



Equitable Access to Care – The Promises and Challenges of Digital Health



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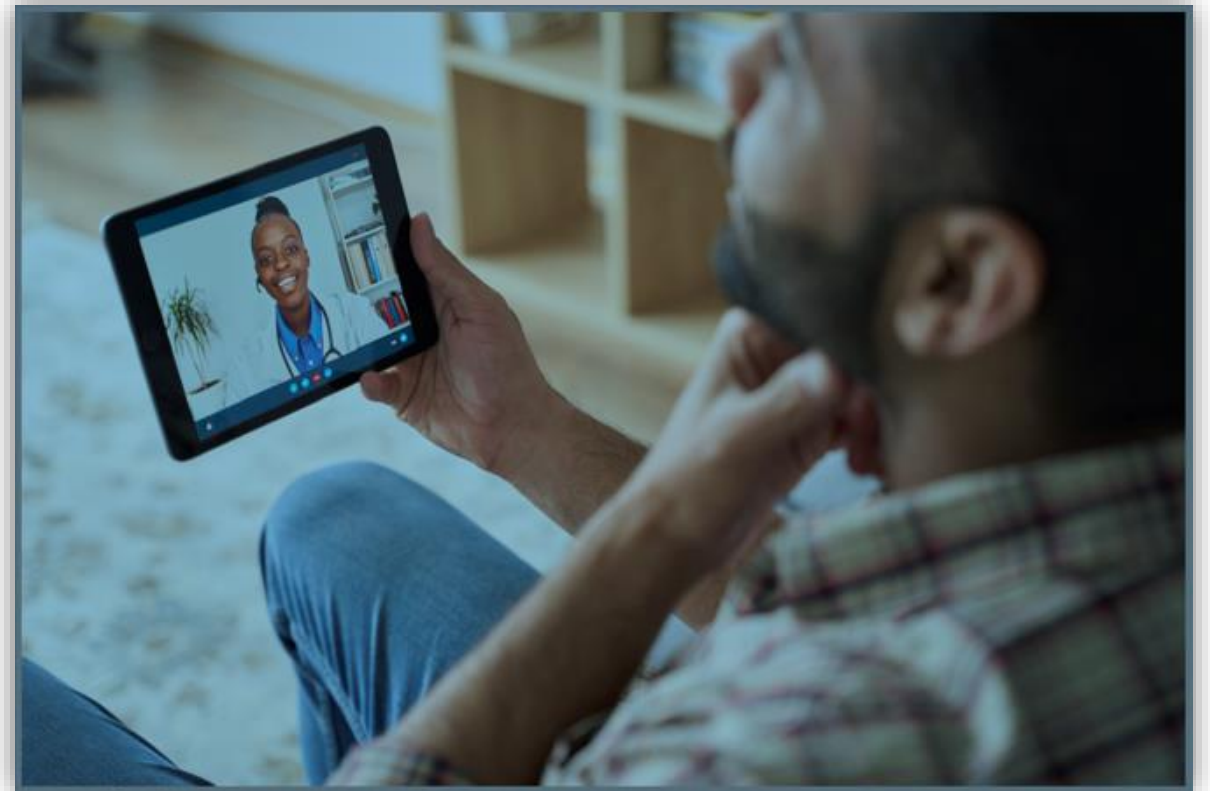
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The background features a blurred image of a person wearing a white lab coat, likely a healthcare professional. Overlaid on this are several geometric elements: a network of thin, light blue lines forming a hexagonal pattern, and several thick, dark teal diagonal lines that cross the frame from the top right towards the bottom left.

Equitable Access to Care – The Promises and Challenges of Digital Health

Health systems have adopted telemedicine with remarkable speed not only for Covid-19-related care, but also for general health and chronic disease management.



