

CCI
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INNOVATIONS

Promoting health equity with virtual care

JULY 21, 2021 | Literature Review





Literature Review Approach

I Background

The COVID-19 pandemic upended the way California delivers health care. Telehealth has become crucial to improving access to care as well as health equity – fair, just, and inclusive opportunities for people to be healthy – during this ongoing pandemic and beyond. This literature review was conducted by CCI to inform program design for the [Connected Care Accelerator](#).

We conducted our review between June and September 2021. We focused our search narrowly on studies, reports, and news articles looking at telehealth and health equity in safety net clinics. At the time of our search, telehealth was still a relatively novel approach to care in the health care safety net, and research was only beginning to emerge describing its impacts on health equity. Consequently, the findings in this review are only a snapshot of early studies and may be outdated.



About the review process

FIRST PASS

Selection criteria

We included studies, reports, and articles about virtual care and health equity that were focused on safety net clinics. We favored studies that were published in the past two years but included a few studies from before 2020.

- Narrative review (non-systematic)
- 2020 – 2021
- PubMed, Google Scholar, reports, news articles

SECOND PASS

Additional Articles

We reviewed articles from the first pass and looked at who they cited and who cited them. We included studies that were recommended by the experts we spoke with.

- Forward searching
- Backward searching
- Recommended articles

ANALYSIS

Review Matrix

We read each article and added it to a review matrix (linked at the end of the slides). The review matrix includes information about the study population, location, purpose, findings, and key takeaways of each study.

- Each article is tagged with one to three topic areas (broadband access, LEP, etc.)
- Because of the narrative review approach, the matrix is not comprehensive



Findings

What is included in this literature review? (n=74)

- 25 Studies
- 20 Commentaries
- 10 Reports
- 8 Reviews
- 8 New Articles
- 1 Podcast



Trends in virtual care

■ Trends in telehealth use

There have been several studies over the past two years exploring broad trends in virtual care. This section includes an overview of trends and a closer look at two California based studies that explore who is being left behind in the transition to virtual care ([Nouri, 2020](#)) and what proportion of care is provided as audio only vs. video ([Uscher-Pines, 2021](#)).



Eight trends emerged across studies

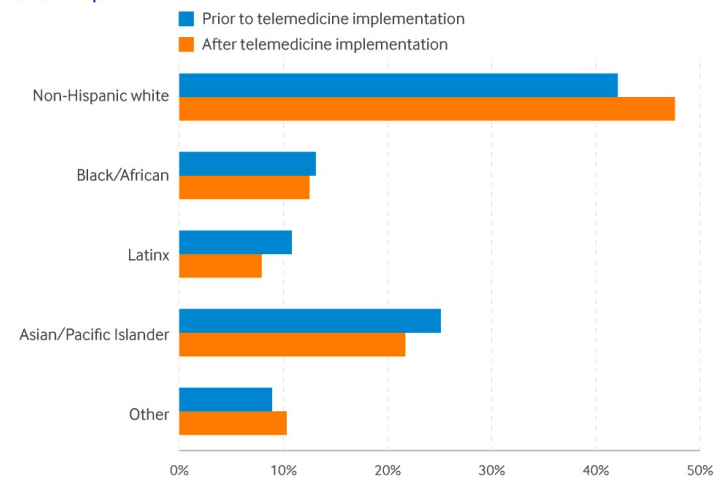
TRENDS IN VIRTUAL CARE	CITATIONS
The transition to virtual care led to a drop in no-show rates.	(Berger, 2021; Bluth, 2021; Franciosi, 2021; Wicklund, 2021)
Rural patients accessed virtual care at lower rates than urban patients during the pandemic.	(Cantor, 2021; Demeke, 2021; Health, 2021; Smith, 2021)
Men were less likely than women to access telehealth.	(Franciosi, 2021; Wood, 2021)
Lower-income patients were less likely than higher income patients to access telehealth.	(Cantor, 2021; Eberly, 2020; Patel, 2021; Rodriguez, 2021b; Wood, 2021)
LEP or non-English language preference was associated with less telemedicine use and less video use.	(Eberly, 2020; Franciosi, 2021; Rodriguez, 2021b)
Patients living in areas with low broadband access were less likely to use virtual care.	(Reed, 2020; Rodriguez, 2021a)
Older patients, female patients, Black, Latinx, Spanish speaking, and poorer patients who accessed care through telehealth were less likely to use video.	(Eberly, 2020; Rodriguez, 2021a)
Telehealth use was associated with increased emergency department use for all patients.	(Rodriguez, 2021b)



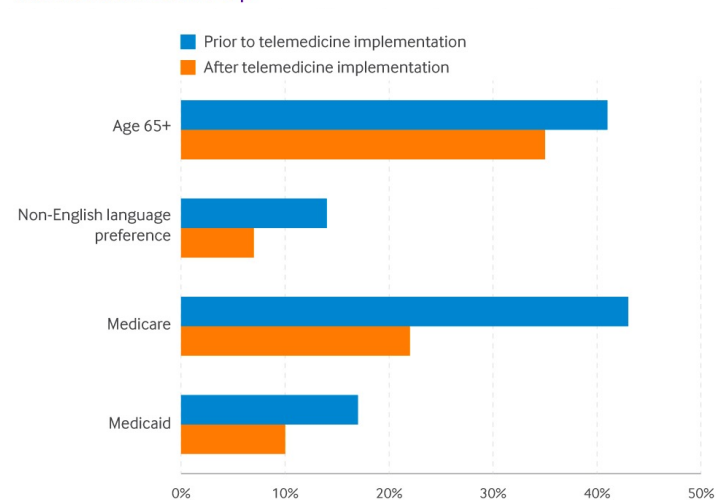
Who is being left behind in the transition to virtual care?

