Ability to test a video call ahead of appointment

Features valuable for provider, staff, or backend user experience

- Integration with EHR
- Integration with patient portal
- Ability to facilitate digital communication and collaboration across the care team
- Ability for all clinical roles, not just providers, to conduct visits
- Capacity for group visits

⁴ 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 communications software to conduct telehealth visits, even if the software did not meet HIPAA privacy and security requirements.

⁵ Remote patient monitoring (RPM) is a method of healthcare delivery that uses technology to gather patient clinical data outside of traditional healthcare settings.

ILC efforts focused on RPM addressed chronic conditions such as hypertension and diabetes. The most common devices distributed were blood pressure monitors and blood glucose monitors. Most health centers piloted RPM programs with devices that were not integrated with their EHR. Their implementation teams indicated that EHR-integrated devices would be helpful in the future, as they would put less onus on patients to track their data and report to providers. However, they also noted that EHR integration would require a plan for managing all the data coming in from devices to ensure providers have an easy way to digest data and make care decisions accordingly. While only a few health centers launched RPM efforts during the ILC, several indicated a desire to implement RPM programs in the future to strengthen the quality of care provided to patients via telehealth.

Operational Changes. All health centers made changes to workflows and operational procedures to provide telehealth visits to their patients. Implementation teams noted that more changes were needed to implement video visits than audio-only (telephone) visits, which contributed to the greater reliance on audio-only (telephone) 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 pre-work and screenings, and 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 centers identified the importance of developing standardized guidelines for schedulers to help them determine which appointment type should be offered.

Changes to individual workflows varied widely across health centers, teams identified several common facilitators to making operational changes, including having defined goals, developing standardized workflows, and using rapid cycle improvement processes to refine and improve changes throughout their implementation. Additionally, given the dependence of telehealth on information technology (IT), strong IT support and collaboration across IT, operations, and clinical teams were identified as being important.

Box 5. Implementation facilitators: infrastructure for telehealth

Staffing

- Ensuring venues for digital communication and collaboration between among providers, MAs, and other care team members (e.g., breakout rooms in Zoom, use of digital chat platforms)
- Ensuring adequate staffing for additional responsibilities associated with telehealth visits within clinical team or within newly developed telehealth roles (e.g., supporting providers with technology, supporting patients with access, troubleshooting technology)
- Delegating responsibility for overall telehealth implementation to a manager or coordinator role

Technology

- Selecting technology that is accessible to patients, particularly including Web real-time Communication (Web RTC) for video visit platforms
- Selecting technology integrated with EHR and other software systems

Workflows and Operational Changes

- Creating standardized workflows for all aspects of clinical encounter, including scheduling visits, communicating reminders, checking in patients, completing paperwork and documentation, visit pre-work and screenings, and visit follow-up
- Developing standardized scripts for schedulers, call center staff, patient care representatives, and other non-clinical staff involved in determining appointment types
- Having clearly defined goals when making changes to workflows
- Using rapid cycle improvement processes
- Coordinating across IT, operations, and clinical teams and providing IT support to providers and other patient-facing staff

4. Health centers made progress in meeting a variety of patient needs via telehealth and continued to seek solutions to address digital barriers.

Meeting the needs of patients can be challenging for safety net organizations under typical circumstances, and the transition to telehealth presented new challenges related to ensuring access and maintaining a high quality of care. Health centers adopted a variety of strategies to address the needs of patients, including strategies related to building patient capacity to engage in telehealth, expanding remote patient monitoring, and enrolling patients in patient portals. Many implementation teams described the importance of providing one-on-one support to patients who were engaging in telehealth visits for the first time and who were less familiar with technology.

Screening patients for telehealth readiness. Many health centers 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 (see example in Figure 7). Teams indicated that screening helped them to schedule the right type of appointments for the patient and to connect them with appropriate resources to support their technology use.

Figure 7. Example screening questions

<p>1. Are you willing to participate in virtual care services with a Health Provider/Practitioner?</p> <ul style="list-style-type: none">a. Yesb. No <p>2. Do you have internet access at home?</p> <ul style="list-style-type: none">a. Yesb. No <p>3. Does your device (i.e. tablet, smartphone, IPAD, computer) have a camera to support video calls?</p> <ul style="list-style-type: none">a. Yesb. No <p style="text-align: center;">Questions number 1-3 must be yes. If yes, please proceed to question 4.</p> <p>4. How confident do you feel about doing the following tasks without any help?</p> <ul style="list-style-type: none">a. Navigating the patient portal?<ul style="list-style-type: none">1- Not at all Confident2- Somewhat Confident3- Confident4- Very Confidentb. If you're not confident, do you have someone available to help with video calls? (question B only applies question to A 1-2)<ul style="list-style-type: none">YesNo

Providing support to patients. Health centers identified and adopted a variety of strategies to support patients' capacity to use their telehealth platforms (see Box 6). Successful strategies included:

Posting demonstration videos on health center websites.

