Issue At A Glance:

The Digital Divide and Telehealth

The COVID-19 pandemic highlighted how significant internet-based technology is to accessing telehealth services and how the digital divide worsened existing inequities in access to health care. This brief provides an overview of the relationship between the digital divide and telehealth and highlights federal and state policies that aim to close the digital divide.

Introduction

At the onset of the COVID-19 pandemic, there was a massive shift from in-person to distance learning, remote work and telehealth, which aimed to reduce the spread of the coronavirus. As these changes took place, some populations seamlessly shifted their activities online, while others did not. The digital divide is a term used to indicate the disparity between individuals who have access to high-speed internet, computers, information and communication technologies along with the skills to use them and those who do not.[1,2]

A prevailing concern in this arena is access to broadband, which is defined as "the transmission of wide bandwidth data over a high-speed internet connection."[2] A myriad of technologies (e.g., telephone wire, fiber, cable, satellite, and fixed and mobile wireless) provides users with broadband that enables them to receive and send data at speeds and volumes that support a wide variety of applications. These applications include but are not limited to the following: telehealth, entertainment, voice communications, distance education, telework, e-commerce, public safety, and energy conservation.[3]

The COVID-19 pandemic highlighted how significant internet-based technology is to accessing telehealth services and how the digital divide worsened existing inequities in access to health care. Telehealth is defined as the delivery and facilitation of health care, health information, and health education services via digital communication and telecommunication technologies (e.g., mobile health apps, live video conferencing, and remote patient monitoring).[4]

This brief provides an overview of the relationship between the digital divide and telehealth and highlights federal and state policies that aim to close the digital divide.

Key Terms

Broadband: the transmission of wide bandwidth data over a high-speed internet connection[2]

Digital Divide: the gap between individuals who have access to high-speed internet, computers, information and communication technologies along with the skills to use them and those who do not[1,2]

Digital Equity: a condition in which all individuals and communities have the information technology capacity needed for full participation in our society, democracy and economy[1]

Digital Literacy: the ability to use information and communication technologies to find, evaluate, create and communicate information, which require both cognitive and technical skills[1]

The Digital Divide and its Effect on Telehealth

The COVID-19 pandemic highlighted the need for reliable, affordable, and high-quality internet access across multiple sectors (e.g., health care, education, employment, and government services). In the health care sector, many telehealth modalities and internet-connected devices require access to high-speed internet, which a large portion of underserved communities lack.[1] Generally, the lack of access (i.e., digital divide) is related to three categories: affordability, accessibility, and digital literacy.[1]

Affordability: Some underserved communities lack access to broadband and internet-connected devices because the cost of these services is not within their reach.[1] Of note, internet-connected devices are devices connected to the internet via Bluetooth, Wi-Fi, or a physical connection such as a USB cable.[5]

Accessibility: Some underserved communities may not have access to high-quality, high-speed internet to carry out day-to-day tasks. It is worth noting that a lack of broadband access could be due to a lack of devices to use the internet, insufficient internet quality or speed, or unavailability of the service in the area.[1] Furthermore, some underserved areas may lack adequate broadband infrastructure (e.g., cable, fiber, or digital subscriber line) to provide residents with access to the internet they need.[6]

Digital Literacy: Some underserved populations are not equipped with the skills and tools to successfully use the internet, even if they could afford and gain access to broadband services.[1] In addition, some members of this group lack familiarity with the internet, and internet-connected devices exacerbate matters further.[6]

At the onset of the COVID-19 pandemic, many patients, providers, and healthcare facilities lacked sufficient, reliable, and affordable broadband and connectivity, which served as a major barrier to accessing health care in a time when telehealth was either the safest way to access health care or the only way to access health care.[7] Due to variable access to high-speed internet, many patients with insufficient internet access relied on audio-only telehealth for their care, resulting in limited access and quality of health care.[7] According to a study conducted by the U.S. Department of Health and Human Services (HHS), there was a 63-fold increase in Medicare telehealth utilization during the COVID-19 pandemic.[8] Groups disproportionately impacted by barriers to accessing telehealth services include the elderly, individuals with low levels of educational attainment, racial minorities, and individuals living in rural areas.[9]

Rural Telehealth and the Digital Divide

It is nearly impossible for communities to access quality telehealth services if they lack reliable, high-speed broadband. Some telehealth vendors attempt to compensate for areas with broadband deficits by altering their application to perform on cellular networks. However, this is a faulty solution because if an area has poor broadband, the associated cellular connection is most likely not up to par either.[10] According to the Pew Research Center, approximately 58% of individuals living in rural areas have broadband and pay outrageous prices for mediocre speeds.[10] With these devastating statistics, it is imperative that digital equity solutions include funding to address the telehealth disparities individuals living in rural areas and other vulnerable populations face.