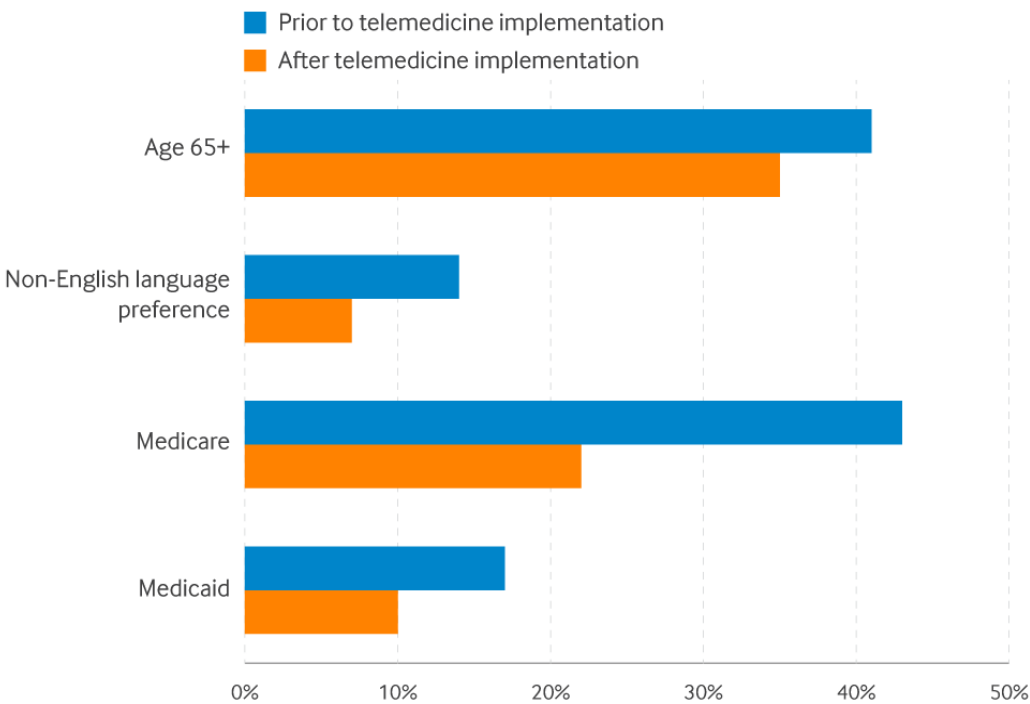
However, without proactive efforts to ensure equity, the current wide-scale implementation of telemedicine may increase disparities in health care access for vulnerable populations with:

- limited digital literacy or access, such as rural residents, racial/ethnic minorities, older adults, and
- those with low income, limited health literacy, or
- limited English proficiency



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

This chart shows the proportion of patient visits seen by age, language preference, and insurance type prior to (2/17–2/28/2020) and after (3/23–4/3/2020) scaled-up telemedicine implementation to address the Covid-19 pandemic at the UCSF General Internal Medicine Primary Care Practice (P=0.002 for age ≥65 and P<0.001 for other comparisons). A significantly smaller proportion of visits after scaled-up telemedicine implementation were with vulnerable patients.



Source: The authors
 NEJM Catalyst (catalyst.nejm.org) © Massachusetts Medical Society

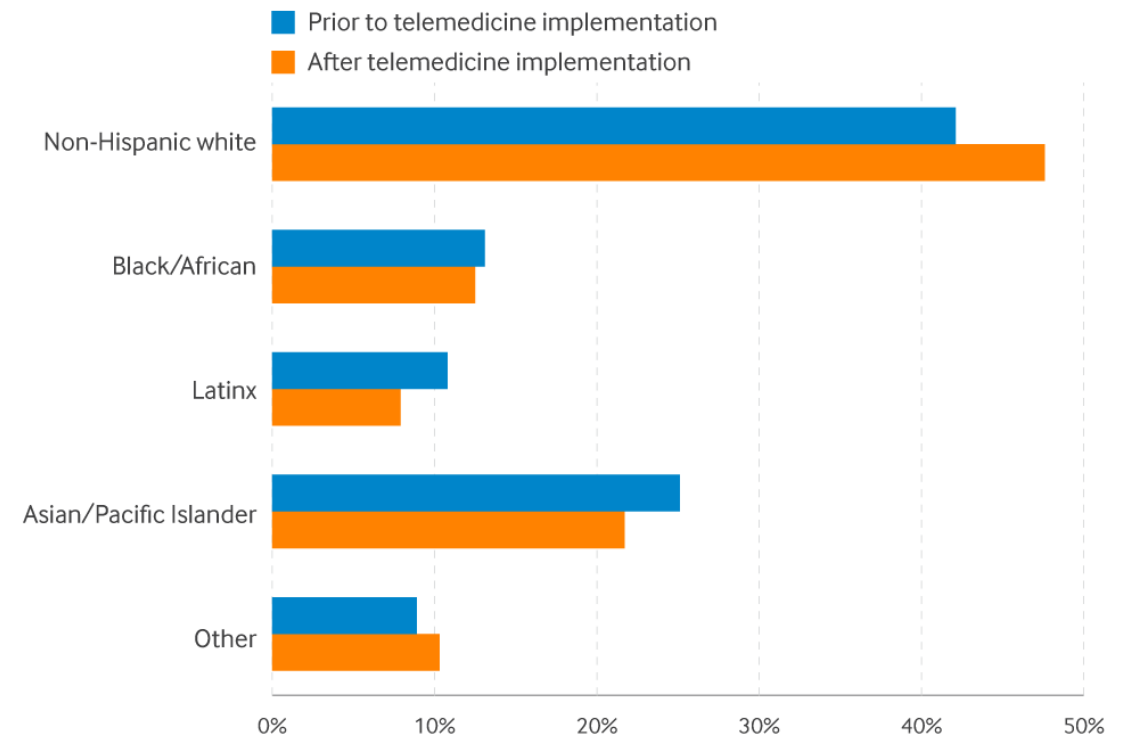
A recent study conducted by investigators at UCSF and the Kaiser Permanente Health System found that the demographics of the populations served before and after telemedicine implementation changed, disproportionately affecting vulnerable groups.

