ITUP
Insure the Uninsured Project

›› *ITUP Fact Sheet*

Broadband for Health Basics

May 2021

The Digital Divide and its Impact on Health Care

- **Accessible, Affordable, and Equitable Health Care:** Broadband, and connectivity generally, is important for creating a health care system that is more accessible, affordable, and equitable. Many health care innovations, including telehealth, health information exchange, and virtual care and patient monitoring, rely on critical broadband infrastructure.
- **Serving the Underserved:** Broadband enables people in unserved and underserved regions, including rural and urban areas of the state, and those that have low-incomes, are served by Medi-Cal and/or the safety net, and are members of communities of color, to have greater access to care.
- **COVID-19 Recovery Context:** Throughout the COVID-19 pandemic, telehealth became paramount for maintaining access to preventative and ongoing health care. Telehealth during the pandemic also shined a spotlight on the gaps in access to broadband, personal technology devices, and digital literacy, highlighting the need for the health care community to join the cross-sectoral efforts to close the digital divide.

What Does the Digital Divide Mean for Consumers?

Broadband Access

889,000 CA residents do not have internet providers where they live.[i]

In 2019, 30% of Californians don't have access to low-cost broadband.[i] New 2021 emergency FCC broadband subsidies may mitigate some of the cost for low-income consumers.[ii]

Technological Devices

More than 1 in 10 Californians don't have a computer.[iii]

Black and Latinx Californians have fewer devices in their homes.

Digital Literacy

Barriers include lack of basic computer skills, language access, and cultural competencies.[iv]

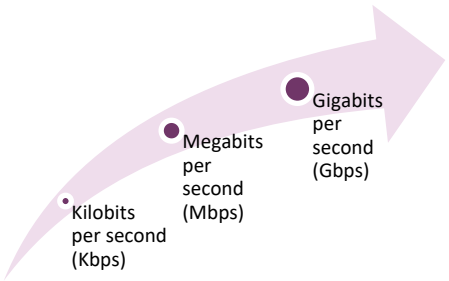
ITUP 2020 Regional Workgroups and Telehealth Policy Forum noted that digital literacy is a major barrier to accessing telehealth for hard to reach populations.[iv]

Types of Wired Broadband Network Technology

- **Fiber-Optic Internet Networks (Fiber):** Considered the gold standard in broadband options, a network that uses glass strands to send information and have a useful life of decades. This is the most scalable technology to make sure future bandwidth needs are met. Fiber infrastructure can be 'lit' or active or can be 'dark' and inactive. Internet Service Providers (ISP, example: Comcast) often install more fiber than they need to lease to others or reserve for future use. In-use fiber is lit and dormant fiber is dark.[v]
- **Phone Lines:** Also referred to as Digital Subscriber Lines (DSL), internet connection through phone lines. This service uses frequencies that degrade over distances meaning that the consumer needs to be located within a mile of the central office supporting the DSL to have sufficient speeds.[v]
- **Cable Modem System:** Cable television services offer internet access via their cable system. This network is based on neighborhoods, where essentially the whole community shares on connection, thus resulting in slower, often insufficient speeds for consumers.[v]

Measures of Broadband Speed

More is Faster: Gbps > Mbps > Kbps



The Federal Communications Commission (FCC) sets sufficient broadband speeds at 25 Mbps download speeds and 3 Mbps upload speeds (commonly noted: 25/3 Mbps). As of December 2019, 96.5% of Californian households reach the 25/3 Mbps broadband access, however, only 73.8% of Californian households in rural regions of the state have access to this broadband availability.[vi]

Key Definitions

Anchor Institutions: Anchor institutions are flagship community institutions that are sometimes connected to fiber even when fiber services are not commercially available to the broader community. Because of this, they can act as a connection to the Internet backbone. Health care facilities, schools, and libraries are examples of anchor institutions.[v]

Bandwidth: The speed of transmitting information across a network. Generally, higher bandwidth is desirable, especially the more individuals and devices use the same source of broadband. The amount of bandwidth available to you can determine whether you download a photo in 2 seconds or 2 minutes. [v]

Broadband Speed: Typically, there are two different types of speeds the average consumer uses: download speed and upload speed. [v]

- **Download Speed:** Also referred to as downstream internet connection, download speed refers to the rate at which the user's device can receive data from the internet. [v]

