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Community Strategies to Address California's Digital Divide and Its Impact on Children and Families





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Contributing Organizations

Representatives of the following organizations offered their time and expertise to develop and write this report:



PACEs Connection

PACEs Connection amplifies and supports the worldwide positive and adverse childhood experiences (PACEs) movement by sharing its stories, solutions, and science, growing healing communities, and valuing equity and diversity. PACEs Connection offers information, resources, and support for hundreds of local, state, national, and international positive and adverse childhood experiences (PACEs) initiatives.



Essentials for Childhood (EfC) Initiative

The EfC Initiative seeks to address child maltreatment and ACEs as public health issues; aims to raise awareness and commitment to promoting safe, stable, nurturing relationships and environments (SSNR&E); creates the context for healthy children and families through social norms change, programs, and policies; and utilizes data to inform actions. Utilizing a Collective Impact Model, the EfC Initiative advances the common agenda of multiple agencies and stakeholders through alignment of activities, programs, policies, and funding so that all California children, youth, and their families achieve SSNR&E.

Key Informant Interviewees

Representatives of the following organizations graciously gave their time and expertise as Key Informant Interviewees (KIIs) to support the development of this report:

- Central Valley Community Foundation
- Children Now
- The Children's Clinic (TCC) Family Health
- Court Appointed Special Advocates (CASA) of Mendocino and Lake Counties
- Del Norte Senior Center
- Every Neighborhood Partnership
- Family Hui
- First 5 Siskiyou
- Office of the Fresno County Superintendent of Schools
- Hemet Unified School District
- Home Start
- Lake County Office of Education
- Loma Linda University
- McKinleyville Family Resource Center
- Mendocino College
- Mental Health Systems
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- San Diego LGBT Community Center
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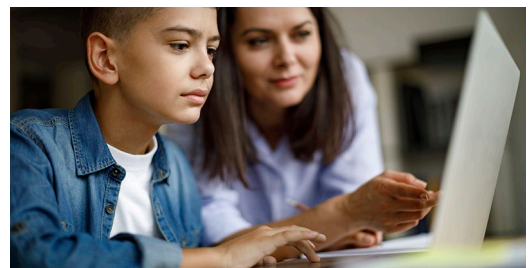
- California Campaign to Counter Childhood Adversity (4CA)
- The Children's Partnership
- EfC Initiative Data Subcommittee
- EfC Initiative Equity Subcommittee
- EfC Initiative Policy and Strengthening Economic Supports Subcommittee
- EfC Initiative Trauma-Informed Practices Subcommittee

Executive Summary

“Community Strategies to Address California’s Digital Divide and Its Impact on Children and Families” focuses on the impact of the digital divide on children’s health and wellbeing and on the communities in which children live, grow, and play.

This report includes:

1. A review of the digital divide in California and its impact on child wellbeing;
2. Qualitative data from Key Informant Interviews (KIIs) about the challenges Californian children and families face due to the digital divide and the COVID-19 pandemic; and
3. Strategies and recommendations to address California’s digital divide provided by Essentials for Childhood (EfC) Initiative and California Campaign to Counter Childhood Adversity (4CA) subject matter experts (SMEs) who were informed by the literature review and KII data.



“Community Strategies to Address California’s Digital Divide and Its Impact on Children and Families” is intended to assist state and local public health programs, children and family service providers, non-profits, and philanthropic organizations in their efforts to educate about the digital divide and its impact on child wellbeing. It can also support identification of where opportunities exist for communities to utilize strategies that reduce the digital divide through policy, systems, and environmental (PSE) change.

The **digital divide*** is defined as “the gap between those Americans who use or have access to telecommunications and information technologies and those who do not.”¹ People who experience the digital divide may lack or possess inadequate computing devices, lack high-speed Internet, face challenges in digital literacy, or experience some combination of the above. Disparities in access to adequate computing devices and high-speed Internet

*Definitions of **bolded** key terms in this document can be found in [Appendix A](#).

for certain groups of Californians existed before 2020.² However, the COVID-19 pandemic heightened the impact of these disparities because of the reliance on distance learning and the increased use of telehealth.^{3,4,5}

To gather qualitative information on the challenges faced by Californian children and families because of the digital divide and the COVID-19 pandemic, 23 Key Informant Interviews (KIIs) were conducted in late 2020 and early 2021. Interviewees were representatives of at least one of the following four target groups: residents of rural regions, subject matter experts (SMEs), individuals who work on behalf of priority populations (page 20), and individuals who work for agencies and organizations that serve children and families. KIIs highlighted multiple engagement strategies during the COVID-19 pandemic to stay connected with community members as well as challenges related to the COVID-19 pandemic, economics, cultural responsiveness, and healthcare access.

In addition, KIIs identified multiple challenges related to the digital divide:

- Lack of adequate devices;
- Lack of connectivity;
- Lack of affordability, internet service providers (ISPs), and infrastructure;
- Lack of digital literacy;
- Legal challenges; and
- Challenges related to the digital space.

KIIs also shared promising practices in addressing the digital divide:

- Benefits of connecting digitally and
- Innovative approaches to address the digital divide, including providing devices, Internet infrastructure, and digital literacy education.

The report concludes with strategies and recommendations that communities can consider as they work to decrease the digital divide and increase access to telehealth in California. These strategies and recommendations were informed by the data collected from the KIIs and SMEs engaged in the EfC Initiative and 4CA and include support for the following interventions:

Strategies to Address the Digital Divide:

- Adoption and implementation of local policies that support access to high-speed Internet for all Californians.
- Adoption and implementation of organizational practices and/or local policies that ensure equitable access to technology for people with low incomes.
- Adoption and implementation of organizational practices and/or local policies that teach and support programs or practices that provide education on the topic of digital literacy to the Californians they serve.

- Adoption and implementation of organizational practices that ensure that digital materials and applications are provided in languages representative of the local population.
- Involvement and engagement of community members and staff who represent local organizations and/or agencies in local and state-level coalitions to identify where telehealth and tele-mental health barriers exist beyond connectivity and support the coalition as it works to create policy change around the digital divide.
- Review of existing policies and practices in organizations and communities for opportunities to address equity issues related to the digital divide.
- Utilization of non-digital (i.e., analog) along with digital outreach strategies to share how community members can access free devices, technical assistance, and/or free or low-cost Internet services.
- Coordination and collaboration with initiatives, coalitions, and advocates who are working to reduce the digital divide.

Telehealth and Tele-Mental Health Strategies:

- Adoption and implementation of organizational policies and practices that support patient access to telehealth and tele-mental health services during and after the pandemic.
- Dedication of resources to support development of and access to quality electronic health records (EHR) that are linked with telehealth and tele-mental health services.
- Education of decision makers and community members about the need for adapting laws and policies to support access to telehealth and tele-mental health services.

Background

The Digital Divide

In the past three decades, the use of computers and the Internet has become widespread in the United States (U.S.). According to the U.S. Department of Health and Human Services, access to these technologies has had “profound effects not only on individual empowerment, educational attainment, economic growth, and community development, but also on accessing health care, health-related information, and health education and promotion efforts, and, as such, has come to be seen as an important social determinant of health (SDoH).”⁶ However, some disparities exist in accessing these digital resources, which may lead to gaps in wellbeing and health outcomes.

Digital Access as a Social Determinant of Health

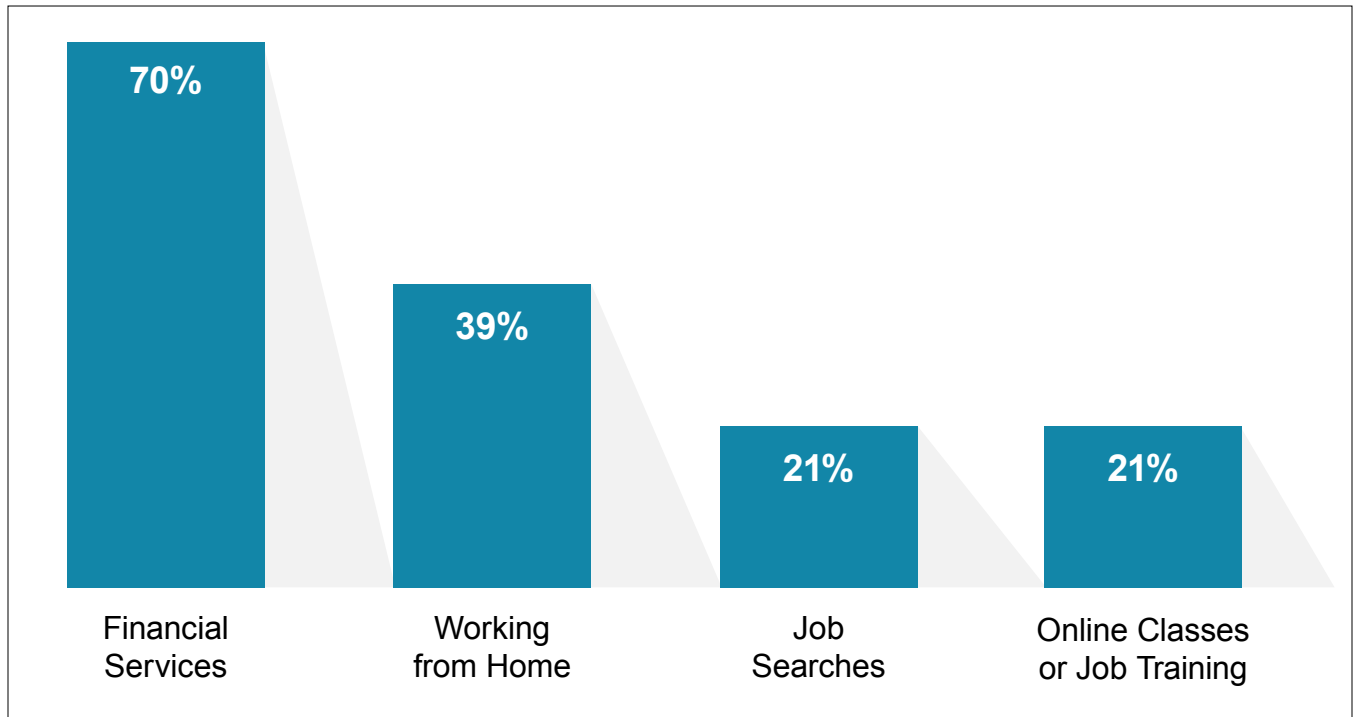
Given the complex interplay of digital access, health, wellbeing, and equity, some have called for broadband access to be considered a social determinant of health (SDoH).^{6,7,8,9} HealthyPeople.gov, which is funded by the United States Department of Health and Human Services, states that “SDoHs are the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks.”¹⁰ In addition to impacting health, well-being, and quality of life, SDoH contribute to health disparities and inequities. SDoH can be grouped into five domains: economic

stability, education access and quality, health care access and quality, neighborhood and built environment, and social and community context.