Noury et al, NEJM Catalyst, 2020, Addressing Equity in Telemedicine for Chronic Disease Management During the Covid-19 Pandemic

The proportion of visits also disproportionately served underrepresented groups of racial/ethnic groups.

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

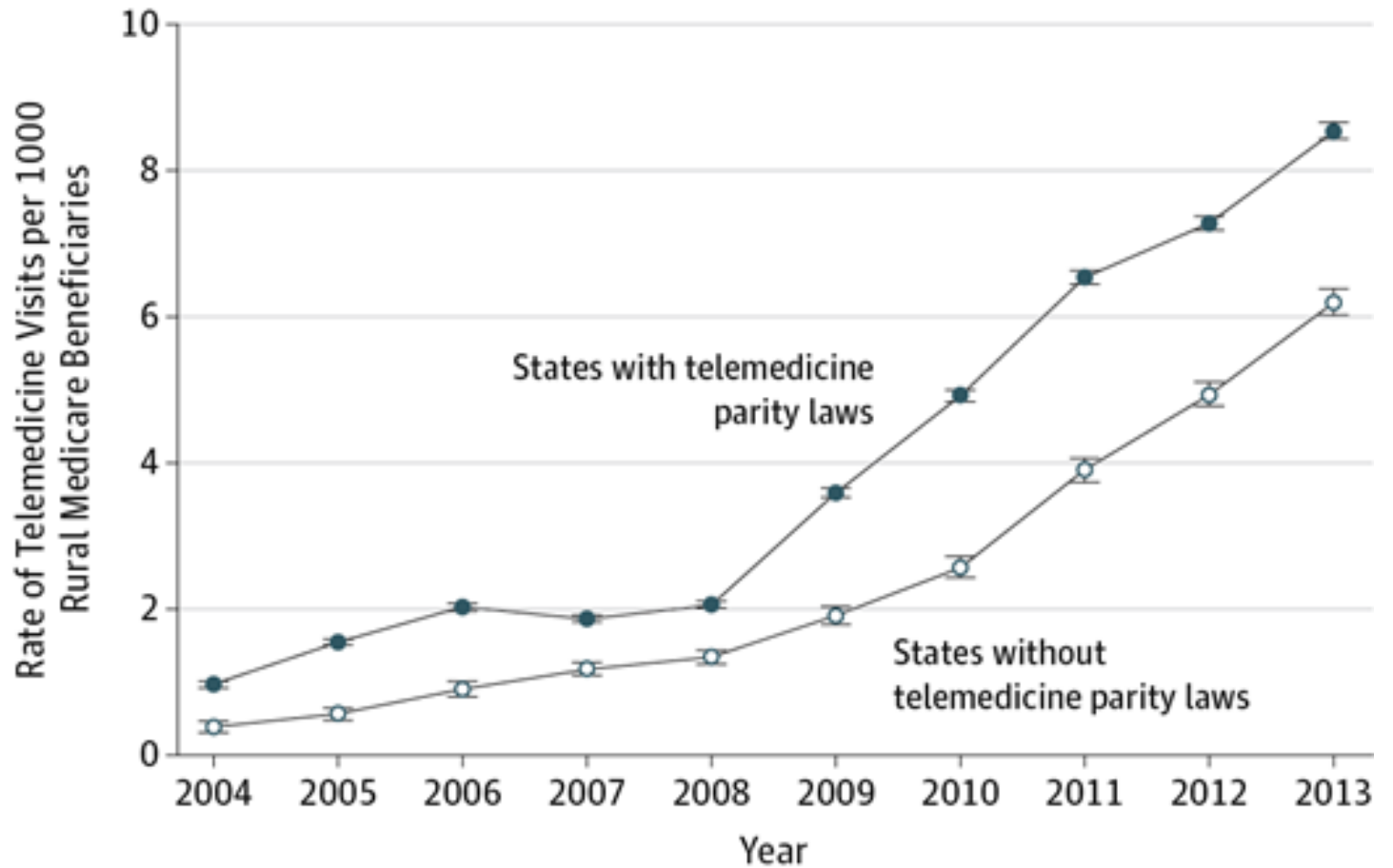
This chart shows the proportion of patient visits seen by patient race/ethnicity prior to (2/17–2/28/2020) and after (3/23–4/3/2020) scaled-up telemedicine implementation to address the Covid-19 pandemic at the UCSF General Internal Medicine Primary Care Practice (P=0.006 using chi-squared test). A smaller proportion of visits with vulnerable populations occurred after implementation.