Comparing the proportion of patients being seen before and during the pandemic offers early evidence from providers in San Francisco that many vulnerable patients are being left behind including those who are ≥ 65 years old (41% to 35%), non-English language preference (14% to 7%), insured by Medicare (43% to 22%) or Medicaid (17% to 10%). ([Nouri, 2020](#))

Patient Visits by Race/Ethnicity Before and After Telemedicine Scale-Up



Patient Visits by Age, Language, and Insurance Before and After Telemedicine Scale-Up



Data Source: UCSF General Internal Medicine Practice and Richard Fine People's Clinic at Zuckerberg San Francisco General Hospital

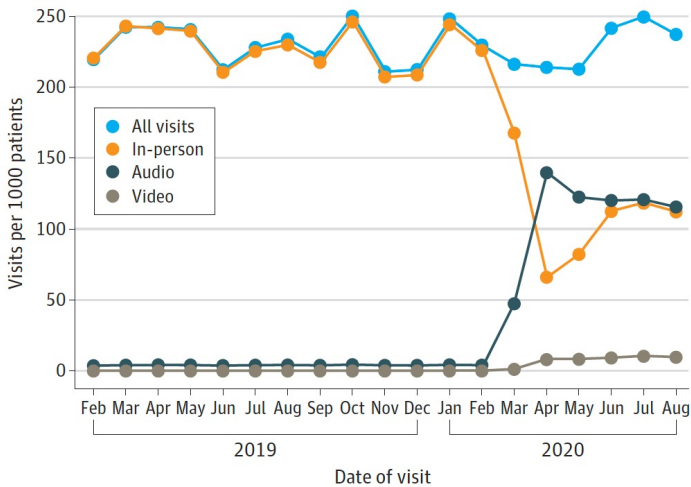


What is the proportion of audio/video at California FQHCs?

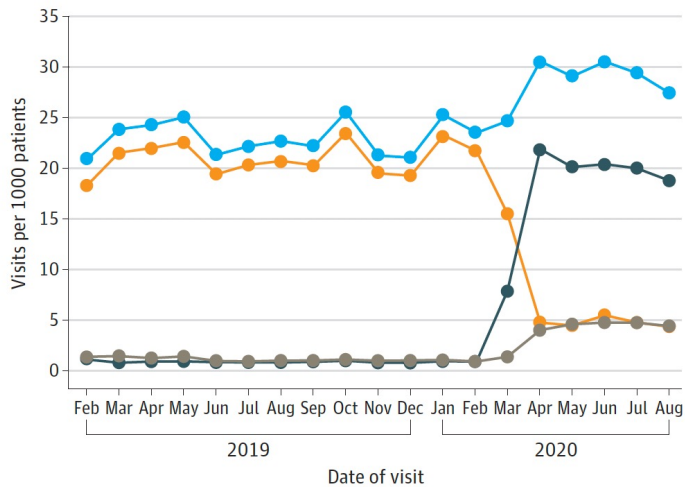
Visit volume declined modestly for primary care visits and remained stable for behavioral health visits at California FQHCs during the COVID-19 pandemic. Telehealth visits (particularly by telephone) mostly replaced in-person visits. ([Uscher-Pines, 2021](#))

Figure. Primary Care and Behavioral Health Visits per 1000 Patients by Visit Type From February 2019 Through August 2020

A Primary care



B Behavioral health





Barriers to virtual care

Barriers to virtual care

PATIENTS	CITATIONS
Patient lacks broadband access (cost or coverage)	(Ortega, 2020) (Consortium Telehealth, 2021) (Le, 2020)
Patient lacks device that supports video	(Consortium Telehealth, 2021) (Chang, 2021)
Digital literacy (including patient awareness of telehealth and comfort with tech.)	(California pan-ethnic health network, 2020) (Consortium Telehealth, 2021)(Chang, 2021)
Limited English proficiency	(California pan-ethnic health network, 2020) (Chang, 2021) (Rodriguez, 2021b)
Patient lacks private space	(Consortium Telehealth, 2021)
Patient prefers in person visit	(Lyles, 2016)
CLINICS	CITATIONS
Lack of leadership support in clinics	(Ortega, 2020)
Lack of adequate reimbursement for virtual care	(Ortega, 2020) (Chang, 2021)
Challenges with the use of interpreters	(California pan-ethnic health network, 2020) (Consortium Telehealth, 2021)
Lack of patient education to support technology use	(California pan-ethnic health network, 2020)
Challenges finding and implementing technology and platforms	(California pan-ethnic health network, 2020)
Provider/staff perceptions of telehealth (risks vs. benefits, comfort with technology, perception of patient preference)	(Consortium Telehealth, 2021) (Chang, 2021)