Conducting text message campaigns to provide patients with links to information.

Engaging health education staff, telehealth coordinators, or volunteers to provide one-on-one technical assistance or conduct "practice visits" with patients.

Health centers felt that these efforts facilitated increased access to telehealth for patients who would be unlikely to engage without dedicated support. One-on-one support was viewed as the most important strategy for supporting patient telehealth use. However, there were concerns with being able to sustain this level of individualized support because it was resource intensive for many health centers.

Provider outreach. 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 when it came from trusted providers, rather than efforts from other clinic staff.

In-person and digital orientations to use of RPM devices. For those health centers that distributed RPM devices, implementation teams found it helpful for patients to have different options to get oriented to their device. Many health centers trained members of the care team, pharmacy staff, or health educators to orient patients to devices during a clinic visit. One health center also gave participating patients the option to have a mobile health services team provide orientation at their home, with follow-up appointments via telehealth. Many health centers also offered follow-up group telehealth classes to help patients monitor and stay connected to care teams.

Box 6. Examples of health centers' strategies for supporting patients to engage in telehealth visits

- One health center engaged their health education team to teach patients how to access their video visit platform while in the waiting room for in-person visits.
- Another health center incorporated student volunteers into the process of virtual patient rooming, including supporting patients to troubleshoot technology.
- A large county health system created a website to instruct patients on accessing video visits with plug-ins for translation into six languages. They provided additional support by using medical students as digital navigators to support patients.
- Several health centers created telehealth program coordinator positions whose responsibilities included reaching out to patients ahead of video visits, assessing their technology needs, and rehearsing visits before their visit.

Continuing to seek solutions. Despite the many efforts of health center staff to support patient use of telehealth, numerous barriers persisted. Implementation teams discussed the ongoing challenges faced by patients without smartphones or computers, as well as 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.

Some health centers began to pilot new initiatives to mitigate patient barriers, such as making wi-fi available for telehealth visits in their clinic parking lots and introducing telehealth on their mobile medical units. These efforts were in their early phases at the time of the final interviews, but implementation teams felt they held promise for increasing patient access to telehealth.

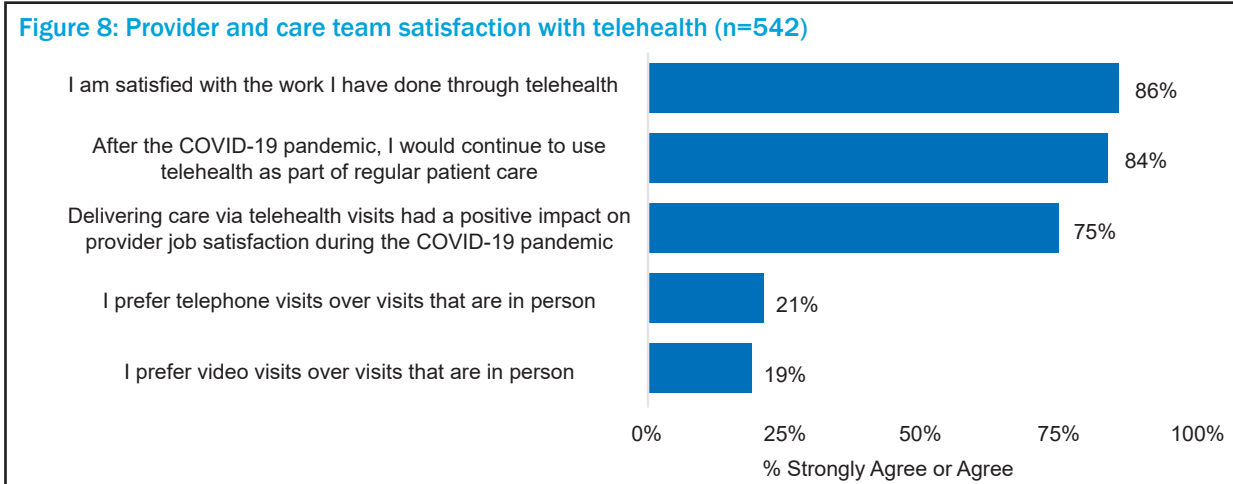
Box 7. Implementation facilitators: patient engagement and capacity-building