Telemedicine in Rural Areas

Telemedicine may increase access and improve quality, particularly in rural areas.

Because inadequate reimbursement may limit telemedicine use, 29 states have passed telemedicine parity laws mandating that commercial insurers reimburse telemedicine visits



Patient Characteristics of Rural Medicare Beneficiaries With and Without a Telemedicine Visit in 2013

- A. Our analyses were based on a 20% random sample of beneficiaries with traditional Medicare. We weighted our analyses by 5 to provide estimates representative of the rural Medicare population. Differences between 2 groups of patients on each set of characteristics were significantly different with a P value of less than .001.
- B. If beneficiary had both end-stage renal disease and disability, they were included in end-stage renal disease category.
- C. Income based on median family income within zip code of beneficiary's residence from US Census data. Not all zip codes could not be matched to US Census data.



Table. Patient Characteristics of Rural Medicare Beneficiaries With and Without a Telemedicine Visit in 2013^a

	No. of Patients (%)	
	Received a Telemedicine Visit (n = 41 070)	Did Not Receive Telemedicine Visit (n = 15 749 605)
Age, y		
<65	21 575 (52.5)	2 839 170 (18.0)
65-74	8440 (20.6)	7 228 665 (45.9)
75-84	6600 (16.1)	3 922 080 (24.9)
≥85	4455 (10.8)	1 759 690 (11.2)
Women	23 790 (57.9)	8 448 535 (53.6)
Race		
White non-Hispanic	35 590 (86.7)	14 065 790 (89.3)
Black non-Hispanic	3000 (7.3)	1 066 845 (6.8)
Other	2480 (6.0)	616 970 (3.9)
Original reason for Medicare entitlement		
Disability	25 885 (63.0)	4 210 065 (26.7)
Age	14 820 (36.1)	11 457 050 (72.7)
End-stage renal disease ^b	365 (0.9)	82 490 (0.5)
No. of comorbidities		
0	6160 (15.0)	8 276 890 (52.6)
1-2	17 050 (41.5)	4 420 275 (28.1)
≥3	17 860 (43.5)	3 052 440 (19.4)
Family income ^c		
<2 × poverty	715 (1.7)	170 610 (1.1)
≥2-<4 × poverty	33 735 (82.1)	11 174 165 (70.9)
≥ 4-<6 × poverty	4945 (12.0)	3 530 230 (22.4)
≥6 × poverty	125 (0.3)	298 945 (1.9)
Missing	1550 (3.8)	575 655 (3.7)

Recommendations with Key Actions for Clinicians and Health Systems to Consider in Order to Ensure Equitable Access to Telemedicine.

Goal	Key Actions
<i>Identify potential disparities in access</i>	<p>Explore potential improvements in access to care (e.g., number of visits) for patient subgroups with known limited digital literacy and access</p> <ul style="list-style-type: none"> - Older adults - Low socioeconomic status - Limited health literacy - Limited English proficiency - Racial/ethnic minorities <p>Continue monitoring data to evaluate impact of any interventions</p>
<i>Mitigate digital literacy and resource barriers</i>	<p>Develop education and training to teach patients the digital skills to conduct video visits</p> <p>Inform patients about newly free or reduced-cost broadband Internet in their area</p>
<i>Remove health system–created barriers</i>	<p>Offer video visits to every patient</p> <p>Ensure adequate language interpreter access</p> <p>Screen for patients at high risk of not being able to engage in video visits (no device, Internet/data, privacy)</p> <p>Consider offering telephone visits if unable to mitigate barriers to video visits</p> <p>Increase system leadership awareness of barriers to telemedicine</p>
<i>Advocate changes to support sustained and equitable access</i>	<p>Permanent expansion of low-cost or free broadband</p> <p>Funding for telemedicine expansion in less resourced health centers</p> <p>Pay parity for telephone and video visits by all payers</p>

Source: The authors

Ultimately, we have to identify the rate limiting factors that contribute to disproportionate use and benefit of telehealth and digital health services that will eliminate inequality and inequality related to health access and health care.