Recommendations for overcoming barriers

RECOMMENDATIONS	CITATIONS
Partnerships with community orgs such as Area Agencies on Aging, libraries, and others to support education and access	(Sieck, 2021) (Ukoha, 2021)
Corporate partnership such as VA's iPad program in collaboration with Apple	(Eyrich, 2021)
Dedicated telehealth coordinator and telehealth navigators	(Consortium Telehealth, 2021) (Uscher-Pines, 2020)
Advocate for and expand broadband access	(Consortium Telehealth, 2021)
Conduct patient satisfaction surveys	(Consortium Telehealth, 2021)
Engage patients in the process of developing and evaluating telehealth programs	(Shaw, 2021)
Address provider bias to ensure virtual care is offered by the provider	(Ukoha, 2021)
Conduct rigorous quality assurance efforts, including monitoring use by patient sociodemographic characteristics and assessing patient and clinician experience	(Ukoha, 2021)
Providing onboarding assistance to help patients access virtual care	(Hernandez-Ramos, 2021)
Virtual tools need to be simple to use and designed with accessibility in-mind	(Lyles, 2016) (Ukoha, 2021)





Provider perspectives

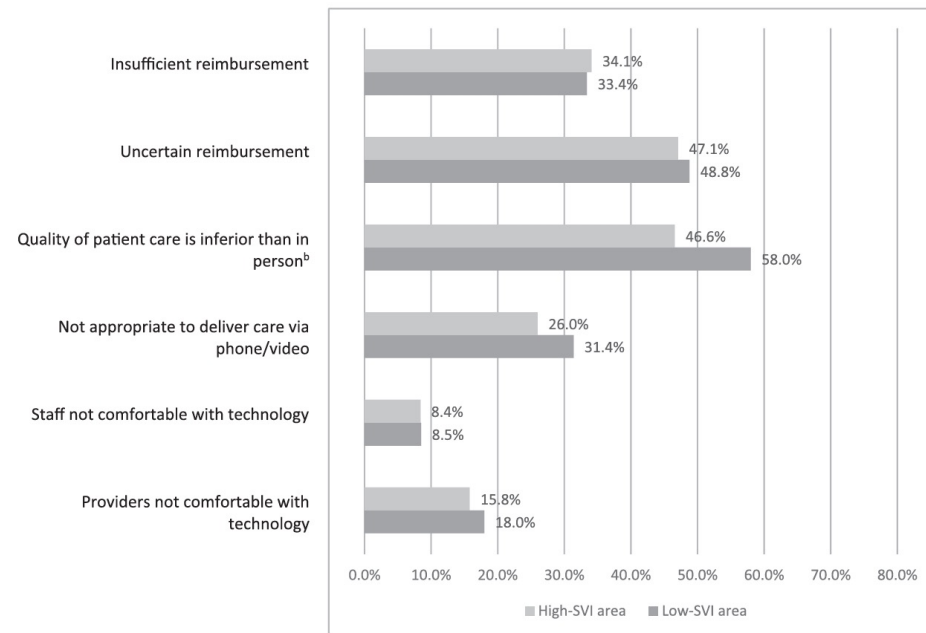
Provider perspectives of practice-related barriers to virtual care

Providers at small primary care practices in NYC were surveyed to understand their perspectives on virtual care. The lighter bars on the graph represent clinics in High-SVI areas (social vulnerability index) and the darker bars represent clinics in Low-SVI areas.

The graph on right shows provider perceptions of practice-related barriers to virtual care.

Source: ([Chang, 2021](#))

Figure 3. Practice-related telehealth barriers^a



^aBivariate analysis of the relationship between practice location's Social Vulnerability Index (SVI; high vs low) and practice-related telehealth barriers across waves. Providers were asked to select key barriers to using telehealth.

^b $P < .001$.

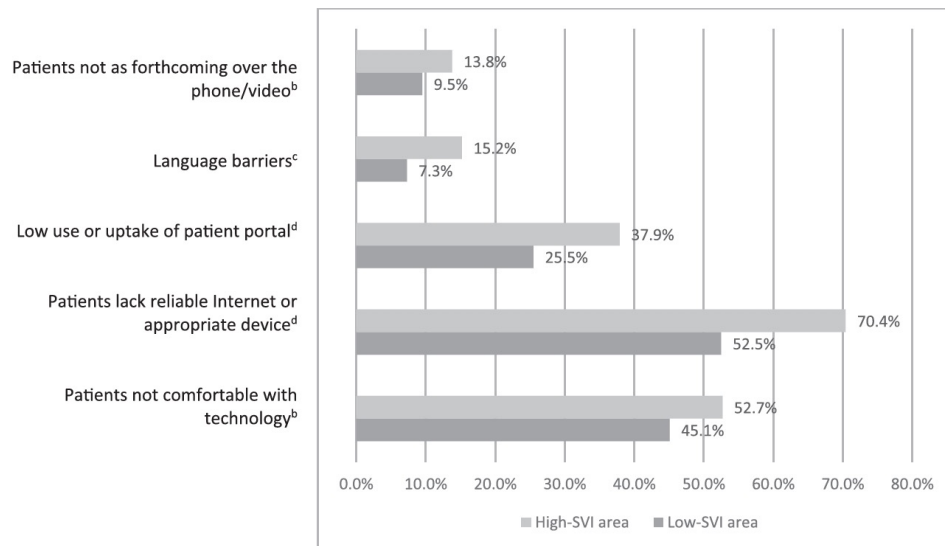
Provider perspectives of patient-related barriers to virtual care

The graph to the right shows provider perceptions of patient-related barriers to virtual care.

The lighter bars on the graph represent clinics in High-SVI areas (social vulnerability index) and the darker bars represent clinics in Low-SVI areas.