- Systematically screen patients for technology access and digital barriers
- Consider a variety of access points for providing information on telehealth to patients, such as providing materials in waiting rooms, text messages, and during visits
- Develop clear processes and workflows for onboarding patients onto telehealth visit platforms, including 1:1 support
- Leverage relationships between patients and providers to encourage patient use of technology

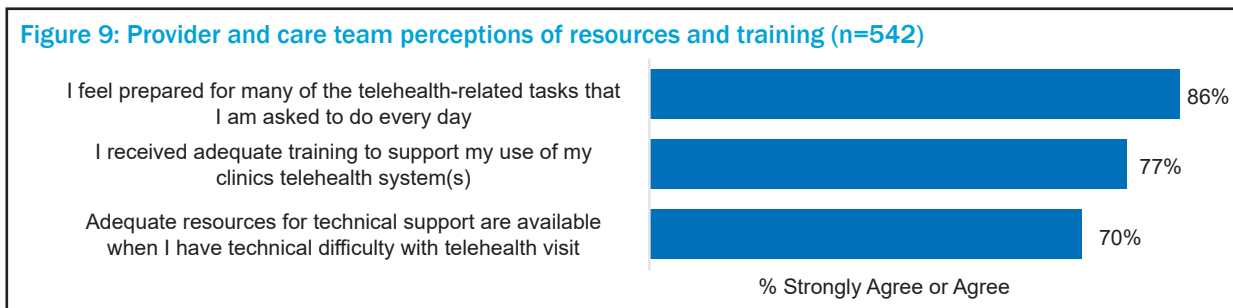
5. Providers and care teams had generally positive experiences providing care through telehealth.

A survey of primary care providers (PCPs), behavioral health providers (BHPs), registered nurses (RNs), and medical assistants (MAs) providing care through telehealth was conducted in order to understand provider and care team experiences with telehealth (559/1,487 respondents; response rate of 38%).⁶ Overall, providers and care team members indicated that they were satisfied with the work they had done through telehealth and that the ability to provide telehealth during the pandemic had a positive impact on their job satisfaction. Providers and care team members also generally had positive views of the telehealth-related resources and training available to them, although responses to these questions varied widely across health centers.

Satisfaction with telehealth. Respondents reported a high level of satisfaction with telehealth, noted that it had a positive impact on their job satisfaction overall, and indicated that they would continue to use telehealth in the future as a regular part of patient care (Figure 8).



Resources and training. Respondents generally agreed that they had access to the resources and technical support they needed to deliver telehealth visits effectively, with 70-86% of all respondents indicating they agreed with each of the three questions on receiving adequate training, having adequate resources, and feeling prepared to complete tasks (Figure 9). Responses to these questions varied to a large degree across health centers, and PCPs rated the availability of adequate resources for technical support lower than respondents in other roles.

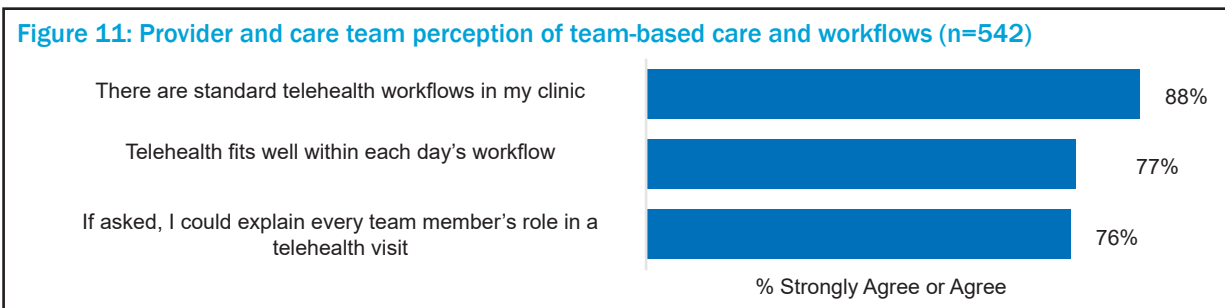


⁶ Complete survey response data is included in Appendix C.

Confidence with telehealth visits: Nearly all respondents (94-95%) indicated they were confident setting up and conducting audio-only (telephone) visits (Figure 10). Most, but slightly fewer (81-86%), indicated they were confident setting up and conducting video visits. This likely is due to the increased complexity of video visits discussed earlier (i.e., increased reliance on technology and need for support to providers and patients).