Federal and State Efforts to Close the Digital Divide

Background

As the COVID-19 pandemic progressed, there was a massive shift from in-person to distance learning, remote work and telehealth. The federal, state and local governments as well as employers took steps to implement policies that supported this shift to decrease the spread of the coronavirus. As these changes took place, some populations seamlessly shifted their activities online, while others did not, highlighting and exacerbating the existing digital divide issue. Elderly individuals, low-income residents, individuals living in rural areas, and Black, indigenous, and people of color (BIPOC) are disproportionately affected by the digital divide.[1] For example, only 82% of Black households have internet at home compared to their White (90%) and Latinx (86%) counterparts.[11]

Federal Digital Equity Solutions

The passage of the Infrastructure Investment and Jobs Act (IIJA) made a significant commitment and investment in moving the needle forward to providing universal broadband access to the entire nation. IIJA allocates $65 billion toward closing the digital divide to ensure all Americas gain access "to affordable, reliable, high-speed broadband that is essential to full participation in modern life in the United States."[12] Some broadband provisions under IIJA include the following: the broadband equity, access, and development program; tribal connectivity technical amendments; the digital equity act program; and middle mile broadband infrastructure.[12] Of note, the middle mile is the physical mid-section, composed of high-capacity fiber lines, of the infrastructure required for internet connectivity for businesses, homes, and community institutions.[13]

State Digital Equity Solutions

According to the nonprofit National Digital Inclusion Alliance, states primarily took actions in the following four areas: expanding device access, increasing tech support and digital literacy efforts, expanding internet access, and forging digital equity efforts.[14]

To address the prevailing digital divide, the California State Legislature made one of the largest state broadband investments in the nation through the passage of Senate Bill (SB) 156, the Broadband Budget Trailer Bill.[15] Of note, $6 billion was allocated toward expanding broadband infrastructure and access in California by funding three primary broadband programs coupled with updating rules and standards centered around the deployment of broadband. The three primary broadband programs include the following:[15]

1. **Middle Mile Broadband Infrastructure:** $3.25 billion was allocated to construct a state owned open-access middle mile broadband network to serve as the main connection between localities. This initiative would allow a smaller town to connect to a larger metropolitan area that has a larger presence of internet service providers (ISPs).
2. **Broadband Last Mile Support:** $2 billion was allocated to fund last mile infrastructure that provides internet directly to offices and homes in underserved areas.
3. **Loan-Loss Reserve:** $750 million was allocated to help non-profit organizations and local governments access funding for broadband projects and encourage the use of loans and support for other costs.

The adoption of policies to address the digital divide is not unique to California. Among other states, Alabama, Connecticut, Kansas, and Missouri implemented similar policies to improve state broadband infrastructure, mitigate digital literacy, and allow for greater access and use of telehealth and telework strategies.[16]

Conclusion

The COVID-19 pandemic highlighted and exacerbated the existing digital divide issue plaguing the nation. The vast shift from in-person to remote work, distance learning, and telehealth disproportionately impacted vulnerable communities and underscored the necessity for sufficient broadband access and connectivity. What seemed to be a luxury before became a bare necessity for all and pushed the need for innovative and comprehensive solutions that provide all Americans with access to reliable, affordable, and high-quality internet access across multiple sectors to the forefront. Not only were students adversely affected by the shift to online learning, but individuals from rural areas, low-income residents, the elderly, and other marginalized communities were greatly impacted by limited access to telehealth and other teleservices. It is imperative for the federal, state, and local governments to ensure permanent solutions are available for individuals because the use of a variety of technologies is prevalent and will continue to advance even after the pandemic is over.

Did you know?

In the United States, approximately 42 million Americans do not have broadband internet, and 157.3 million live with unreliable and slow internet services.[1]

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