Source: ([Chang, 2021](#))

Figure 4. Patient-related telehealth barriers^a



^aBivariate analysis of the relationship between practice location's Social Vulnerability Index (SVI; high vs low) and patient-related telehealth barriers across waves. Providers were asked to select key barriers to using telehealth.

^b $P < .05$.

^c $P < .01$.

^d $P < .001$.



Patient perspectives

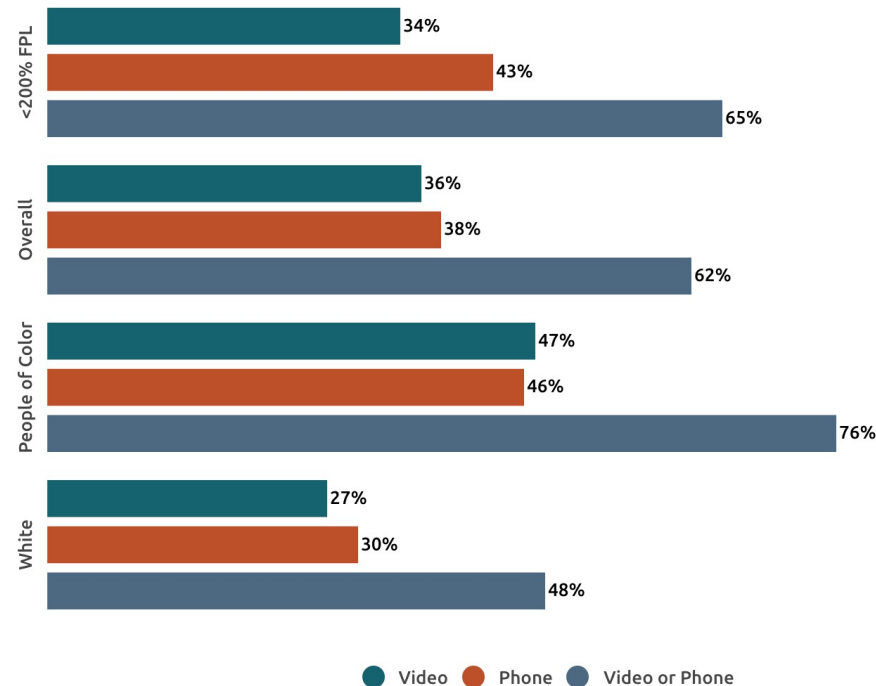
■ Patient perspectives on access

In a survey of Californians, researchers found that telehealth was reported to be an important source of care across respondent groups.

Source: ([CHCF, 2020](#))

Telehealth an Important Source of Care for All Respondents

Percentage who reported receiving care by ...



Notes: Survey conducted by NORC at the University of Chicago between June 24 and August 21, 2020. Respondents limited to California residents age 18 to 64 who saw a doctor or other health care professional since March 2019. People of color include Asian, Black, Latinx, multiracial, and "other" race respondents. $p < .01$ for differences between people of color and White for video or phone.

■ Patient satisfaction with virtual care

Among survey respondents overall who received telehealth visits, satisfaction with them compared favorably to in-person visits. Among those who received care by phone, 24% of respondents overall reported they were “more satisfied” with their phone visit than with their last in-person visit, and 48% reported they were “just as satisfied.” Twenty-eight percent reported that they were “less satisfied” with their phone visit.

Among those who received care by video, one-third of respondents overall (33%) reported they were “more satisfied” with their video visit than with their last in-person visit, and one-third (32%) reported they were “just as satisfied.” Thirty percent of respondents overall reported that they were “less satisfied” with their video visit.

High Levels of Satisfaction with Phone and Video Visits Compared to In-Person Visits

How satisfied were you with your phone or video visit compared to your last in-person visit?



Notes: Survey conducted by NORC at the University of Chicago between June 24 and August 21, 2020. Respondents limited to California residents age 18 to 64 who saw a doctor or other health care professional since March 2019. Figures may not sum due to rounding or skipped responses.

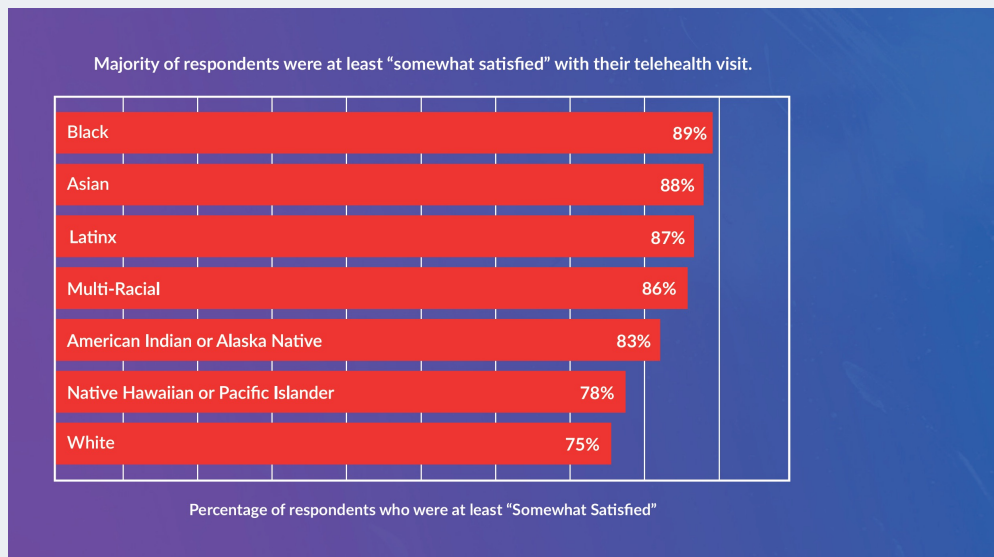
CALIFORNIA HEALTH CARE FOUNDATION, OCTOBER 2020



More positive experiences with telehealth

To better understand how consumers of color experience telehealth, the California Pan-Ethnic Health Network (CPEHN) fielded a consumer experience survey in September 2020. The survey targeted people of color and those with limited English proficiency through an online platform and was conducted in English, Spanish, Chinese, and Korean (n= 1,662).