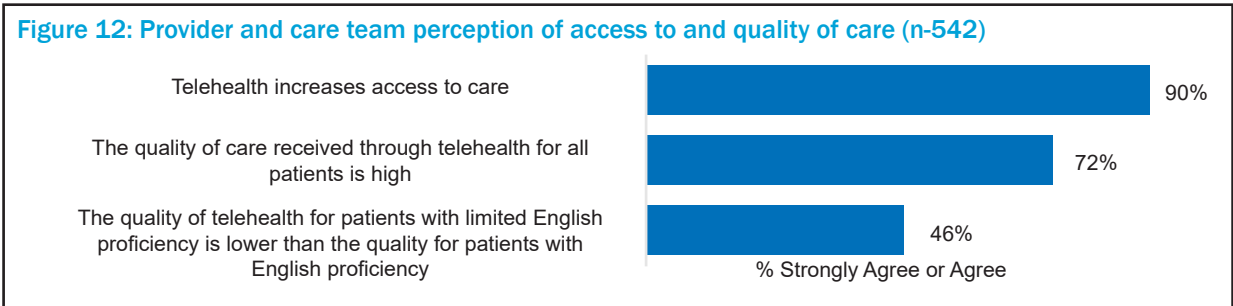


Team-based care and telehealth workflows. ILC participating organizations developed telehealth workflows as part of their participation (as discussed in Key Finding 3). Most respondents to the survey indicated that their health centers had adopted standard telehealth workflows (Figure 11), suggesting that the work of the ILC had been successfully implemented across the care teams. Views were slightly more mixed on other questions related to implementation of workflows and team-based care. Responses to these questions 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.” As discussed earlier, this could be because BHP have longer visits and more time to troubleshoot technology or other access issues that may arise in a telehealth visit.



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 (Figure 12). In interviews, teams discussed the benefits of telehealth for access (e.g., not needing to take time off of work, find childcare, travel to the clinic) but felt that impact on quality was more variable depending on the reason for the visit and needs of the patient. Given the rapid telehealth adoption that occurred during the pandemic, health centers emphasized the need to better understand quality and appropriate modalities for care when clinics can begin to return to more in-person care.

Given the differences in utilization for patients with limited English proficiency discussed earlier, 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 (Figure 12). 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. A comparative question was not asked about in-person care, so concerns about quality of care for patients with limited English proficiency may exist across both telehealth and in-person care modalities.



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. This is likely due to the fact that these depend on the condition and needs of the patient. It should be noted that these responses reflected providers' experiences with telehealth during the pandemic and could potentially differ with the return of more in-person care and the ability to triage visits between telehealth and in-person care more effectively.

6. The learning collaborative provided health centers with needed support to advance telehealth efforts, address challenges, and plan for the future of telehealth.

Participants overwhelmingly reported positive experiences with learning collaborative events and support and indicated that the collaborative was a valuable use of their time.

Participants expressed particular appreciation for peer-sharing events, such as the “Sip ‘n Share” sessions in which each health center presented key learnings. They shared multiple examples of how peer sharing influenced their organization’s telehealth practices (see Box 8). For example, the opportunity to hear from other safety net health centers who shared similar characteristics with their health centers – such as size, type of organization, or common technology platforms – helped them identify innovative ways to address challenges. As one participant stated, **“We didn’t have to reinvent the wheel. We learned from others. We were able to discuss whether their ideas would work for us. Hearing from others also validated our experiences.”**

Many teams expressed interest in continuing to be connected to other participating health centers after the learning collaborative ended.

Box 8. Examples of collaboration within the Innovation Learning Collaborative

- **Implementing new ideas.** Health centers implemented new ideas shared by their peers in the learning collaborative, such as tablets for clinicians conducting video visits; group classes on diabetes management; or remote solutions to preventive care, such as pediatric fluoride varnish kits.
- **Adapting tools.** Health centers shared “artifacts” with each other, such as their digital literacy screeners and language used for text-message outreach and adapted them for their unique patient needs.
- **Sharing experiences with technology.** Participants commented that it was useful to consult with other health centers who used the same technology – such as common EHR or common apps for text-based outreach.
- **Collaborating across roles.** A physician leader at one health center mentioned having several “a-ha!” moments when talking to a medical assistant from another health center; and an IT manager commented that he had learned the most from other health centers’ operations teams.