Equitable Access to Care – Expanding Access to Telehealth Services

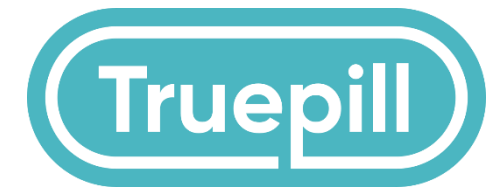
Expanding the Availability of Telehealth During the COVID-19 Pandemic

- Proliferation of telehealth providers
- Loosening state and federal requirements for providing services via telehealth
 - Providing services across state lines
 - Modality flexibility
- Increasing availability of reimbursement for providers



New Players, New Markets

- Brick-and-mortar expansion into telehealth
- Expansion of the big players in the telehealth market
- Explosion of new players
 - Many focused on particular diseases/conditions or on particular patient populations
- Each has challenges for creating equitable access to care

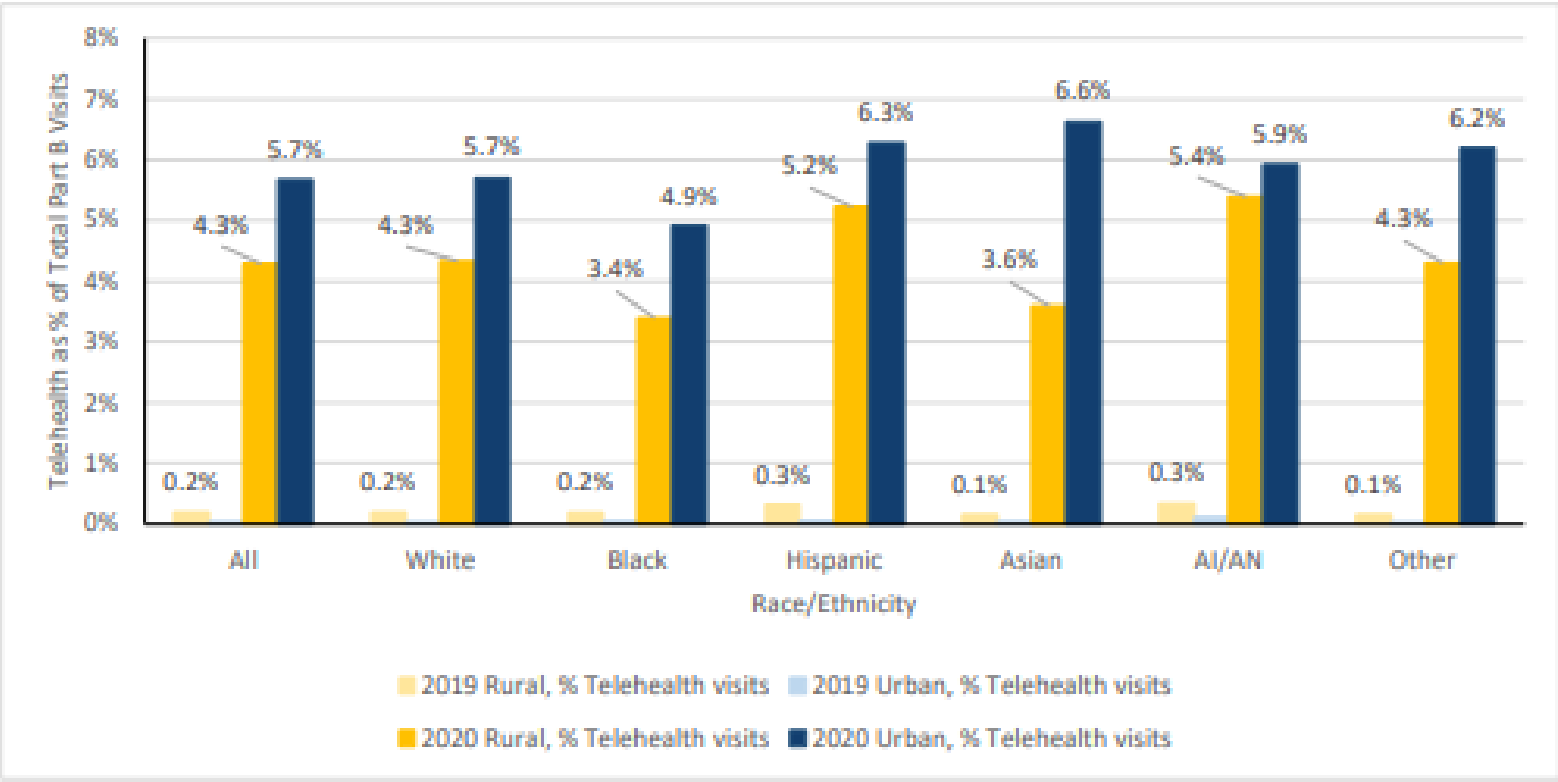


- Early 2020 → a number of waivers of practice and licensing standards (usually tied to the state's own declaration of a state of emergency)
 - Some states have made flexibilities enacted in early 2020 permanent
 - Other states continue to rely on flexibilities tied to a declared state of emergency
 - Some states are back to their pre-COVID status quo due to the expiration of a state of emergency and the lack of adoption of new legislation
- Many changes related to the formation of a provider-patient relationship and prescribing standards
 - States are increasingly permitting the entire provider-patient relationship to take place virtually



- More coverage by Medicare and Medicaid
 - From 2019 to 2020, there was a **63-fold increase** in the number of Medicare fee-for-service telehealth visits. For **92%** of those visits, the patient was at home.
 - All state Medicaid programs now have some form of telehealth reimbursement for services delivered via video, but there is wide variation in coverage.
- More commercial parity laws
- Self-pay models
- Federal and state funding to organizations to provide services via telehealth

- Data from Medicare suggests disparities in access to telehealth based on racial and ethnic background and rural/urban living
- In 2020, FFS Medicare beneficiaries living in urban areas had about 50% higher use of telehealth beneficiaries living in rural areas



- A health benefit plan and a dental-only plan must provide coverage of a health service that is provided using telemedicine if:
 - A. The plan provides coverage of the health service when provided in person. . . ;
 - B. The health service is medically necessary;
 - C. The health service [can] be safely and effectively provided using telemedicine. . . ;
 - D. The application and technology used [comply with all privacy laws].
- Permissible telemedicine applications and technologies include:
 - A. Landlines, wireless communications, the Internet and telephone networks; and