Survey respondents overwhelmingly reported satisfaction with telehealth. Nearly 90% of Black respondents reported satisfaction with their telehealth visit overall, and equal or greater satisfaction with telehealth than with in-person medical care. Interestingly, all populations of color reported satisfaction with telehealth at a greater rate than the White sample, with 75% reporting satisfaction.



Source: ([California pan-ethnic health network, 2020](#))



Patients also report barriers to virtual care

Although these survey findings show a high rate of overall utilization and satisfaction across all populations, the disaggregated data reveal barriers for BIPOC populations that may be masked by just looking at that topline data.

Privacy: When asked whether they have a private place to be during a telehealth appointment, 36% of Asian respondents indicated that they do not, followed by 32% of American Indian or Alaska Native respondents, and 30% of Native Hawaiian and Pacific Islander respondents. Black and Latinx respondents were less likely to report lack of a private space, with only 17% of each population indicating that this is a concern.

Language Access: Language access is a major concern. 60% of limited English proficient individuals who responded to the survey reported that the telehealth services they received were not in their preferred language. This appears to be less of a concern for Spanish speakers, with 75% reporting that they did receive services in their preferred language.

Technology: Latinx respondents were most likely to report access to technology as a barrier. 62% responded that they did not have a strong enough internet connection or bandwidth and 57% stated that they did not have enough cell phone minutes to effectively utilize telehealth.

Consumer Education and Assistance: 40% of consumers reported that they did not receive any instruction from their provider on how to prepare for or access their telehealth appointment.



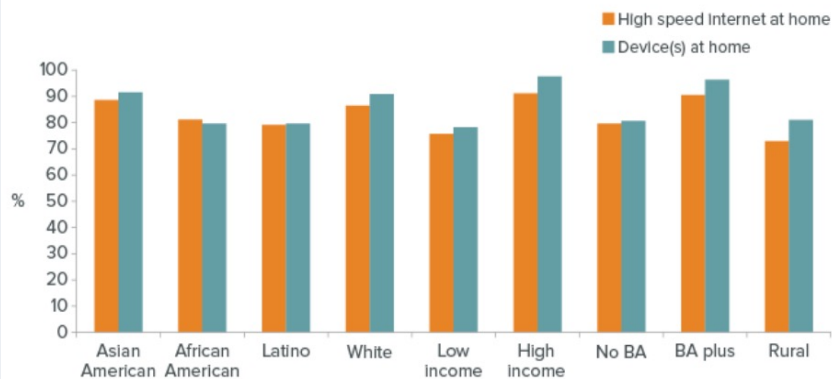


Broadband and device access

Broadband and device access

Although the number of California households with broadband subscriptions were at an all-time high before the pandemic began—84% in 2019, up from 74% in 2017—racial/ethnic gaps in access persist.

Gaps in access to broadband and devices persist



SOURCE: American Community Survey, 2019.

NOTES: Low-income households earn less than \$50,000 annually; high-income households have incomes above \$100,000.

In 2019, more than one in ten Californians did not have a desktop, laptop, or other computing device at home. Access was especially limited among low-income (22%), rural (19%), less-educated (19%), African American (20%), and Latino (20%) households.

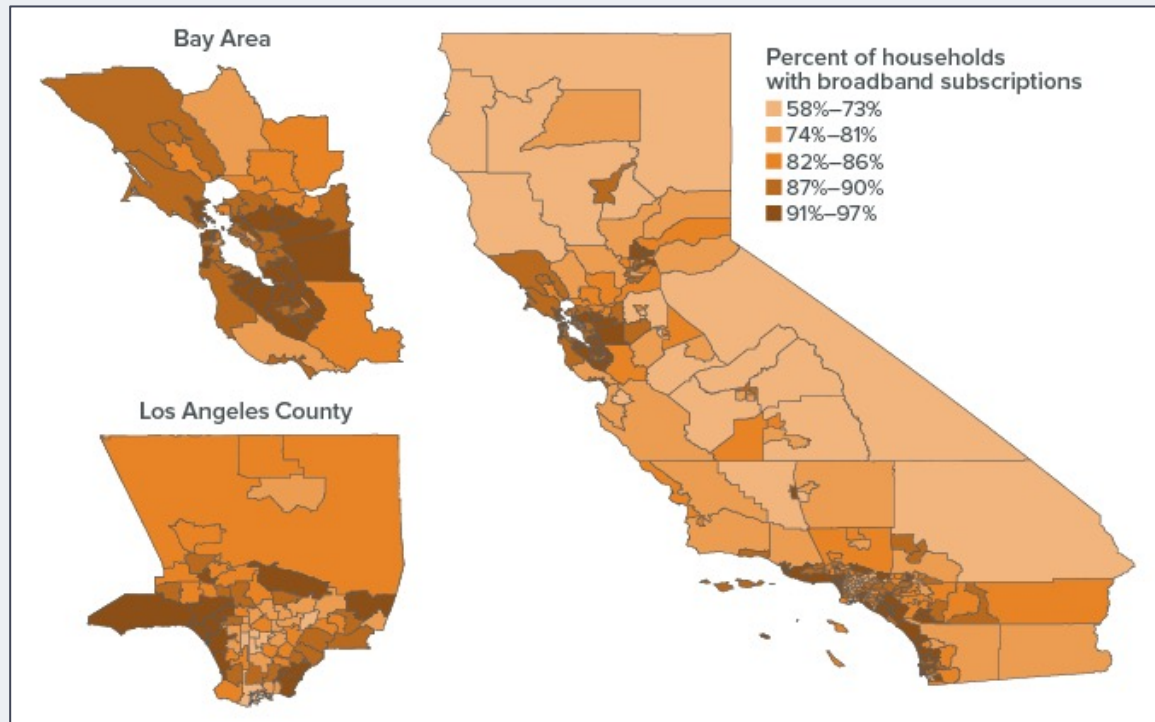
The 2019 American Community Survey showed rural areas had the lowest broadband subscription rates: rates were high in some rural (and wealthy) parts of Sonoma and Marin Counties, while rates in several parts of central Los Angeles County—including Huntington Park, Watts, and Westmont—were among the lowest.