ILC Tools & Resources. Throughout the learning collaborative, teams shared tools and resources with other members of the learning collaborative. Sharing across teams mostly occurred during Sip ‘n Share webinars. The learning collaborative also facilitated connections through coaching sessions and the **CCA Solutions by Patient Journey Map**. Tools and resources included those described in Box 9 and were aimed at addressing a variety of challenges, such as promoting patient engagement, shifting workflows, selecting technology, and training staff. Teams expressed appreciation for the tools and resources shared by their peers. Direct adoption of tools and artifacts from other teams was uncommon; more often, implementation teams indicated that the work of other health centers served as inspiration or a resource that prevented them from “reinventing the wheel.”

Box 9. Examples of tools and resources shared during the learning collaborative

- **Call center/support staff scripts.** Health centers shared patient outreach scripts to use during appointment scheduling to help promote telehealth visits.
- **Telehealth care team staff/volunteer job descriptions.** Health centers shared new and revised job descriptions for telehealth coordinators and other volunteer positions (e.g., digital navigators) to promote innovation with staffing models.
- **Patient telehealth education materials.** Videos and other visual resources were shared across teams to support patients accessing video visits and addressing other digital barriers.
- **Workflows.** Examples of workflows were shared to provide teams with ideas for changes to consider as part of telehealth implementation.

Throughout the program, teams also tracked the progress of their rapid tests, project strategies and other updates on the shared Rapid Test Dashboard, which was viewable to other teams in the collaborative. Several participants called out the dashboard tracker as one of the most valuable tools of the program because it allowed them to gain a better understanding of other teams' projects, track their own progress, and validate new strategies.

Coaching. Teams were assigned a program coach to support the implementation of their telehealth work. Teams reported multiple ways in which coaching was helpful throughout the program. Coaches helped translate and break down information about program requirements, homework assignments, and about how to use specific tools for project implementation. They also brought broad real-world knowledge about executing telehealth strategies across different health centers, which helped teams overcome challenges and explore potential solutions. In the words of one participant, **“It’s helpful when you have somebody that has that broad knowledge that can really speak to what’s going on in the field and what other organizations are doing.”**

Barriers to engagement. While participant feedback about the value and contribution of the learning collaborative was positive, the most significant barrier to engagement with the ILC was limited time and capacity to attend program events and dedicate to project activities, particularly given the many competing demands placed on health centers during the pandemic.

NEXT STEPS

Implementation teams were asked about their long-term goals related to telehealth. Nearly all interviewees expressed that telehealth was “here to stay” given the perceived positive impact it had on patient access and convenience. As the ILC ended, health centers were beginning to work on longer term, more sustainable models for telehealth. Specific areas of focus are discussed below.

Transitioning to a responsive, evidence-based model of care. Overall, implementation teams discussed their interest in transitioning from a model of care that emerged in response to the immediate needs of the pandemic, to advancing an evidence-based model of care that was responsive to patients’ needs. They described needing more information about the patient and clinical situations in which various care modalities (in-person, video, and audio-only (telephone)) were optimal for patients and finding ways to support call center staff to make sure appointments were scheduled appropriately. Some implementation teams were exploring the potential for telehealth to provide a “leaner” model of care to address a specific set of patient needs, requiring less provider and support staff time, while still maintaining quality of care.

Developing a sustainable operational model. As part of developing a sustainable telehealth model, implementation teams described needing to refine existing workflows and practices to make synchronous telehealth appointments a smoother experience for patients, providers, and staff.

Expanding access for patients facing barriers. Health centers were interested in pursuing patient engagement strategies to inform patients of their telehealth offerings and support them in accessing the technology needed to engage in telehealth. Implementation teams described the need to address patients’ digital barriers, particularly for patients who do not have access to hardware/devices or to broadband connections, by distributing devices or finding other ways to connect patients to care, such as using telehealth kiosks in rural areas. Some teams placed a particular emphasis on expanding access to telehealth services to patients who faced the greatest barriers to accessing care, including patients experiencing homelessness. For example, two health centers were exploring how to integrate telehealth services into their mobile care units serving patients experiencing homelessness.

Ensuring financial sustainability for telehealth. Health centers expressed their concerns about the future of reimbursement, particularly for audio-only (telephone) visits, which were a significant driver of access throughout the COVID-19 pandemic. Many health center teams expressed the importance of maintaining audio-only (telephone) visits for their patients and described the importance of advocacy efforts for maintaining access to these visits.

SUMMARY

The COVID-19 pandemic, and resulting stay-at-home orders, prompted health care systems across the country to rapidly transition to telehealth. The ILC was designed to support safety net health centers in California as they adopted, iterated, and innovated on the best way to meet patient needs virtually.