- **Upload Speeds:** Also referred to as upstream internet connection, upload speed refers to the rate at which the user's computer can send data to the Internet. Often times, DSL and cable internet only offer upload speeds at 1/10 of download speeds, which make them insufficient for modern day internet needs, like live video calls or virtual conference presentations. Fiber-optic internet networks more readily have robust connections for both upload and download needs. [v]

California Public Utilities Commission: The California regulatory agency that regulates privately-owned public utilities that includes telecommunications, or broadband.[vii]

Digital Equity: The state of all members of a community having equal access and sufficient digital literacy to use communication technologies. [iv]

Federal Communications Commission (FCC): The federal agency with the authority in promoting competition, innovation, and investment in broadband services. The FCC defines broadband and determines the metrics for determining whether a household or business has access to sufficient broadband internet. **The current metric was set in 2015 as 25 Mbps download speeds and 3 Mbps upload speeds**.[viii]

Fixed Wireless: A connectivity model that uses stationary wireless technology to bridge the "last mile" between the Internet backbone and the subscriber/consumer.[v] This can be contrasted with **Mobile Wireless** which is transmitted from a stationary source to a moving cellphone, tablet, or laptop (cellular data, for example).[ix]

Internet Service Providers (ISPs): An entity that provides broadband services to subscribers/consumers.[x]

Last Mile: The portion of the internet which connects ISPs' shared infrastructure to end users[i], such as homes or businesses. For example, in a cellular wireless network, the last mile is the wireless connection between a base station and an individual mobile device. Sometimes this is also called the "first mile."[xi]

Middle Mile: This is a term most often referring to the network connection between the region and/or local network to the core network, or, the greater internet. For instance, in a rural area, the middle mile would likely connect the town's network to a larger metropolitan area where it interconnects with major ISPs. [v]

Municipal Network: A broadband network owned by a local government, or "municipality". These networks take many forms, from modest networks serving a few businesses to networks that are available at every address across a community. Some are run by the municipality and others are managed by an ISP under contract. [v]

Unserved Household: The California Public Utilities Code defines an unserved household as a household for which no facility-based broadband service at speeds of at least 6Mbps downstream and 1Mbps upstream. [v]

Suggested Additional Resources

- **California Research Bureau:** https://www.library.ca.gov/Content/pdf/crb/reports/Broadband_in_California_May_%202021.pdf
- **Community Networks Fact Sheets and Other Resources:** https://muninetworks.org/content/resources
- **Community Networks Glossary:** https://muninetworks.org/glossary
- **Electronic Frontier Foundation Key Terms:** https://www.eff.org/wp/case-fiber-home-today-why-fiber-superior-medium-21st-century-broadband

Endnotes

[i] Broadband NOW, Internet in California, Accessed: May 21, 2021.

[ii] Federal Communications Commission, Emergency Broadband Benefit, Accessed: May 21, 2021.

[iii] Public Policy Institute of California, California's Digital Divide, February 2021.

[iv] In 2020, ITUP heard from California health policy and clinical professionals in our Regional Workgroups and ITUP's Telehealth Policy Forum about digital literacy being a major barrier to using telehealth.

[v] Community Networks, Institute for Local Self Reliance, Glossary, Accessed: May 21, 2021.

[vi] California Research Bureau, The Digital Divide: Broadband Infrastructure, Affordability, and Devices, May 1, 2021.

[vii] California Public Utilities Commission, About CPUC, Accessed: May 21, 2021.

[viii] Federal Communications Commission, About the FCC, Accessed: May 21, 2021.

[ix] PCMag Digital Group, Encyclopedia, Accessed May 21, 2021.

[x] Legal Information Institute, Cornell Law School, Legal Encyclopedia, Accessed: May, 2021.

[xi] Electronic Frontier Foundation, The Case for Fiber to the Home Today: Why Fiber is a Superior Medium for 21st Century Broadband, October 16, 2019.

About ITUP

ITUP is an independent, nonprofit, health policy institute that has been a central voice in the California health care and health reform landscape for more than two decades. ITUP serves as a trusted expert, grounded in statewide and regional connections with a network of policymakers, health care leaders, and stakeholders. The mission of ITUP is to promote innovative and workable policy solutions that expand health care access and improve the health of all Californians.

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