People with access to affordable broadband are more likely to be able to access online learning, obtain health information, and receive telehealth and tele-mental health services. An excellent example is the role that Internet access played in the dissemination of the COVID-19 vaccine.¹¹ Some who experienced the digital divide were left behind as people without access to the Internet were unable to sign up for vaccines online.¹¹

In California, computers and the Internet are utilized for a wide range of activities, including accessing financial services; working from home; job searches; online classes; and job trainings (see Figure 1).² There is also an important link between access to technology and health. In 2019, it was estimated that more than half of all Americans used the Internet to research health concerns online. In addition, Americans commonly used the Internet to access health or insurance records (42%) and communicate with doctors (39%).²

Figure 1: *Reasons Californians Accessed the Internet in 2019 according to the Public Policy Institute of California²*



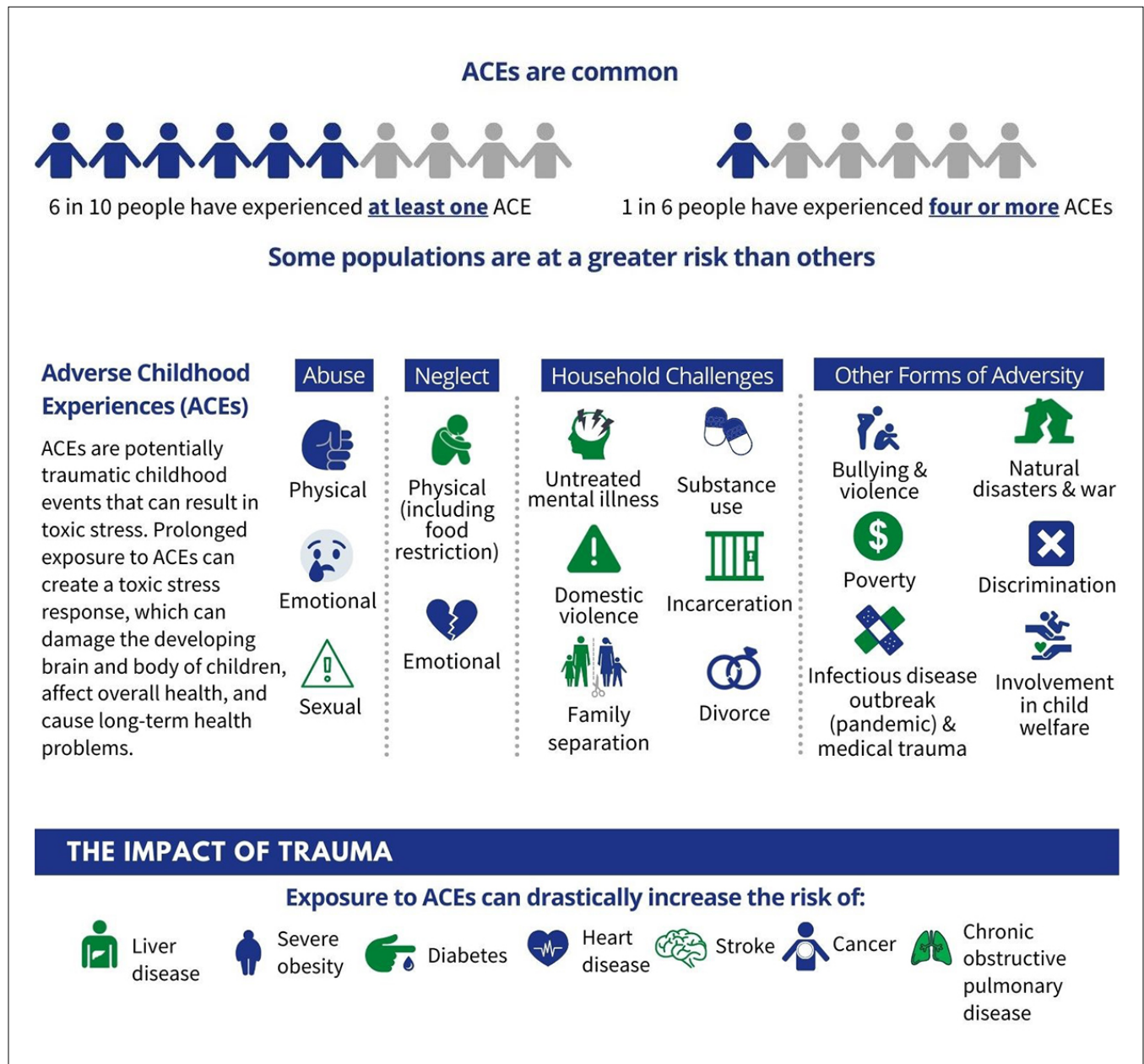
Access to computers and the Internet has become more important since the COVID-19 pandemic began. With requirements to stay home to contain and prevent the spread of the virus, many Americans have been using the Internet to stay in touch with friends and family, participate in online education, access health care services, and work from home.¹² A survey from April 2020 found that about half (53%) of American adults reported that the Internet was essential for them personally and another third (34%) said that it was “important, but not essential.”¹³

Unfortunately, access to computers and the Internet is not universal, and there is a “divide” among those with and without access. The **digital divide** is defined as “the gap between those Americans who use or have access to telecommunications and information technologies and those who do not.”¹ Factors that contribute to the disparities in the digital divide include terrain, population density, demography, market factors, and income.¹

Child Wellbeing and the Digital Divide

“*Community Strategies to Address California’s Digital Divide and Its Impact on Children and Families*” is intended to assist state and local public health programs, child-serving systems, non-profits, and philanthropic organizations in their efforts to educate about the digital divide and its impact on child wellbeing. It can also support identification of where opportunities exist for communities to utilize strategies that reduce the divide through policy, systems, and environmental (PSE) change.

The COVID-19 pandemic has brought to light the impact of the digital divide on child wellbeing, as children lacking adequate access to devices and the Internet have been disproportionately affected by school closures and the increased use of telehealth and tele-mental health services. Although this report will focus on the impact of the digital divide on child and family wellbeing, the impact of adversity, including Adverse Childhood Experiences (ACEs), on children both before and during the pandemic, must be acknowledged.



Adapted from the Robert Wood Johnson Foundation.¹⁴

ACEs are traumatic events that occur before age 18, including physical, emotional, or sexual abuse, emotional or physical neglect, and other types of household challenges, such as mental illness, substance use, incarceration, parental separation or divorce, or witnessing domestic violence. ACEs can have long-term negative health effects by creating toxic stress. Before the pandemic, ACEs were highly prevalent. In California, 62 percent of adults experienced at least one ACE, and 16 percent experienced four or more ACEs.¹⁵ Experiencing four or more ACEs is associated with significantly increased risk for nine out of ten leading causes of death, such as heart disease, cancer, diabetes, and suicide.¹⁵ Prolonged exposure to multiple forms of adversity without buffering supports from trusted caregivers and safe, stable, and nurturing environments may lead to a biological stress response in the body called toxic stress that can affect children’s growth and development.¹⁶ Some experts are beginning discussions around whether to consider the pandemic as another ACE.¹⁷

As the COVID-19 pandemic has led to children and families in California experiencing extreme economic hardships, social isolation, and increased stress, childhood adversity is on the rise and instances of child maltreatment (i.e., child abuse and neglect) are going unreported.¹⁸ Incidents of domestic violence have also increased during the pandemic.¹⁹ Children have had fewer interactions with trusted adults outside the home, and early indicators show that child abuse and neglect reports declined during the pandemic. The California Department of Social Services (CDSS) reported that there were 28 percent fewer calls to child abuse hotlines from April 2020 to August 2020 compared to reports from the same period during the previous year.²⁰ One group significantly impacted is Lesbian, Gay, Bisexual, Transgender, Queer (LGBTQ) children and youth. The COVID-19 pandemic has heightened vulnerability for LGBTQ children and youth by confining many at home with rejecting and abusive family members and separating them from supportive peers and adults outside the home.²¹ Access to online resources is paramount for LGBTQ young people to access services and supports, as well as to help address family rejection and the negative impact of isolation and lack of support.²¹ This includes online access to tele-mental health services and related care.

Addressing the digital divide and its impacts is critical to strengthening the health and wellbeing of California’s children. Sufficient access to devices and the Internet connects children and families to essential education, health care, and mental health resources.⁹ Local coalitions working to improve child wellbeing through PSE change and advocates engaging in primary violence prevention efforts each play important roles in removing barriers to technology, closing the digital divide, and improving child wellbeing.