The twenty-three health centers engaged in the ILC made significant progress in their development of unique telehealth models to support patients served by the safety net system in California. To develop telehealth programs that were responsive to patient needs and sustainable for the long-term, health centers invested in adoption of new technology, development of care team structures, and changes to workflows. They also engaged in efforts to improve patient access to telehealth, including supporting patients' digital literacy.

During the ILC, the majority of primary care and behavioral health visits were conducted by audio-only (telephone) visits, which played an important role in preserving access to care for patients. Throughout the learning collaborative, use of video visits was being promoted as a more sustainable modality for telehealth due to reimbursement potential. Several health centers, who made significant operational investments in deploying video visits, shared promising practices for video visit implementation with the ILC and demonstrated the importance of providing targeted support to patients experiencing digital barriers to increase video visit utilization.

The ILC contributed to advancing new telehealth models by providing health centers with needed support to develop and expand their telehealth offerings. The grant funding and peer sharing opportunities emerged as important resources for advancing health centers' telehealth efforts in a strategic way, especially as operational bandwidth and staff resources were limited due to the pandemic response.

While the rapid transition and innovation was driven by a response to the pandemic, teams recognized that telehealth offers a promising solution for supporting patients' access to care beyond the pandemic. Implementation teams were committed to establishing a long-term, sustainable model for providing telehealth while also continuing to expand access for patients who experience barriers to accessing telehealth visits.

APPENDIX A:

Participating Health Centers

Organization Name	Organization Type	City	No. of Clinic Sites	No. of Unique Patients in 2019
Alameda Health System	Public Hospital	Oakland	8	95,989
CommuniCare Health Centers	Federally Qualified Health Center	Davis	3	24,185
Community Medical Centers	Federally Qualified Health Center	Stockton	22	101,224
County of Monterey Health Department	Public Hospital	Salinas	10	47,061
Eisner Health	Federally Qualified Health Center	Los Angeles	16	45,134
Golden Valley Health Centers	Federally Qualified Health Center	Merced	42	123,031
Los Angeles County Department of Health Services	Public Hospital	Los Angeles	76	203,300
Neighborhood Healthcare	Federally Qualified Health Center	Escondido	16	64,410
North East Medical Services	Federally Qualified Health Center	Daly City	13	69,994
Northeast Valley Health Corporation	Federally Qualified Health Center	San Fernando	17	77,206
Petaluma Health Center	Federally Qualified Health Center	Petaluma	7	35,096
Roots Community Health Center	Community Clinics	Oakland	12	3,027
SAC Health System	Federally Qualified Health Center	San Bernardino	9	36,452
Salud Para La Gente	Federally Qualified Health Center	Watsonville	12	28,039
San Francisco Health Network	Public Hospital	San Francisco	14	37,369
San Ysidro Health	Federally Qualified Health Center	San Diego	28	924
Serve the People Community Health Center	Federally Qualified Health Center	Santa Ana	4	14,280
Share Our Selves	Federally Qualified Health Center	Costa Mesa	8	15,277
Shasta Community Health Center	Federally Qualified Health Center	Redding	6	33,610
University Muslim Medical Association Inc (UMMA Clinic)	Federally Qualified Health Center	Los Angeles	2	7,750
Venice Family Clinic	Federally Qualified Health Center	Venice	10	27,373
West County Health Centers	Federally Qualified Health Center	Guerneville	3	11,488
White Memorial Community Health Center	FQHC Look-Alike	Los Angeles	1	15,094

APPENDIX B:

Evaluation methods

The table below presents details on each data collection method, what it entailed, who participated, and how the data were analyzed. After each data source was analyzed (per the descriptions below), data were triangulated across methods to develop the key findings presented in this report.