Source: [Public Policy Institute of California, 2021](#)

Data from American Community Survey, 2019.



Percent of households with broadband subscriptions



SOURCE: American Community Survey, 2019; PULSE Household Survey.

NOTES: Areas shown are Public Use Microdata Areas (PUMAs), geographic regions that the US Census Bureau has defined for disseminating statistical information about the population. Each PUMA is built on its constituent census tracts and surrounding county or counties, and contains at least 100,000 people. Therefore, rural or lightly populated PUMAs have larger area, while urban, densely populated PUMAs are small.

Source: ([Public Policy Institute of California, 2021](#))



| California's Digital Divide

22%

Nearly 22% of Californians
are unconnected or
underconnected to the
internet
([Le, 2021](#))

1/3

In California, Latinx
households are only about
one third as likely to have
access to home internet as
White ones.
([Le, 2021](#))

16x

California's wealthiest
households are 16 times
as likely to have access to
home internet as the
poorest ones.
([Le, 2021](#))



■ Broadband Access (additional data)

Broadband Access

- 1 in 4 rural Americans lack access to broadband. In NYC close to 30% of households may lack access (21% among White households, 32% among Black, 33% among Hispanic). (Julien, 2020)
- 31% of rural household lack access to broadband internet. (Ramsetty, 2020)
- According to the Federal Communications Commission (FCC), there are approximately 24 million Americans who lack access to broadband, defined as Internet connections supporting sufficient download (25 megabits per second) and upload (3 megabits per second) speeds. Nearly one-third of Americans in rural areas lack broadband, and disparities are greater among people of lower socioeconomic status and people on tribal lands. Older adults are also at a disadvantage: just 51% of Americans 65 and older have broadband at home, only 42% have a cellular phone, and even fewer have a “smart phone” capable of streaming video. (Woodall, 2021)
- In predominantly minority census tracts in MA, 1 in 4 households are without broadband, compared to tracts that are 95% white, which have only 1 in 8 households without broadband (Consortium Telehealth, 2021)



■ Devices (additional data)

Devices

- Many safety net patients access the internet over their phones meaning any virtual solution needs to be mobile friendly (Lau, 2020)
- Latinx respondents were most likely to report access to technology as a barrier. 62% responded that they did not have a strong enough internet connection or bandwidth and 57% stated that they did not have enough cell phone minutes to effectively utilize telehealth. (California pan-ethnic health network, 2020)
- 2016 data from the US Census Bureau showed that 80.9% of white households had a desktop or laptop computer, compared with 63.9% of Black and 67.5% of Hispanic households, with similar discrepancies in broadband subscriptions (Wood, 2021)
- Logistic regression identified older age, less education, lower income, and minority group membership as significant predictors of limited DHI use. Older African Americans were one-fifth as likely to own a computer than were European Americans; Hispanic Americans were one-half as likely to have access to the Internet. (Tappen, 2021)





Limited English Proficiency

| Limited English Proficiency in California

6.6m

There are 6.6 million people
with limited English
proficiency in California

([Rodriguez, 2021b](#))

1/2

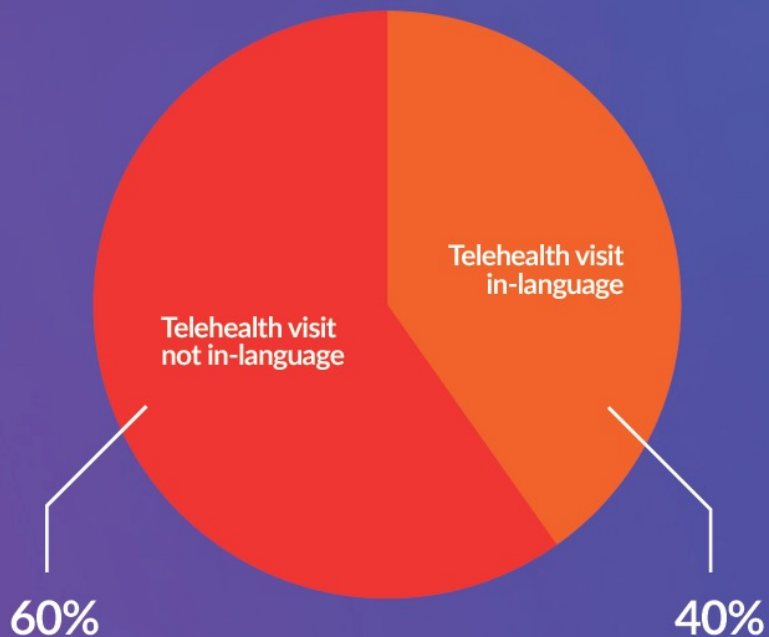
Patients with limited English
proficiency in California had half
the odds of using telehealth
services compared with English-
proficient patients, even after
accounting for other socio-
demographic factors and health
status.