The Impact of the COVID-19 Pandemic on Child Wellbeing

The COVID-19 pandemic has introduced a host of new challenges for children and families that directly affect wellbeing. According to a Kaiser Family Foundation 2020 brief, the economic and societal disruptions from COVID-19 have potentially affected child and family health and wellbeing in the following ways:²²

- Direct risk of contracting COVID-19 for students attending school in person. The risk may be greater for students of color and for low-income students who have less access to in-home instruction, inadequate computing resources, and longer bus rides to school;
- Difficulty accessing health care services provided in association with schools, social isolation, and limited physical activity for students who are not attending school in person. School based health clinics, for example, normally provide services to nearly 6.3 million students in areas with high concentrations of low-income students. Most of these services are only offered in person;
- Emotional or behavioral challenges for children because of disrupted routines and increased family hardship and parent stress. The increased parental stress can potentially adversely affect children’s mental and emotional health, the bond between parent and child, children’s long-term behaviors, and children at risk of abuse or neglect;
- Food insecurity or insufficiency, loss of health coverage, loss of income, and problems paying rent due to job losses in the household; and
- Delay of preventative (e.g., vaccinations, child screenings) and ongoing care because of social distancing requirements and exposure concerns.²²

For more information, please see the Kaiser Family Foundation 2020 brief on [*Children’s Health and Well Being During the Coronavirus Pandemic*](#).

The Impact of the Digital Divide on Child Wellbeing during the COVID-19 Pandemic

The impact of the digital divide has been particularly acute during the pandemic because of the reliance on distance learning amid school closures and the increased use of telehealth and tele-mental health services in place of in-person visits. Unfortunately, many academic and health effects have been worse for children who lack adequate access to devices and the Internet. Although we will briefly address the digital divide in schools in this report, most of the document will focus on the telehealth and tele-mental health divide. For more information about the digital divide in education in California, including county-specific data, please see [*Education Equity in Crisis: The Digital Divide. Closing the Digital Divide*](#) from the California Department of Education has more information about its efforts.

SCHOOL

School closures affected 50 million children across California and the United States during the pandemic.³ The transition to virtual learning laid bare digital divide disparities. Children who had ready access to computers, the Internet, and the skills needed for participating in online school were able to easily transition to virtual learning, while children who did not have devices (e.g., laptops or tablets) or Internet access had a much harder time. The reliance on the Internet for online learning and the lack of Internet access in low-income areas made it particularly hard for children from underprivileged households to access education.²³ In California, over 1.5 million students (25%) did not have adequate Internet connection, and over 1 million students (17%)



did not have an adequate device.³ In April 2020, 59 percent of parents with lower incomes who had school-age children attending school remotely said their children would probably face at least one of three digital obstacles: having to do schoolwork on a cellphone, having to use public Wi-Fi because of a lack of reliable Internet access at home, or not being able to complete schoolwork because they did not have access to a computer at home.²⁴

While many schools and districts gave students access to devices, some students were not able to participate in online learning because they did not have reliable access to the Internet.²⁵ In the fall of 2020, 26 percent of K–12 students and almost 40 percent of students with low incomes lacked reliable Internet access in California.² Households in rural areas faced increased challenges in accessing broadband.² In addition, even if a student had a computer and Internet access, not all parents are able to support home-based learning for their children.²⁶ As a result of the lack of uniform access to virtual learning, not all Californian students have been able to obtain the education that they need and deserve during this pandemic.

TELEHEALTH

Telehealth is at the intersection of technology, the digital divide, and health. The U.S. Department of Health and Human Services defines **telehealth** or **telemedicine** as “the use of electronic information and telecommunication technologies to provide care when [the patient] and the doctor are not in the same place at the same time.”²⁷ Telemedicine involves contact via phone or video and can be used for medical and mental health appointments. Tele-mental health interventions for mental health disorders, such as bipolar, anxiety, depression, and substance use/misuse, have been shown to be effective with regards to feasibility, acceptance among patients, improvement

in symptoms, quality of life, adherence to medication among patients, and cost.²⁸ Benefits of telehealth can include decreasing the need for transportation for patients, allowing increased access to specialty care, and providing care to patients in rural areas that have fewer providers.²⁹

While the technology existed before 2020, the use of telehealth became essential during the COVID-19 pandemic, and its use has grown exponentially. During the pandemic, federal, state, and private payers started temporarily allowing for the use of telehealth instead of in-person visits. For example, the U.S. Department of Health and Human Services made Health Insurance Portability and Accountability Act (HIPAA) requirements more flexible during the pandemic, allowed temporary expansion of telehealth services for Medicare and Medicaid, and worked to remove barriers to telehealth during COVID-19.³⁰ In an extremely short amount of time, COVID-19 essentially forced telehealth to become the primary way for some patients and providers to interact.

*There was a 20-fold increase in the utilization of telemedicine after March 13, 2020.*³¹

The availability of telehealth has been particularly important given evidence that children's mental health has worsened during the pandemic due to the combination of the public health crisis, social isolation, and the economic downturn.^{32,33} In addition, experts have raised concerns that the pandemic could increase rates of anxiety, depression, child abuse, substance use, and suicidal ideation in children.³⁴ This is a particular concern for LGBTQ children and youth who have been confined with rejecting families and are isolated and disconnected from peers and supportive adults and resources that help to buffer the negative impact of family rejection on health and mental health.³⁵ The CDC reported that the proportion of children's mental health-related visits to the emergency department increased starting in April 2020 and continuing through October 2020. When compared with national data from 2019, there was a 24 percent increase in mental health-related visits for children aged 5-11 years and a 31 percent increase for children aged 12-17 years.³²

During a time of increased risk of mental health concerns, it is even more important that children have access to mental health services and supports. School closures have made access more complicated, as a little over one-third of adolescents who access mental health services receive them only in educational settings.³⁶ This was particularly common for adolescents from households with low incomes, who had publicly funded health insurance, and were from racial/ethnic minority groups.³⁶ For these students, access to devices and the Internet can provide a connection to much-needed tele-mental health services.

During the COVID-19 pandemic, pediatric vaccine uptake decreased substantially and remained low for many age groups during reopening.³⁷ Drops in well-child visits also led to delays in screenings and referrals. As a result, the American Academy of Pediatrics (AAP) issued guidance for telehealth and encouraged well-child visits to occur in person whenever possible.³⁸



Universal access to broadband Internet is vital because telehealth can bridge gaps in healthcare and potentially reduce disparities.³⁹ Telehealth can increase services available to both rural and urban communities, decrease the need for travel to appointments, reduce parent burden, and increase providers' ability to closely monitor and communicate with caregivers of children with complex medical conditions.³⁹ In addition to the potential benefits of telehealth, there are also many challenges (e.g., those raised in the [Challenges Related to the Digital Space section of the findings](#) (page 26) that need to be addressed in order to make telehealth viable on an ongoing basis.⁴⁰ However, given the importance of being able to receive care virtually when community circumstances prevent in-person care and the potential benefits of telehealth even when in-person services are available, it is clear that access to telehealth services is an essential part of ensuring children's wellbeing during the COVID-19 pandemic and in the future.

While research still needs to be done, there is serious concern that the digital divide will contribute to health disparities in the United States.^{4,41} Unequal access to telehealth is expected due to the factors described later in this report, such as race, age, English proficiency, socioeconomic status, and disability status.^{31,42,43,44} For example, pediatricians have reported that not all patients have equal access to the digital tools necessary to participate in telehealth visits due to lack of devices, broadband access, language barriers, or lack of digital literacy.⁴⁵

The digital divide among children and families contributed to inequitable access to online learning opportunities and may exacerbate health disparities due to unequal access to telehealth services during the COVID-19 pandemic.

Disparities in the Digital Divide

Overall computer and Internet use have increased among Americans over the past few decades, but some populations are disproportionately affected by the digital divide.⁴⁶ This divide not only includes access to adequate devices and high-speed Internet, but also possession of the skills necessary to use computers and the Internet. While sociodemographic disparities in ownership of devices and access to high-speed Internet exist both nationally and in California, this report will focus on California data whenever possible.^{2,47}

Digital Divide Disparities in Computer and Internet Access

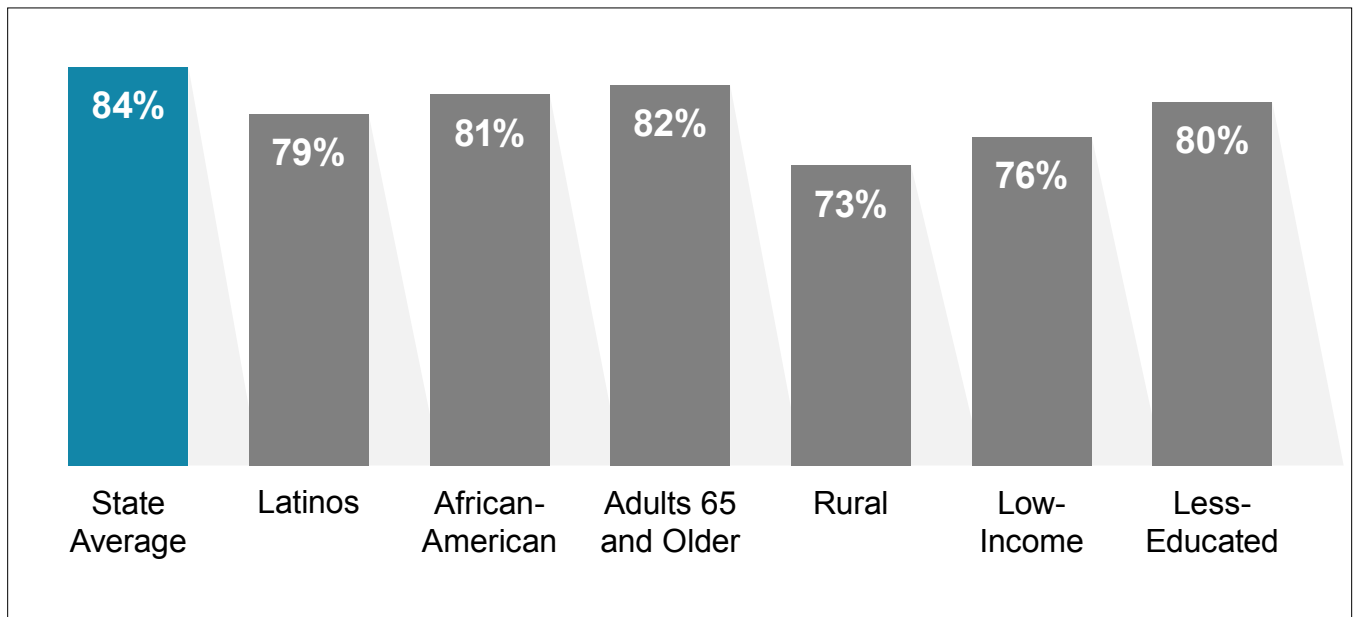
Many Californians do not own computing devices. In 2019, over 10 percent of all Californians did not have a computing device at home.² The following groups had bigger gaps in digital device ownership: households with low incomes (22%); households in rural areas (19%); households with less education (19%); African American households (20%); and Latino households (20%). Almost 7 percent (200,000) of households with school-age children had no access to a device at home.²