Method	Description & Analysis
<p>Clinical data reporting</p>	<p>Teams reported the following metrics every 6 months:</p> <ul style="list-style-type: none"> • Number of primary care and behavioral health visits conducted using each modality (in clinic, telephone, video) • Primary care and behavioral health visits in each modality (in clinic, telephone, video) segmented by payer • Unique number of primary care and behavioral health patients seen in each modality (in clinic, telephone, video) • Number of new primary care and behavioral health patients seen in each modality (in clinic, telephone, video) • Primary care and behavioral health visits in each modality segmented by: <ul style="list-style-type: none"> • Race & ethnicity • Age range • Language preference (preferred language English or preferred language other than English) <p>This report includes data from March 2020 through August 2021.</p> <p>Aggregate data were submitted to CCHE every six months using a Microsoft Excel reporting template. CCHE provided clinical dashboards back to each team to validate the data and encourage teams to share and discuss the data within their clinics.</p> <p>Analysis: CCHE reviewed data and conducted basic validation checks to identify quality issues and worked with teams to revise erroneous values as needed. The utilization patterns discussed throughout the body of this report were calculated using validated data.</p>
<p>Implementation team interviews</p>	<p>Implementation team interviews (N=23) were conducted at baseline (October/ November 2020), midpoint (March/April 2021) and at final (September/October 2021) to collect qualitative data on telehealth implementation progress, strategies employed, promising practices identified, challenges experienced, and plans for telehealth in the future.</p> <p>The interviews were conducted with ILC team leads and key players involved in the implementation of telehealth. Generally, two to four people from the implementation team joined the interview, including a diverse range of staff from the leadership (e.g., CEOs and CMOs), operations and IT management staff, physicians and other providers or care team members, and key implementation staff (e.g., front office manager, telehealth coordinator, etc.).</p> <p>The interview protocols comprised a variety of topics related to telehealth implementation, including:</p> <ul style="list-style-type: none"> • Progress toward telehealth implementation and spread • Facilitators and barriers • Ideas about the future of telehealth at each health center • Feedback on participation in the ILC <p>Analysis: Interviews were digitally recorded and transcribed. CCHE conducted a thematic analysis of the transcripts. Codes were developed a priori, based on the interview protocol, and empirically, based on emergent themes. Transcripts were coded in Atlas.ti.</p>

Method	Description & Analysis
<p>Provider and Staff Survey</p>	<p>The survey was designed as a collection Likert-type scale questions, multiple-choice questions, and open-ended questions that assessed provider and staff:</p> <ul style="list-style-type: none"> • Demographics (role at health center, age range, telehealth service provisions) • Overall experiences with telehealth • Confidence facilitating telehealth visits • Job satisfaction • Facilitators and barriers to telehealth delivery <p>The survey was administered online via REDCap during June 2021. The REDCap survey link was sent to health center leaders at each participating health center, and they forwarded the link to their respective providers and staff. 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 (i.e., the chance to receive one of twenty \$100 gift cards).</p> <p>Sampling: The survey sample consisted of a convenience sample of providers and other staff at twenty-three health centers participating in the Innovation Learning Collaborative and seven health centers from the Infrastructure and Spread track. Health centers chose one physical clinic site at which to distribute the survey to clinic staff. For clinic sites with fewer than 25 primary care providers, the survey was distributed to all providers and staff in indicated roles. At clinic sites with 25 or more primary care providers, health center leaders chose to sample either (a) all providers and staff in the roles indicated above or (b) 50% of the providers and staff in the indicated roles, selected by choosing every other name on an alphabetized staff list. The survey was distributed to a total of 1,487 individuals across 30 health centers.</p> <p>Analysis: Data were analyzed using STATA/MP version 15.1 statistical software. In total, 559 responses from 29 health centers were collected, for a response rate of 38%. Analyses were primarily descriptive. For all Likert-type scale and multiple-choice questions, responses are reported only for providers and staff who provide or support 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 dataset.</p> <p>Comparisons were made among the respondents in each of the four different sampled roles to suggest some possible trends. Responses to Likert-type scale questions were assigned to a five-point numeric scale, and averages were compared using pairwise comparisons. No adjustments were made for multiple comparisons as the analyses were to be exploratory.</p>
<p>Learning collaborative activities</p>	<p>CCHE leveraged learning collaborative activities to capture goals, strategies, accomplishments, challenges, and lessons learned. Learning collaborative activities leveraged included teams’ “rapid testing dashboards” containing telehealth project updates; teams’ presentations during learning collaborative events; and team documents produced during the learning collaborative (e.g., workflows, resources for patients, etc.).</p> <p>Analysis: Key themes from learning collaborative documents and presentations were extracted and triangulated with interview themes.</p>

APPENDIX C:

Provider and Staff Survey Data

The tables below present summary data for aggregate responses from the Provider and Staff survey that was administered in June 2021. The tables summarize descriptive data collected as well as summarizes responses by question group. Some question response groups are disaggregated in the table by provider role: PCP (Primary Care Provider), BHP (Behavioral Health Provider), RN (Registered Nurse), or MA (Medical Assistant).