 - B. Synchronous or asynchronous transmissions using audio only, video only, audio and video and transmission of data from remote monitoring devices.

- The Oregon parity law also requires health plans and dental-only plans to:
 - Reimburse both in-network and out-of-network providers at the same rate for services provided in-person and via telehealth
- And prohibits plans from:
 - Requiring an enrollee to have an established patient-provider relationship with a provider to receive telemedicine health services from the provider or require an enrollee to consent to telemedicine services in person.
 - Require a medical assistant or other health professional to be present with an enrollee at the originating site
 - Establish standards for determining medical necessity for services delivered using telemedicine that are higher than standards for determining medical necessity for services delivered in person

- A health benefit plan and a dental-only plan shall:
 - A. Work with contracted providers to ensure meaningful access to telemedicine services by assessing an enrollee's capacity to use telemedicine technologies that comply with accessibility standards, including alternate formats, and providing the optimal quality of care for the enrollee given the enrollee's capacity;
 - B. Ensure access to auxiliary aids and services to ensure that telemedicine services accommodate the needs of enrollees who have difficulty communicating due to a medical condition, who need an accommodation due to disability or advanced age or who have limited English proficiency;
 - C. Ensure access to telemedicine services for enrollees who have limited English proficiency or who are deaf or hard-of-hearing by providing interpreter services reimbursed at the same rate as interpreter services provided in person; and
 - D. Ensure that telemedicine services are culturally and linguistically appropriate and trauma-informed.

HHS Awards Nearly \$55 Million to Increase Virtual Health Care Access and Quality Through Community Health Centers

Awards will enhance telehealth, digital patient tools, and health information technology to support underserved communities.

Today, the Department of Health and Human Services (HHS), through the Health Resources and Services Administration (HRSA), awarded nearly \$55 million to 29 HRSA-funded health centers to increase health care access and quality for underserved populations through virtual care such as telehealth, remote patient monitoring, digital patient tools, and health information technology platforms. This funding builds on over \$7.3 billion in American Rescue Plan funding invested in community health centers over the past year to help mitigate the impact of COVID-19.