*There are multiple ways for users to access the Internet through **Internet service providers (ISPs)**. Internet connections offer different speeds or bandwidths that depend on the type of connection. Faster speeds allow data to be downloaded and uploaded faster. **Broadband** or high-speed Internet allows much faster access to the Internet than **dial-up** services. For more information about the options available for connecting a device to the Internet, please see Appendix B.*

According to [BroadbandNow](#), 1.3 million Californians do not have access to a broadband connection.⁴⁸ Another 1.5 million live in areas with only one Internet service provider (ISP), and 889,000 Californians live in locations with no ISPs.⁴⁸ Many Californians are also not able to afford the high cost of broadband Internet. As of the fourth quarter of 2019, only 70 percent (28 million) Californians were able to pay less than \$60 per month for a standalone broadband Internet plan.⁴⁸ Go to [BroadbandNow](#) for more information about broadband coverage by county or by city.

Significant disparities in Internet access exist across many groups in California as well. As demonstrated in Figure 2, in 2019, there was a statewide average of 84 percent of households with broadband subscriptions, while the following households had lower broadband subscription rates: Latino households (79%); African-American households (81%); adults 65 and older (82%); households in rural areas (73%); households with low incomes (76%); and households with people who are less educated (80%).²

Figure 2. Broadband Subscription Rates in California by Various Groups in 2019²



National data also demonstrates that individuals with disabilities and people who are Native American are also more likely to experience the digital divide. In 2016, 23 percent of Americans with disabilities said they never went online, compared to 8 percent of people without a disability.⁴⁹ Between 2013-2017, 67 percent of people who are Native American had broadband Internet subscriptions, compared to a rate of 82 percent for people who are not Native American. The percentage dropped to 53 percent for people who are Native American on American Indian lands.⁵⁰

These data do not paint the full picture. In the United States, lower broadband availability has been reported in rural and non-rural counties with significant African-American and Native American populations.⁵¹ In addition, lower broadband availability has been shown in counties that have experienced net business loss, net job loss, and population loss.⁵¹

An added challenge is that 76 percent of Californian households had multiple people using the Internet, necessitating greater bandwidth to reliably access the Internet for activities like remote schooling and videoconferencing.²

In addition, 10.4 percent of California households had a cellular data plan with no other type of Internet subscription.⁵² Families who only access the Internet with cell phones are more likely to use them to connect with friends and family, get news, shop, apply for jobs, look for general information, and bank or pay bills online.⁵³ It is very difficult to assist children with homework with only access to a cell phone. National research shows that certain groups, such as people who are members of a minority group, younger, lower income, and less educated, are more likely to be dependent on smartphones for their access to the Internet.⁵⁴

Rural households experience particular broadband difficulties due to barriers related to finance, technology, and topology (i.e., geographic features of a location, such as mountains and valleys).

Lack of access in these areas can be especially detrimental to health, as many rural areas do not have adequate numbers of physicians and mental health practitioners.² This makes access to telehealth even more important in these areas.

It is also important to recognize that many people are members of multiple groups that are less likely to have access to devices and the Internet. This intersectionality may leave these individuals particularly vulnerable to experiencing the digital divide.

Digital inequities that pre-date the pandemic have been further heightened during the pandemic. For example, people with higher socioeconomic status and greater Internet skills were more likely to increase their digital communication during the COVID-19 pandemic than people who were disadvantaged in their previous Internet access and use.⁵⁵

Digital Divide Disparities for Children in California

According to [KidsData](#), there was great variability in access to technology across California school districts between 2014 and 2018. While 88.5 percent of Californian children ages 0-17 lived in households connected to high-speed Internet through a computer or smartphone, some districts reported that they had as little as 59.7 percent access (Delano Joint Union High) and some had as much as 100 percent access (Piedmont City Unified).⁵⁶ Access was also variable based on demographic characteristics. For example, children living below the poverty level in 2018 had less access than children living at 200 percent or above the poverty threshold (84% versus 96%, respectively).⁵⁷ Children in households with limited English proficiency in 2018 had less access than children in English proficient households (81% versus 94%, respectively).⁵⁸ Finally, Black, Hispanic/Latino, and American Indian/Alaska Native children in 2018 had less access than white and Asian American children (90-91% versus 96-97%, respectively).⁵⁹

Contributors to Digital Divide Disparities

The origin of the digital divide and associated disparities is complex and involves multiple factors, including the three listed below. These three factors demonstrate the complicated interplay at work in the barriers and ongoing challenges that lead and contribute to the digital divide.

- **Systemic discrimination:** There is a systemic lack of investment in certain areas by ISPs. The Greenlining Institute examined California Internet accessibility and found that areas that were redlined by banks previously are now digitally redlined. The Institute concluded that ISPs have focused on providing high-speed Internet to wealthy neighborhoods while failing to provide the same services in low-income communities of color.⁶⁰

“Redlining was the deliberate practice, carried out by both the government and the private sector, of denying loans and investment to communities of color. Though officially illegal for decades, recent investigations have found that redlining still occurs, sometimes in less overt forms.”⁶⁰

- **Economics and geography:** There is often a lack of competition among ISPs in communities, which can lead to higher costs and lack of economic pressure to improve aging networks.⁶¹ While there are frequently few providers available in rural areas because ISPs have less incentive to provide costly infrastructure in areas with lower population density, this dearth of providers can also occur in urban areas.⁶¹ One contributing factor may be that some government broadband maps overreport where services are available. For example, there are reports that if one home in a census area has fast Internet service, the map of access may show that all households in that area have access.⁶²
- **Socioeconomic status of individuals and communities:** People may lack access due to experiencing poverty, which has been associated with those who identify as being a younger person, female, unmarried, having 12 years or less of education, or being an individual with a disability.⁶³ Many of these characteristics are themselves associated with disparities in other areas, such as health.⁶⁴

The Digital Literacy Divide

While having a device and access to the Internet is essential to addressing the digital divide, it is not sufficient. People need to have the skills to be able to use devices and know how to use the Internet effectively. In 2012, 16 percent of American adults were not digitally literate, which corresponded to an estimated 31.8 million Americans without sufficient comfort or technological competence to use a computer.⁶⁵ The American Library Association’s (ALA) Digital Literacy Task Force defines **digital literacy** as “the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills.”⁶⁶ In recognition of the importance of understanding how to use devices and the Internet, the California State Digital Literacy Office was established in 2010. The mission of this office is to “establish digital literacy throughout the state of California. By establishing statewide digital literacy, we will eradicate the inequalities in access, knowledge and skills needed to effectively utilize and communicate using various digital platforms, ultimately, enabling the skills and knowledge necessary for digitally inclusive communities.”⁶⁷

Impacts of the Digital Divide and COVID-19 in California

While much is known about the digital divide, telehealth, and child wellbeing in California and the United States, the stakeholders engaged in the EfC Initiative wanted to delve deeper into the challenges that Californian children and families are facing as a result of the digital divide and the COVID-19 pandemic. To explore this further, and to identify opportunities for capacity building within rural areas in California, a series of Key Informant Interviews (KIIs) were conducted using an instrument developed by the EfC Initiative (see Appendix C).

Methods

Target Population

Key Informant Interviews (KIIs) were conducted with stakeholders who were representatives of at least one of the following four target groups:

- The three rural regions in California: far north (Siskiyou, Shasta, Tehama, Butte, Lake counties), northwest (Del Norte, Humboldt, Mendocino counties), and Central Valley (Fresno, Madera, Tulare, Kern, San Benito, southern Inland Empire counties);
- Subject matter experts (SMEs) on the digital divide or healthcare, those whose work has been impacted by COVID-19, and those whose work prevents ACEs and/or child maltreatment or violence;
- Individuals who work on behalf of priority populations⁶⁸ (See definition of priority populations below); and
- Agencies and organizations that serve children and families, such as Family Resource Centers, social services, schools, and ACEs prevention coalition and resilience building leaders.

Priority Populations: Research shows that several sociodemographic factors are associated with health outcomes that are worse than the rest of the population. These factors include ethnicity, gender, sexual identity and orientation, disability status or special health-care needs, and geographic location. The people that make up these groups are referred to as “Priority Populations.”⁶⁸

Instrument Development

Data was collected utilizing a KII instrument titled: “California’s Tele-Mental Health and Health Care Access Digital Divide,” which can be found in Appendix C. This instrument was developed with input from SMEs, the EfC Initiative Equity Subcommittee, and the EfC Initiative Trauma-Informed Practices Subcommittee. The first phase of instrument development included identifying core questions that were responsive to the issues raised by the community regarding the digital divide. During this phase of the development, initial interviews were conducted to elicit insight from SMEs about impacts of the COVID-19 pandemic and the digital divide on their efforts to serve the target population or communities’ access to care and resources. This information was utilized to finalize questions included in the KII instrument before KIIs were conducted.

Data Collection

Interviewees who met the minimum criteria described in the Target Population section were selected based on recommendations provided by PACEs Connection and other key stakeholders. PACEs Connection team members conducted 23 KIIs, approximately one hour in length, between December 11, 2020, and February 9, 2021.

Analysis

Once the KIIs were complete, staff of the EfC Initiative and PACEs Connection conducted a qualitative analysis of the notes taken during interviews. The narrative responses underwent an informal, multi-stage, qualitative, analytic theming process.