([Rodriguez, 2021b](#))

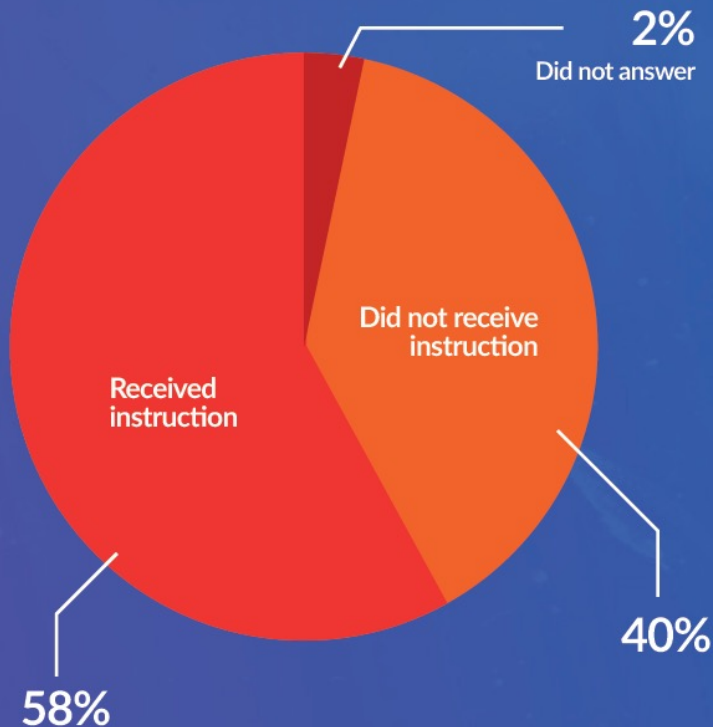


| Limited English proficiency and access to care

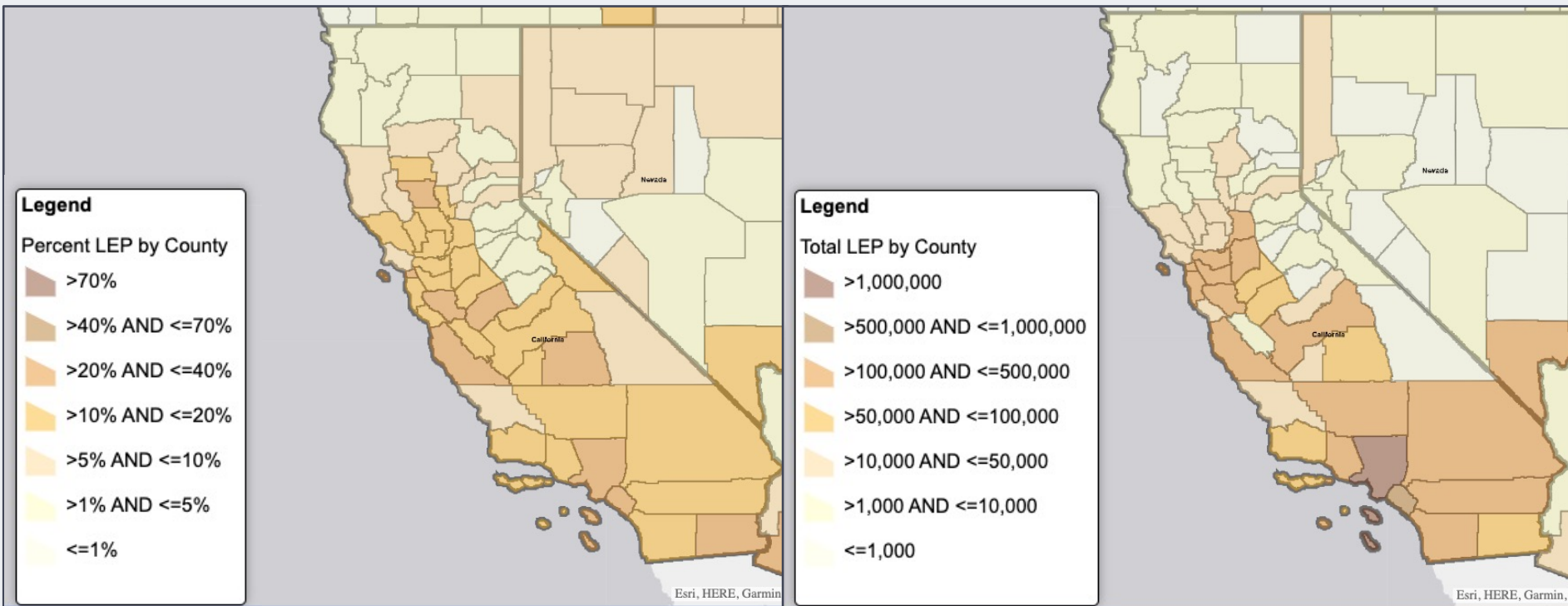
Most limited English proficient respondents could not access an in-language telehealth provider.