“Virtual care has been a game-changer for patients, especially during the pandemic,” said HHS Secretary Xavier Becerra. “This funding will help health centers leverage the latest technology and innovations to expand access to quality primary care for underserved communities. Today’s announcement reflects the Biden-Harris Administration’s commitment to advancing health equity and putting essential health care within reach for all Americans.”

- In January 2022, the White House Office of Science and Technology Policy “(OSTP”) released an RFI on digital health technologies (responses were due on March 7)
- The RFI included a broad focus on public health, enabling healthier lifestyles, and reducing health disparities

The RFI requested
“input from community health stakeholders, technology developers, and other interested parties about how digital health technologies are used, or could be used in the future, to transform community health, individual wellness, and health equity”



Telehealth and the FCC: The Need for Accessible and Affordable Broadband Services

Telehealth Depends on Connectivity

- The ability to engage in telehealth depends on access to broadband services
- Broadband services must be:
 - Available
 - Affordable



- Broadband includes several transmission technologies such as DSL, cable, fiber, wireless, and satellite
- Broadband access is generally classified as Fixed or Mobile
 - Fixed
 - An internet connection in your home, delivered via your phone line or through the provider's network of cables
 - Tends to offer higher speeds with greater reliability and higher usage allowances
 - Good for large file transfers, video, and sharing the same connection with multiple devices
 - FCC standard for Fixed broadband is 25 Mbps download and 3 Mbps upload
 - Mobile
 - Access to the internet through a mobile device – e.g., smartphone, tablet, laptop, etc.
 - Benefit of being portable, allowing access to the internet outside of the home
 - 5G may offer speeds, latency, and connectivity that is similar to that of fixed services
 - FCC standard for Mobile broadband is 10 Mbps download and 3 Mbps upload

Broadband Availability - Fixed

- Fixed and mobile providers have made progress in bringing high-speed internet broadband service to all Americans
- According to the FCC's 2021 Broadband Deployment Report:
- Fixed
 - Americans without access to at least 25/3 Mbps has dropped from more than 18.1 million Americans at the end of 2018 to fewer than 14.5 million Americans at the end of 2019 – a decrease of more than 20%
 - More than three-quarters of those in newly served areas – nearly 3.7 million Americans – are located in rural areas, bringing the number of rural Americans in areas served by at least 25/3 Mbps to nearly 83%

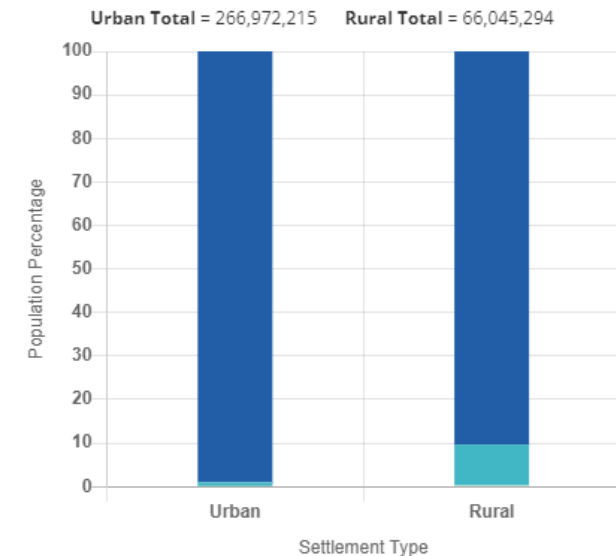
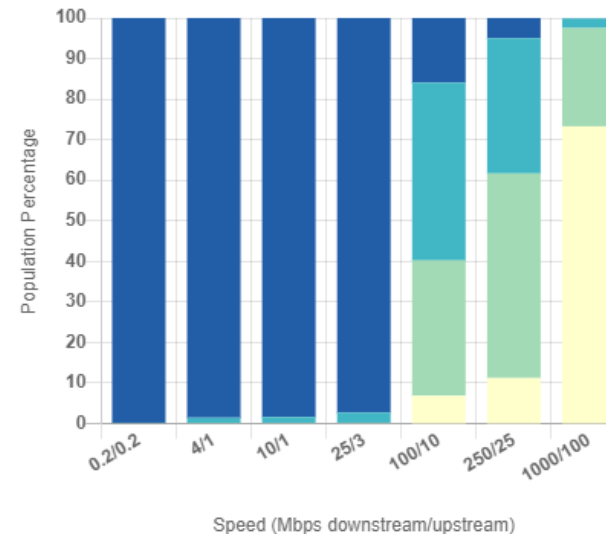
FCC Fixed Broadband Deployment Map