Initial themes were informed by a First 5 LA Special Board/Program and Planning Committee Meeting held on January 28, 2021. Responses from each interview were reviewed and thematic topics were identified. Then, staff coded the responses based on the identified topics and further refined subcategories of thematic topics utilizing concepts and ideas that emerged from each interview. Frequencies of themes were recorded on a spreadsheet. Finally, the frequency totals were utilized to prioritize the major themes. To quantify the results, the following designations are utilized throughout the document where relevant to summarize the themes that arose in the findings: a few (1-4 interviewees), some (5-11 interviewees), and over half (12 or more interviewees).

Use of more formal standardized methods for qualitative analysis that includes interrater reliability may be performed in the future to further refine the results.

Limitations

The nature of utilizing KIIs to gather qualitative data inherently means that the findings are not necessarily representative of Californians impacted by the digital divide. As respondents were identified by PACEs Connection and EfC Initiative subcommittees, some degree of selection bias is expected. In addition, the small sample size of the interviews limits the ability to generalize these findings.

Given the need for immediate feedback on the digital divide during COVID-19, a more formal sampling methodology was not feasible with the time and resources available.

The informal qualitative process undertaken to analyze the qualitative data was time efficient but may also lack the level of precision that could be produced through the use of a more formal process to establish standard criteria for qualitative themes and ensure interrater reliability. Further analyses of these data hold the potential for a greater depth of understanding of the rich qualitative responses that may not have been captured in this document.

Thus, these results should be viewed primarily as suggestive and preliminary without being considered final or fully representative of California. Nonetheless, they provide valuable insights into the issues surrounding the digital divide that California's children and families are experiencing at this time.

Findings

Key Informants provided information about the experiences of Californian children and families related to both the digital divide and the COVID-19 pandemic. Interviewees described strategies used to engage children and families during the COVID-19 pandemic, challenges faced by Californians related and unrelated to the digital divide, and successes in addressing the digital divide. In addition, they provided recommendations to address California’s digital divide.

Characteristics of Key Informants

The 23 Key Informants interviewed came from a total of 14 counties: Del Norte, Fresno, Humboldt, Imperial, Lake, Los Angeles, Mendocino, Orange, Riverside, Sacramento, San Bernardino, San Diego, Siskiyou, and Sonoma. According to the self-classification of Public Health Jurisdiction designations, only Imperial County is considered a rural county. However, many of these counties have both rural and urban areas within their boundaries. Efforts were made to interview people from multiple areas of California, as reflected in the table below.

REGIONS	NUMBER OF KEY INFORMANTS INTERVIEWED	COUNTIES SERVED
Far North	8	Humboldt, Lake, Mendocino, Siskiyou, Sonoma, Del Norte
Central Valley	5	Fresno, Sacramento
South	3	San Bernardino, Los Angeles, Orange, Riverside
Far South	5	San Diego, Imperial
State Level	2	N/A
<i>TOTAL</i>	<i>23</i>	

Engagement Strategies During the COVID-19 Pandemic

The COVID-19 pandemic has had wide impacts on individuals, families, organizations, and communities. To continue providing services to clients, Key Informants reported that their organizations had to pivot as soon as it was clear that in-person contact would have to be minimized. Interviewees shared multiple engagement strategies that they adopted to stay connected with the community members they serve:

- Using digital platforms, including telehealth and Zoom, to engage with clients and to provide online activities, such as cooking and exercise classes;
- Contacting clients via phone or text;
- Using email listservs or online surveys;
- Mailing materials;
- Providing paper resources;
- Using social media;
- Distributing resources (e.g., food, diapers, masks) or care packages;
- Providing drive-thru or curbside pick-up services;
- Engaging with clients outdoors;
- Providing digital literacy education;
- Providing services during non-traditional work hours; and
- Streamlining services to facilitate access.

Many organizations began new programs, such as food distributions, to stay connected to clients and to disseminate information and resources. Interviewees also experimented and found new ways to engage when one approach was not working. This was particularly evident with the transition to using technology to engage when in-person interactions were no longer possible. Interviewees raised challenges with technology and referenced the digital divide as a barrier to providing services.

Challenges Related to the Digital Divide

Key Informants shared many barriers that Californians faced in accessing the Internet, including lack of adequate devices, connectivity, affordability, and digital literacy, as well as challenges related to the digital space. Promising practices in addressing the digital divide in California will be discussed in the [subsequent section](#).

Lack of Adequate Devices

Almost half of the Key Informants (48%) reported that many of the Californians they served lacked access to a device with the capacity to connect to the Internet. This became especially clear during the COVID-19 pandemic, when people could no longer use computers in community centers and other public spaces. A few interviewees (17%) pointed out that many Californians, including some students, exclusively connected to the Internet via smartphones. Some shared that even families with a computer struggled, as the pandemic forced multiple family members to share devices to engage in school and work.

Lack of Connectivity

Over three-quarters of interviewees (78%) emphasized that many Californians had difficulty connecting to the Internet even when they possessed devices. This lack of connectivity affected students, families, organizations, and communities in both rural and urban areas. Key Informants shared stories of rural communities with weak or no cell phone service, communities with only dial-up service, and areas with Internet too weak to support videos or other platforms, including those needed for telehealth.

Given the transition to virtual learning during the COVID-19 pandemic, the impact of low or no connectivity on students was a particular concern among interviewees. Several Key Informants reported that many students had no or intermittent Internet connectivity at home. Mobile **hotspots** distributed by school districts often did not work. As a result, some students either could not access the Internet to engage in learning or had to sit outside coffee shops or other locations with free Wi-Fi to join online classes. In addition, some families with Internet access found their connectivity was not strong enough to support multiple household members using the Internet simultaneously and/or accessing platforms that require a large amount of bandwidth.

Interviewees communicated that these issues affected both rural and urban regions. Some rural areas were served by no Internet service providers (ISPs) or had only poor connectivity when Internet was available. Certain tribal communities were not even served by phone companies. Some urban and suburban regions were also unable to access high-speed Internet. A Key Informant expressed that while ISPs invested heavily in the affluent section of their city, broadband service in the lower income areas had been neglected. Two interviewees who live close to urban areas reported needing to try several providers in order to obtain stable Internet. One resorted to using a hotspot, despite living only one mile outside the city limits.

While no or poor Internet connectivity prevented individuals from accessing the Internet, it also decreased community access to external services. For example, Key Informants reported challenges in working with local communities that had no or inadequate Internet infrastructure. One organization stopped working with a community because it had no Internet connectivity. Another Key Informant shared concerns that staff could not safely serve a community because of both lack of Internet connectivity and cell coverage.

Lack of Affordability, Internet Service Providers (ISPs), and Infrastructure

Over half of Key Informants (57%) highlighted that high-speed Internet was not affordable to all Californians. Even when adequate Internet connectivity was available in a community, KIs reported that many low-income Californians could not afford it. Some Key Informants (43%) raised that costs were higher in areas with fewer choices in ISPs. For example, when a community only had one broadband provider, the costs were higher because companies were not competing for customers. One interviewee pointed to an additional lack of equity in Internet costs between urban and rural communities, sharing that rural Californians sometimes paid more for slower Internet than urban Californians paid for high-speed service. An interviewee explained that the reliance on private companies to provide service creates Internet deserts because companies do not want to invest in areas that are not profitable.



Some interviewees (22%) raised that lack of infrastructure within buildings and homes provided an additional barrier to accessing the Internet for some Californians. One Key Informant said that a building in the middle of town was unable to handle high-speed Internet once the ISP brought the line to the building. Another shared that some households in their community only had one electrical outlet, which was designated for the refrigerator and thus not available to support additional devices.

Lack of Digital Literacy

Even when devices and adequate connectivity were available, many Californians struggled with digital literacy. Almost two-thirds of the Key Informants (65%) shared that many clients lacked digital knowledge and skills, such as downloading apps, knowing how to sign on and use multiple platforms, including Zoom, and even turning on devices. One Key Informant estimated that only 10-20 percent of their clients had the ability to receive services digitally. Another said it had been difficult to engage with clients with varying levels of comfort with technology; they spent time trying to level the playing field to engage all clients during the pandemic. Low literacy levels and language barriers were also identified as contributing to digital illiteracy.

During the transition to virtual learning during the COVID-19 pandemic, Key Informants conveyed that it became clear that many parents did not have adequate digital literacy skills and knowledge. Parents were called on to help their children engage with new and sometimes complicated platforms, and some students struggled with participating in online classes because parents did not have the knowledge, skills, or language to guide their children. One interviewee noticed that many students also struggled with digital literacy. For example, some students knew how to use social media, but needed instruction in how to use programs like PowerPoint.

Legal Challenges Related to the Digital Divide

A few Key Informants raised legal issues that made accessing the digital space challenging. These included adults requiring signed proxy access to children's accounts for telehealth appointments and needing to change tribal laws to allow for remote elections. One interviewee raised the particular challenge of building Internet infrastructure on tribal lands, where both federal laws that require environmental reviews and the Native American Graves Protection and Repatriation Act (NAGPRA) must be followed. These additional requirements can add 2-4 years to efforts to expand Internet infrastructure.

Challenges Related to the Digital Space

Even when Californians were able to connect to the Internet, they faced challenges related to the medium itself. Some Key Informants (26%) shared that it appears as though many Californians experienced digital fatigue during the COVID-19 pandemic because so many services were now online. One organization found that fewer people were willing to engage in evening Zoom support groups. Almost half of the interviewees (48%) said it was more difficult to form relationships in digital spaces versus in person. Interviewees also found it harder to build rapport and advocate for children's needs.