Table C1. Survey response rates by role

Role	Number sampled	Number responded	Response rate
Primary care provider	599	239	40%
Behavioral health provider	234	65	28%
Registered nurse	152	50	33%
Medical assistant	502	205	41%

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

Table C2: 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
% of respondents	6%	36%	26%	16%	11%	4%	0%

Table C3: Percentage of respondents providing video and audio-only visits to 5 or more patients per week

Role	N	% providing audio-only		% providing video		% providing both video and audio-only telehealth	
		telehealth	telehealth	telehealth	telehealth	telehealth	telehealth
Primary care provider	239	95%	74%	69%			
Behavioral health provider	65	88%	88%	78%			
Registered nurse	50	82%	62%	56%			
Medical assistant	205	83%	80%	67%			

Table C4: Agreement with Likert-type scale questions on experiences with telehealth

	N	Distribution of all responses					Mean response value by role*				
		% 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
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
There are standard telehealth workflows in my clinic.	541	43	45	9	3	1	4.3	4.1	4.4	4.2	4.3
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
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
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
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
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
Telehealth fits well with each day's workflow.	539	36	41	17	6	1	4.1	3.9	4.4	4.0	4.1
I received adequate training to support my use of my clinics telehealth system(s).	539	33	44	18	5	1	4.0	3.9	4.2	3.9	4.2
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
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	
I am confident when setting up a <i>telephone</i> visit.	538	59	35	4	1	0	4.5	4.4	4.7	4.4	
I am confident when setting up a <i>video</i> visit.	508	43	38	12	5	1	4.2	3.9	4.5	3.8	

Table C4: Agreement with Likert-type scale questions on experiences with telehealth

	N	Distribution of all responses					Mean response value by role*				
		% Strongly agree	% agree	% Partly agree, partly disagree	% Disagree	% Strongly disagree	All	PCP	BHP	RN	MA
I am confident when conducting a <i>telephone</i> visit.	537	59	36	4	1	0	4.5	4.5	4.5	4.5	
I am confident when conducting a <i>video</i> visit.	507	45	41	9	3	1	4.3	4.2	4.6	3.9	
I prefer <i>telephone</i> visits over visits that are in person.	537	9	12	40	29	10	2.8	2.6	2.7	2.9	
I prefer <i>video</i> visits over visits that are in person.	504	8	11	41	30	11	2.8	2.5	3.0	2.8	
Working with interpreter services during a <i>telephone</i> visit is more difficult than during an in-person visit.	529	21	26	24	24	4	3.3	3.2	3.3	3.3	
Working with interpreter services during a <i>video</i> visit is more difficult than during an in-person visit.	486	18	33	30	16	3	3.5	3.4	3.2	3.6	
I am confident in my ability to manage new patient needs using <i>telephone</i> visits. (providers only)	337	12	43	33	10	3	3.5	3.4	3.9		
I am confident in my ability to manage new patient needs using <i>video</i> visits. (providers only)	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 <i>telephone</i> visits. (providers only)	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 <i>video</i> visits. (providers only)	313	27	47	21	4	1	4.0	3.9	4.4		
I am confident in my ability to diagnose new conditions using <i>telephone</i> visits. (providers only)	333	8	36	38	15	3	3.3	3.2	3.6		
I am confident in my ability to diagnose new conditions using <i>video</i> visits. (providers only)	313	16	41	32	10	2	3.6	3.5	4.2		

* 5 = strongly agree; 4 = agree, 3 = partly agree, partly disagree; 2 = disagree, 1 = strongly disagree

Table C5: Ratings of impact on job satisfaction

	N	Distribution of all responses						Mean response value by role*				
		% Sig Pos impact	% Some Pos Impact	% No Impact	% Some Neg Impact	% Sig Neg 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

**5 = significant positive impact; 4 = some positive impact; 3 = no impact; 2 = somewhat negative impact; 1 = significant negative impact

Table C6: Barriers and Facilitators to telehealth implementation selected by respondents

Barriers	Percentage of respondents selecting response*
Access to technology for patients.....	77%
Inability to meet clinical needs of my patients via telehealth	27%
Difficulties with use of telehealth platform	26%
Concerns about quality of provider-patient interactions during telehealth visits.....	24%
Availability of technical support when needed.....	22%
Availability of interpreter services	19%
Availability of technology within my clinic	16%
Lack of training in use of telehealth system	7%
Facilitators	
Support from clinic leadership	58%
Availability of technology within my clinic	55%
Patients' access to technology	27%
Ease of use of telehealth system.....	25%
Availability of technical support when needed.....	19%
Reimbursement policies	19%
Training in use of telehealth system	16%
Availability of interpreter services	11%

* Respondents could select up to three responses.