Many consumers did not receive instruction on how to prepare for or access their telehealth appointment.



LEP in California: Percent and Total by County (2015)



Source: LEP.gov



■ Prevalence of LEP (additional data)

Prevalence

- In 2014, there were approximately 8.7 million LEP persons enrolled in Medicare, Medicaid, or both programs (Duals). The LEPMM was also highly diverse with varying disability status, and most were racial or ethnic minorities and elderly. The largest LEPMM resides in California, comprising over 2.6 million LEPMM persons (30.5% of the total LEPMM) (Proctor, 2018)
- Comparing pediatric teledermatology visits scheduled during the pandemic with in-person appointments scheduled during the same period in 2019, authors found that Spanish-speaking patients had significantly fewer scheduled appointments in 2020 (9% vs 5%). Among the telemedicine cohort, Spanish-speaking patients were less likely to have an email address documented within the electronic medical record and less likely to have activated an online patient portal account prior to their visit during the pandemic (45% vs 62%, and 23% vs 66%, respectively). These findings suggest that email connectedness may represent a bottleneck in telemedicine access for Spanish-speaking pediatric dermatology patients. (Blundell, 2020)



■ Cost of providing language services (additional data)

Cost

- Currently, less than 70% of all US hospitals offer language concordant care, partly because providers must pay for the services themselves. Outside of some Medicaid plans, health care providers are expected to pay these costs, ranging from \$30 to \$400 per patient visit. In 1 study, providers spent an average of \$234 per patient with LEP per year on interpreter services. Meanwhile, most Medicaid programs pay physicians roughly \$30 to \$50 per office visit, meaning that some providers may lose money by seeing patients with LEP. In this context, it is perhaps unsurprising that a quarter of clinicians considered the cost of interpreter services an obstacle to care. (Shah, 2020)
- At one University of California at San Francisco primary care clinic, 14 percent of visits are usually from non-English-speaking patients. After the pandemic forced a switch to telehealth, that dropped to 7 percent. (Wetsman, 2021)



■ Hospital compliance with language mandates (additional data)

Interpreters

- About one-fourth of the hospitals in service areas with high or moderate need for language services and more than one-third of hospitals in service areas with low need do not offer language services. (Schiaffino, 2016)



Race/ethnicity

Research Gaps

There were mixed findings on race/ethnicity some finding more utilization of virtual care by people of color, some showing less, and some showing no difference.

- Black and Latinx patients were more likely than White patients to use telehealth. Asian patients were less likely than White patients to use telehealth. (Eberly, 2020)
- Black adults and Hispanic/Latinx adults were more likely to use telehealth than white adults, which is consistent with a survey of nonelderly adults in California (Smith, 2021)
- Authors share data from CMS on Medicare telehealth use showing rates by urban/rural, age, and race/ethnicity. Data suggesting there is little difference in telehealth use by race/ethnicity for Medicare patients. (Verma, 2021)
- In a survey of the general population by Pew, Black respondents were more likely than Whites to report using telehealth because of the pandemic, particularly when perceiving the pandemic as a minor threat to their own health. (Campos-Castillo, 2021)
- Physicians at a clinic in southern Texas are seeing vastly fewer telehealth visits from their Hispanic/Latino patient population based on their proportion of the population usually served. Of the patients seen via telemedicine, 28.6% were non-Hispanic whites, as opposed to 69% who were of Hispanic or Latino origin. Given that the total population of Hidalgo County consists of 92.4% Hispanic and 6% non-Hispanic white, there has been a noticeably lower proportion of Hispanic patients engaging in telemedicine visits. They suggest there may be cultural and structural barriers for the Hispanic/Latino community. (Ramirez, 2021)
- Older Black and Hispanic patients used telehealth at significantly lower rates than their White and Asian counterparts, and social determinants of health and structural inequity are likely the culprits. (Health, 2021)
- In a NYC study, controlling for individual and community-level attributes, Black patients had 0.6 times the adjusted odds (95% CI: 0.58–0.63) of accessing care through telemedicine compared to white patients, though they are increasingly accessing telemedicine for urgent care, driven by a younger and female population. COVID diagnoses were significantly more likely for Black versus white telemedicine patients. (Chunara, 2021)
- Black and Hispanic patients had higher adjusted odds of using either ER or office visits versus telehealth than either Whites or Asians. A number of factors may contribute to our findings, such as research (prior to COVID-19) that racial/ethnic differences in ER use versus alternative care settings for a variety of conditions—differences that persist after controlling for variables like SES, insurance status, and usual-source-of-care. Also possible is that patients without a source of usual care (eg, a primary or specialty care physician) would be more likely to go to the ER and less likely to seek telehealth treatment through previously established care relationships. Furthermore, racial/ethnic disparities in patients' prevalence and/or severity of COVID-19 could be contributing—perhaps during the pandemic, Blacks and Hispanics use the ER more because they are sicker. (Weber, 2020)





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[Review Matrix](#)





Citations

Author's last name: A - C

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Author's last name: C - G

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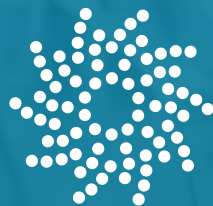
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