In terms of telehealth, almost two-thirds of the Key Informants (65%) reported negative reactions by Californians to telehealth, including lack of engagement by users and concerns about privacy. Interviewees conveyed that some clients were not open to receiving services through computers and others were not willing to share as much when they did engage online. One support group chose to stop meeting during the pandemic because members missed the intimacy and connection of in-person gatherings. One interviewee tried connecting with families via Zoom, but pivoted to outside engagement and phone calls because of lack of engagement. The provider explained that it was difficult to impart parenting education and model appropriate interactions through an online platform. Another Key Informant raised the challenges of not being able to physically examine patients via telehealth and telephonic medical visits, although the sessions did help determine whether patients needed in-person appointments.

Key informants indicated that many Californians were also concerned about privacy when receiving telehealth services. Virtual meetings made it hard to ensure that conversations were private and confidential. Interviewees shared that patients sometimes worried about being recorded or overheard. One Key Informant cautioned that abusers could be standing

in the room during a telehealth visit, which would prevent disclosure about difficult home situations. Distrust of government and service providers were cited as reasons clients did not feel comfortable sharing information online. Another interviewee disclosed that some LGBTQ youth who feared being outed reported not being able to find a safe space at home to log on for support groups and other services.

In conclusion, Key Informants raised many challenges related to the digital divide, including lack of devices, connectivity, affordability, and infrastructure, along with difficulties specific to digital engagement.

Other Challenges

Interviewees highlighted that the people they served were also facing obstacles related to COVID-19, economics, culture, and healthcare.

Challenges Specific to the COVID-19 Pandemic

While the COVID-19 pandemic has certainly had direct effect on millions of Californians and their families, it has also had indirect effects.⁶⁹ Key Informants shared that the COVID-19 pandemic led to program interruptions, decreased organizational capacity, delay of care and/or lack of access to care, and increased stress for Californians.

Over half of the Key Informant interviewees (61%) stated that many programs and services were either interrupted or eliminated during the COVID-19 pandemic. Program interruptions included closures of schools and libraries; elimination of youth activities; reductions in services; transitions from drop-in services to appointments or phone conversations; cutbacks in public transportation; and interruptions of in-person community gatherings. When describing these shifts, interviewees mentioned that the Californians they serve experienced increased confusion about service availability and/or lost sense of community.

In line with programmatic disruptions, interviewees reported decreased organizational capacity to serve Californians due to the COVID-19 pandemic. Forty-three percent of organizations curtailed appointment slots, and 30 percent experienced reduced staffing. For example, funding reductions resulted in fewer mental health clinician positions in one organization. Interviewees expressed the significant impact that the pandemic had on the medical system, in particular, and reflected that many other services shifted to focus on basic needs during the pandemic. One Key Informant shared the perception in their work that the pandemic increased anxiety and compassion fatigue among staff, which impacted their ability to service clients.

Other Key Informants did not feel like their overall capacity to serve clients was reduced, although the means by which they connected with clients changed. While in-person services were drastically limited to decrease exposure to COVID-19 in these organizations, those appointment slots were converted to virtual visits.

Several interviewees (26%) communicated that Californians were experiencing worse physical issues because they delayed care or had less access to care due to the pandemic. Interviewees reported delays in preventative care, including immunizations. KII's shared that for some care for chronic diseases was delayed for various reasons, including fewer available appointments, elimination of drop-in visits, confusion about service availability, and apprehension about COVID-19 exposure.

Finally, Key Informants conveyed the social-emotional impacts of the pandemic, including increased stress and mental health issues among staff and/or families they serve. One interviewee noted that it may be difficult to assess how many people are struggling with mental health right now, while another expressed concern that the already taxed mental health system would not be able to handle an increased need for mental health services. A few interviewees (9%) expressed concerns about increases in child abuse and neglect and decreases in reporting during COVID-19. One interviewee shared that some parents self-referred to Child Welfare Services (CWS) in their community because they were having a hard time handling the huge levels of stress induced by the pandemic.

Economic Challenges

According to Key Informants, the range of economic obstacles facing Californians was significant. Over two-thirds of the interviewees (70%) reported that lack of transportation was a challenge for the people they serve. One Key Informant stated that this was the biggest barrier to accessing healthcare by patients before the pandemic. Another shared that the COVID-19 pandemic worsened transportation challenges because provider-supported transportation, such as buses to clinics, were eliminated. One interviewee pointed out that transportation barriers were present in both urban and rural areas. While rural Californians faced long distances between towns, both rural and urban Californians can struggle with lack of public transportation and being able to afford a car.

Some Key Informants (22%) highlighted that many Californians were food insecure. This echoed the finding that many organizations distributed food to clients during the COVID-19 pandemic (See [Engagement Strategies during the COVID-19 Pandemic](#)). One interviewee also acknowledged the socio-emotional difficulties that accompany food insecurity.

In addition, Key Informants mentioned lack of health insurance (22%) and housing costs and/or housing insecurity (9%) as economic challenges facing Californians. One interviewee spoke about the links between job loss, loss of insurance, and loss of housing and belongings.

Other economic difficulties raised by Key Informants included family stress (22%), lack of services in low-income areas (4%), and disruptions due to natural disasters (9%), such as fires, power outages, and storms. Some interviewees shared ways their organizations tried to reduce stress in families. For example, one Key Informant's health clinic helped patients enroll in [CalFresh](#) and access financial resources, such as money for rent or food.

Healthcare Challenges

Several barriers to accessing healthcare have been discussed (i.e., lack of transportation and insurance in [Economic Challenges](#) and those directly related to the COVID-19 pandemic). However, Key Informants shared additional obstacles that many faced in obtaining healthcare on an ongoing basis. Over half of the interviewees (52%) highlighted that people they serve traveled long distances for appointments with specialists. Some rural Californians had to leave the county or travel hours to get specialized care, and some urban Californians did not have providers in their neighborhoods. However, this was not solely a problem related to specialists. Several interviewees identified a lack of local quality healthcare providers (13%), as well as mental health (22%) and Medi-Cal (9%) providers. Key informants conveyed challenges in recruiting and retaining Medi-Cal providers, extremely long wait times to see mental health practitioners, including psychiatrists, and lack of services in low-income neighborhoods.

Over one-third of interviewees (35%) reported lack of trust of the healthcare system as a significant barrier to accessing healthcare for Californians. Key Informants linked this mistrust with struggles to connect to culturally responsive providers, the lack of bilingual practitioners, challenges in navigating federal and state health care systems, and fears related to the risks of accessing healthcare while undocumented. Mental health stigma was also mentioned by an interviewee as a barrier to obtaining healthcare.

In addition, 9 percent of Key Informants pointed out that some clients were unable to get quality healthcare because of a lack of appointments during non-business hours.

Challenges with Cultural Responsiveness

Many interviewees shared barriers pertaining to cultural responsiveness that affected the work they undertake with the Californians they serve. In addition to raising the general theme of equity (9%), 39 percent of Key Informants had concerns about the lack of cultural responsiveness of providers. Key Informants mentioned a lack of trauma-informed and culturally responsive providers, such as those capable of providing safe, affirming, and competent treatment for LGBTQ Californians. A few interviewees (9%) who serve Native American populations specifically raised the impact of historical trauma. They linked this trauma to mistrust of medical services and a reluctance to seek mental health or healthcare.

A few Key Informants (13%) highlighted the diversity of languages spoken by Californians and the challenges of serving people who speak languages other than English. Interviewees stated that both lack of digital literacy and literacy issues contributed to this challenge. Similarly, 22 percent of interviewees raised immigration as a concern. As discussed in [Healthcare Challenges](#), undocumented Californians had difficulties accessing quality healthcare due to their immigration status.

Promising Practices in Addressing the Digital Divide in California

Key Informants also shared promising practices related to Internet access in California. Conversations focused on the benefits of digital connection and innovative approaches to addressing the digital divide.

Benefits of Connecting Digitally

Some interviewees (43%) reported that patients responded positively to telehealth. Although some patients initially resisted engaging in telehealth at the beginning of the COVID-19 pandemic, one Key Informant averred that it had now become normalized and even embraced by patients. Others said support groups continued to meet with strong attendance, patients missed fewer appointments, and clients saw providers with greater frequency after the shift to telemedicine. One interviewee suggested that patients were more willing to accept behavioral health services virtually because it reduced stigma and allowed them to access therapy from home. A few Key Informants (17%) also reported connecting more easily with people who previously had transportation barriers since travel to appointments was no longer necessary. Two interviewees shared that the transition to telehealth allowed people from across the country to access their support groups and programs.

Almost one-third of Key Informants (30%) reported that staff also had favorable reactions to teleworking or working remotely. Some staff appreciated not having to commute and found Zoom meetings more productive; others were grateful for increased flexibility and the ability to access online trainings and meetings more easily. In addition, providers who had to stay home for medical reasons could still see patients from home. One interviewee said that once providers adjusted to the new technology, they got quite creative with finding new ways to engage patients online. Another shared that collaboration among staff in different offices improved, which allowed staff to be more productive and provide more services. Several Key Informants conveyed that their programs and staff were easily able to pivot to provide virtual programming and meetings after the beginning of the pandemic.

A few Key Informants (13%) found that the COVID-19 pandemic offered opportunities to engage creatively with technology and partner with new organizations and agencies. For example, one organization was able to attract volunteers from another country through a virtual platform. Another reported that statewide communication and sharing with similar agencies improved because of virtual meetings.

Innovative Approaches to Address the Digital Divide

Several Key Informants shared innovative ways their organizations addressed the digital divide.

- **Providing Devices:** While many schools lent students devices so they could attend virtual classes, a few interviewees highlighted efforts by their organizations to provide laptops, Chromebooks, and tablets to members of their communities through grants.
- **Providing Internet Infrastructure:** One school district in California built its own broadband network to provide Internet service to all families in the district for free. The Internet was available for parents, but devices were only provided to students.
- **Providing Digital Literacy Education:** Other communities attempted to address the digital literacy gap. One school district provided education for parents to learn how to help their children online. Another organization obtained training to lead a digital literacy class so that they could educate community members in English and Spanish. Participants engaged in four two-hour sessions over the course of one month. Each class had two facilitators so one could answer individual questions in break out rooms. In describing how to engage in digital literacy training, one Key Informant pointed out that people want to learn new skills. The interviewee emphasized that digital educators need to be patient and willing to help problem-solve. In addition, it was recommended that programs should use adult learning theory and be clear, simple, accessible, and flexible (e.g., during non-traditional working hours).

In summary, the 23 Key Informants provided a wealth of information about the people they serve in California. Key Informants detailed the methods they used to engage Californians during the COVID-19 pandemic, challenges clients encountered in accessing the Internet, and barriers that Californians faced related COVID-19, economics, culture, and healthcare. On the positive side, interviewees shared benefits of connecting digitally and innovative examples of efforts to addressing the digital divide.

Strategies and Recommendations

After reviewing the suggestions made in the Key Informant Interviews, subject matter experts from the EfC Initiative and 4CA suggested the following strategies and recommendations to decrease the digital divide and increase access to telehealth and tele-mental health in California. Communities can consider adoption and/or implementation of these strategies and recommendations through means such as General Plans, local ordinances, or voluntary organizational policies. For more information about current and proposed policies and laws that address the digital divide, please see Appendix D.

Strategies and Recommendations to Address the Digital Divide

Strategies and Recommendations	Justification
Adopt and implement local policies that support access to high-speed Internet for all Californians. Consider models that treat Internet access as a public utility and, where possible, are funded by sources that offset or eliminate the cost for consumers (e.g., monthly subsidies, tax reimbursements, employer incentives, inclusion in General Plans).	Internet access has become a necessity for Californians. Some consider access to the Internet to be a social determinant of health. ^{7,8,9} Internet access ensures that Californians are able to obtain healthcare services; access virtual learning, job training, and resources; and even sign up for COVID-19 vaccines.
Adopt and implement organizational practices and/or local policies that ensure equitable access to technology for people with low incomes. Prioritize policies that provide technology that exceeds Chromebook and smartphone capabilities as those devices are oftentimes insufficient for the users' purposes.	Californians need access to computers in order to fully engage with the digital world. While mobile options exist for many digital functions, not all tasks can be reasonably performed (or performed at all) on tablets and phones given their size and operating system limitations. The Public Policy Institute of California (PPIC) reported that over 10 percent of Californians did not have a computing device at home (e.g., desktop, laptop) in 2019. ²

Strategies and Recommendations

Justification

Adopt and implement organizational practices and/or local policies that teach and support programs or practices that provide education on the topic of digital literacy to the Californians they serve. Ensure that trainings and materials are consumer tested with the target audience and follow [Section 508](#) rules on accessibility for individuals with disabilities.

Having a device and access to the Internet is necessary, but not sufficient, to bridge the digital divide. According to the Program for the International Assessment of Adult Competencies (PIAAC), 16 percent of American adults were not digitally literate in 2012.⁶⁵ All Californians need to have the skills to be able to use devices and the Internet effectively.

Adopt and implement organizational practices that ensure that digital materials and applications are provided in languages representative of the local population. Ensure that trainings and materials are [consumer tested](#) with the target audience.

With over 200 languages spoken in California and 42.6 percent Californians above the age of 5 speaking a language other than English at home, it is imperative that resources and education to rectify the digital divide are provided in languages other than English.⁷⁰

Involve and engage community members and staff who represent local organizations and/or agencies in local and state-level coalitions to identify where telehealth and tele-mental health barriers exist beyond connectivity and support the coalition as it works to create policy change around the digital divide, such as building out fiber, developing municipal networks, addressing digital redlining, making the Internet affordable, working to adequately reach and serve populations, and supporting implementation of those services.

The digital divide is a complex problem, and it will require complex solutions. Communities, agencies, and organizations need to work together and share what works to decrease duplicative work and ensure that all Californians have access to the Internet.

Engaging the community in efforts to bridge the digital divide will ensure that community members are invested and that solutions to community problems are community-identified and driven.

Strategies and Recommendations

Justification

Review existing policies and practices in organizations and communities for opportunities to address equity issues related to the digital divide.

Certain populations are more impacted by the digital divide in California (e.g., people who are African-American, Latinx, and Native American; people over age 65; people with less education; households with lower incomes; people living in rural areas; and people with disabilities).^{2,49,50} Thus, it is essential that all efforts to address the digital divide include an equity lens that acknowledges the needs of these groups.

Utilize non-digital (i.e., analog) along with digital outreach strategies to share how community members can access free devices, technical assistance, and/or free or low-cost Internet services.

Given that those who may require assistance with technology and access may not have devices and Internet access, it is important to ensure that it is not required to have technology and the Internet to gain access to technology and the Internet.

Coordinate and collaborate with initiatives, coalitions, and advocates who are working to reduce the digital divide.

Given that the digital divide cannot easily be solved by one entity, communities can benefit from working together, learning from each other, and seeking assistance from groups already engaged in this work.

Strategies to Improve Access to Telehealth and Tele-Mental Health

Strategy

Justification

Adopt and implement organizational policies and practices that support patient access to telehealth and tele-mental health services during and after the pandemic.

As a result of the COVID-19 pandemic, federal, state, and private payers started temporarily allowing for the use of telehealth and tele-mental health instead of in-person visits to reduce the risk of transmission of the COVID-19 virus. Payers should continue covering telehealth and tele-mental health services in the future when appropriate and/or necessary to decrease barriers to care, such as lack of transportation or local providers. Providers who have not engaged with telemedicine during the COVID-19 pandemic should be encouraged to explore connecting with patients using telehealth or tele-mental health services.

Dedicate resources to support development of and access to quality electronic health records (EHR) that are linked with telehealth and tele-mental health services. Ensure that a wide range of mobile devices are able to access and support the mobile applications.

Up-to-date EHR programs that can support telehealth and tele-mental health visits with easy-to-use virtual platforms can make virtual visits more accessible for both providers and patients.

Educate decision makers and community members about the need for adapting laws and policies to support telehealth and tele-mental health.

Some laws and policies will need to be revised to adapt to the new technology of telehealth and tele-mental health for needs which are appropriate for a telehealth and tele-mental health appointment. For example, updates may need to be made to allow communication between the Health Insurance Portability and Accountability Act (HIPAA) and the Family Educational Rights and Privacy Act (FERPA) to ensure that students get coordinated care.

Conclusion

Access to devices, high-speed Internet, and digital literacy skills has become increasingly important for child and family wellbeing. This report summarizes data demonstrating the impact of the digital divide on child wellbeing, including the disproportionate effect of the digital divide on people of color as well as households with low incomes, in rural areas, and with less education.² The report also highlights the ways in which the COVID-19 pandemic both revealed and exacerbated these disparities in digital access. Qualitative data collected from KIIs describe the challenges faced by Californian children and families because of the digital divide and the COVID-19 pandemic, such as lack of adequate devices, connectivity, affordable Internet, and digital literacy. These data and input from the KIIs and other stakeholders informed the strategies and recommendations developed by EfC Initiative subject matter experts to address California's digital divide at the local level.

Communities cannot control all elements necessary to address the digital divide. National and state public health policy initiatives and infrastructure can also play a role. In addition, there are many steps that can be taken at the regional and local levels to improve access and address the digital divide and its impact on child wellbeing. For example, communities can adopt and implement local policies that support access to affordable, high-speed Internet for all their community members. Other recommendations presented in this report address access to adequate devices, education to increase digital literacy, and engagement of community members and staff who represent local organizations and/or agencies. Recommended strategies to improve access to telehealth and telemental health include supporting patient access to telehealth services during and after the pandemic.

This report can be used by state and local public health programs, child-serving systems, non-profits, and philanthropic organizations to educate their communities about the digital divide and its impact on child wellbeing and to identify opportunities to reduce the digital divide through policy, systems, and environmental (PSE) change.



Appendices

Appendix A: Glossary

Broadband	High speed Internet access with speeds of at least 25 Mbps provided by multiple sources, including digital subscriber line, cable modem, fiber-optic, and satellite. ⁷¹
Dial-up	Narrow band Internet access via a standard telephone line. This is the slowest connection available, and the phone and Internet cannot be used simultaneously. ⁷²
Digital divide	“The gap between those Americans who use or have access to telecommunications and information technologies and those who do not.” ¹
Digital literacy	“The ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills” according to The American Library Association’s (ALA) Digital Literacy Task Force. ⁶⁶
Hotspot	A small electronic device connected to cellular data connection transmitting the signal as Wi-Fi for other personal electronics, such as cell phones or laptops. ⁷³
Internet service provider (ISP)	A company that provides subscribers with access to the Internet for a monthly cost. ⁷⁴
Telehealth or telemedicine	The distribution of health and healthcare-related services over telecommunication and other digital technologies. The U.S. Department of Health and Human Services defines telehealth or telemedicine as “the use of electronic information and telecommunication technologies to provide care when [the patient] and the doctor are not in the same place at the same time.” ²⁷

Appendix B: Ways to Connect to the Internet

The following options for connecting to the Internet are currently in use in the United States:

<u><i>Fiber optic technology</i></u>	Sends data through small glass fibers. It is much faster than current DSL or cable modem speeds.
<u><i>Digital subscriber line (DSL)</i></u>	Available through a phone landline. It may use phone lines or fiber optic cables, and it requires a subscription to a broadband service.
<u><i>Cable modem</i></u>	Provided through a local cable company. This is also a broadband service and is relatively fast.
<u><i>Satellite broadband</i></u>	Requires installation of a satellite dish. This may be the only option in rural areas, but it is not available in all locations.
<u><i>Wireless fidelity (Wi-Fi)</i></u>	Uses short-range wireless technology to connect a device to an Internet service.
<u><i>Wireless hotspot</i></u>	Involves piggybacking on a connection that someone else has made. Accessing a public hotspot at an airport or restaurant can either be free or provided for a fee.
<u><i>Mobile wireless broadband</i></u>	Allows smartphones and some tablets to connect to the Internet via the provider's network. It is also possible to purchase a device that can allow other computers to use a cell phone network to connect to the Internet. A phone can also create a temporary wireless hotspot that can allow another device to connect to Wi-Fi.
<u><i>Dial-up</i></u>	Uses a dial-up modem to connect to an Internet service provider via a home phone line. This is the slowest connection available, and the phone and Internet cannot be used simultaneously.

When choosing a particular type of Internet delivery, users need to consider what is available in their area, affordability, and the desired minimum download speed. The minimum download speed depends on both the level of use and the number of devices (e.g., laptop, tablet, game console) in use at the same time. The Federal Communications Commission (FCC) divides use into the following categories: light (e.g., basic functions such as email, browsing, basic video), moderate (e.g., basic functions and one high-demand application such as streaming HD video, multiparty video conferencing, online gaming, telecommuting), and high (e.g., basic functions and more than one high-demand application running at the same time). Broadband Internet can range from basic service (i.e., 3-8 Megabits per second (Mbps)) to medium service (i.e., 12-25 Mbps) to high service (i.e., more than 25 Mbps). Most connections are about 56 Kilobits per second (Kbps).

Appendix C: Key Informant Interview instrument: “California’s Tele-Mental Health and Health Care Access Digital Divide”

The Key Informants were asked the following questions:

1. What is your role within your organization/program?
2. How has the work that your organization/program carries out been impacted by the digital divide given COVID-19?
3. How have your engagement methods with Californians changed given COVID-19?
4. What is working well in your digital service delivery efforts and where do challenges remain?
5. If you had a magic wand, what would you wish to change to improve access to services and supports in the digital space? What would bridge concrete (e.g., lack of access to devices, lack of broadband access, etc.) and perceived (e.g., lack of knowledge, etc.) barriers and gaps you are seeing?
6. Is there something that is impacting digital service provision in your community that may also be affecting other rural communities (e.g., lack of cellular coverage, broadband service expenses, slow Internet speeds)?
7. What were the barriers to accessing care prior to the pandemic (e.g., mistrust of the medical system in the community, traveling long distance for specialist appointments)? Has COVID-19 made those barriers worse in accessing health and mental health care?
8. How has the level of services available to those in the community been impacted by COVID-19 (e.g., fewer appointment slots due to decreased staffing, programs not providing services, community centers closed/or by appointment only)?
9. Is there anything else you would like to tell us or other questions you would recommend we ask that were not included in this interview?

Appendix D: Policies and Laws to Address the Digital Divide

Federal agencies (e.g., Federal Communications Commission (FCC), the National Telecommunications and Information Administration (NTIA, in the Department of Commerce), and the Rural Utilities Services (RUS, in the Department of Agriculture)) have funding initiatives, mainly funding broadband infrastructure, that are designed to decrease the digital divide. In response to COVID-19, the FCC has also made efforts to help Americans connect to telehealth care. These efforts included funding a \$200 million COVID-19 Telehealth Program to help providers connect to patients from their homes or mobile locations and increasing Rural Health Care Funding by \$42.19 million.

In addition, in the last two years, American and Californian lawmakers have proposed many bills to address the digital divide. Because of the complexity of the issue, there is not an easy solution, and some bills have not made it to a vote. For more information about what bills are being considered in California related to the digital divide, please visit California Legislative Information.

Resources

The following resources may be helpful for those who are interested in learning about more ways to engage to create change to address the digital divide.

Resource	Description
California Campaign to Counter Childhood Adversity (4CA)	<p>The California Campaign to Counter Childhood Adversity brings together the expertise and actions of individuals and organizations working to address childhood adversity across the state of California. 4CA’s mission is two-fold:</p> <ul style="list-style-type: none">● Raise awareness of the impact of childhood adversity on children, youth, families, and communities.● Address gaps and structural inequities in systems so they can prevent and appropriately respond to childhood adversity, strengthen protective factors and build resilience.
California Children’s Trust, No Going Back: Providing Telemental Health Services to California Children and Youth After the Pandemic	<p>This brief provides recommendations for ongoing telemental health implementation based on interviews with providers at Federally Qualified Health Centers (FQHC), children’s hospitals, school-based health centers, and non-profit community-based organizations in different parts of the state serving a large number of young people covered by Medi-Cal.</p>
California Department of Education, Closing the Digital Divide Initiative	<p>The Closing the Digital Divide Initiative focuses on identifying needed resources and partnerships to support distance learning in California schools and equip all California students with computing devices and connectivity. It includes information about the Closing the Digital Divide Task Force.</p>

Resource	Description
California Essentials for Childhood (EfC) Initiative	<p>The EfC Initiative is led in partnership by the CDPH/IVPB, and the CDSS/OCAP. The EfC Initiative seeks to address child maltreatment as a public health issue; aims to raise awareness and commitment to promoting SSNR&E; creates the context for healthy children and families through social norms change, programs, and policies; and utilizes data to inform actions. Utilizing a collective impact model, the EfC Initiative advances the common agenda of multiple agencies and stakeholders through alignment of activities, programs, policies, and funding so that all California children, youth, and their families achieve SSNR&E.</p>
Centers for Disease Control and Prevention (CDC), Injury Prevention & Control, Division of Violence Prevention	<p>The CDC has developed technical packages on the following topics to help states and communities take advantage of the best available evidence to prevent violence:</p>
<ul style="list-style-type: none"> ● Technical Packages ● VetoViolence 	<ul style="list-style-type: none"> ● Child Abuse and Neglect ● Intimate Partner Violence ● Sexual Violence ● Suicide ● Youth Violence ● Adverse Childhood Experiences (ACEs)
<p>VetoViolence exists to empower communities to prevent violence and implement evidence-based prevention strategies in your community. Tools, trainings, and resources are designed to empower partners to help reduce risks for violence and to increase what protects people and communities from it.</p>	
Common Sense Media, Connect All Students	<p>This site provides resources for distance learning and closing the digital divide.</p>

Resource	Description
<u>EducationSuperHighway</u>	The EducationSuperHighway was founded in 2012 with the mission of upgrading the Internet access in every public school classroom in America. The organization took on this mission because it believes that digital learning has the potential to provide all students with equal access to educational opportunity and that every school requires high-speed broadband to make that opportunity a reality.
<u>Electronic Frontier Foundation (EFF)</u>	The Electronic Frontier Foundation (EFF) is the leading nonprofit organization defending civil liberties in the digital world. Founded in 1990, EFF champions user privacy, free expression, and innovation through impact litigation, policy analysis, grassroots activism, and technology development. EFF's mission is to ensure that technology supports freedom, justice, and innovation for all people of the world.
<u>Emergency Broadband Benefit</u>	The Emergency Broadband Benefit is an FCC program to help families and households struggling to afford Internet service during the COVID-19 pandemic. An <u>Emergency Broadband Benefit Outreach Toolkit</u> can be found at https://www.fcc.gov/emergency-broadband-benefit-outreach-toolkit . Flyers and handouts can be printed and disseminated to Californians.
<u>EveryoneOn</u>	EveryoneOn is a non-profit dedicated to creating social and economic opportunity by connecting low-income families to affordable Internet service and computers and delivering digital skills trainings.
<u>The Greenlining Institute</u>	The Greenlining Institute is committed to building a just economy that is inclusive, cooperative, sustainable, participatory, fair, and healthy. Their multifaceted advocacy efforts address the root causes of racial, economic, and environmental inequities in order to meaningfully transform the material conditions of communities of color in California and across the country.

Resource	Description
<u>KidsData</u>	KidsData provides access to data about the health and wellbeing of children in communities across California. Related to the digital divide, KidsData has broadband data for children by age, city/school district/county, household English proficiency, income level, presence of parents, and race/ethnicity (under Family Economics/Housing Affordability and Resources).
<u>National Digital Inclusion Alliance (NDIA)</u>	The National Digital Inclusion Alliance (NDIA) is a unified voice for home broadband access, public broadband access, personal devices, and local technology training and support programs. NDIA is a community of digital inclusion practitioners and advocates that works collaboratively to craft, identify, and disseminate financial and operational resources for digital inclusion programs while serving as a bridge to policymakers and the general public.
<u>Office of the California Surgeon General (OSG), Roadmap for Resilience: The California Surgeon General's Report on Adverse Childhood Experiences, Toxic Stress, and Health</u>	<i>Roadmap for Resilience</i> serves as a blueprint for how communities, states, and nations can recognize and effectively address Adverse Childhood Experiences (ACEs) and toxic stress as a root cause to some of the most harmful, persistent, and expensive societal and health challenges facing our world today. The report provides clear cross-sector and equitable response solutions, models, and best practices to be replicated or tailored to serve community needs.
<u>PACEs Connection</u>	PACEs Connection amplifies and supports the worldwide positive and adverse childhood experiences (PACEs) movement by sharing its stories, solutions, and science, growing healing communities, and valuing equity and diversity. PACEs Connection offers information, resources, and support for hundreds of local, state, national, and international positive and adverse childhood experiences (PACEs) initiatives.

Resource	Description
<u>Pew Research Center, Internet/Broadband Fact Sheet</u>	<p>The Internet represents a fundamental shift in how Americans connect with one another, gather information, and conduct their day-to-day lives. For more than 15 years, Pew Research Center has documented its growth and distribution in the United States. Explore the patterns of Internet and home broadband adoption in this fact sheet.</p>
<u>Population Reference Bureau's Resource Library, Digital and Economic Divides Put U.S. Children at Educational Risk During the COVID-19 Pandemic</u>	<p>A new analysis and interactive dashboard by Population Reference Bureau's (PRB) show sharp digital and economic divides among school-age children across states and between racial and ethnic groups. PRB's dashboard provides a state-by-state look at school-age children's access to computers and high-speed Internet, based on the latest data from the U.S. Census Bureau's 2018 American Community Survey (ACS). Data are also available for download in Excel and PDF formats.</p>
<u>Public Policy Institute of California (PPIC), California's Digital Divide</u>	<p>This fact sheet focuses on the latest available data from 2019 and 2020.</p>

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