Number of Fixed Residential Broadband Providers



Broadband

Technology ADSL, Cable, Fiber, Fixed Wireless, Satellite, Other
Speed $\geq 25/3$ Mbps
Date Dec. 2020 (latest public release)

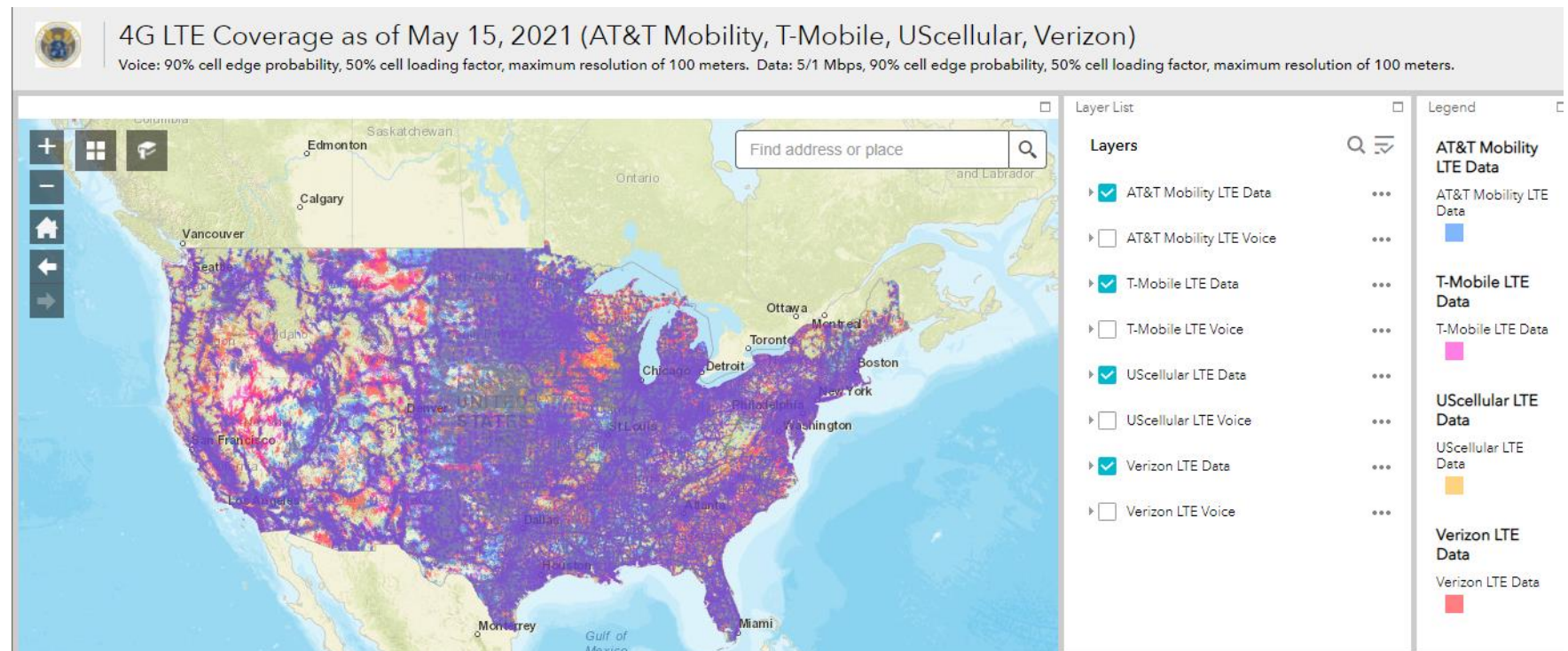


Broadband Availability - Mobile

- Mobile

- Since 2018, the number of Americans lacking access to 4G LTE mobile broadband with a median speed of 10/3 Mbps was reduced by more than 57%, including a nearly 54% decrease among rural Americans
- As of the end of 2019, mobile providers are offering 5G capability to approximately 60% of Americans

FCC Mobile LTE Coverage Map



- As of the end of 2019:
 - Approximately 99% of the population in the evaluated areas was covered by either 25/3 Mbps fixed terrestrial service *or* mobile 4G LTE with a median speed of at least 10/3 Mbps
 - In rural areas, approximately 97% of Americans were covered by one service, up from 93% in 2018
 - Approximately 94% of Americans had access to *both* 25/3 Mbps fixed broadband service *and* mobile broadband service with a median speed of 10/3 Mbps
 - In rural areas, approximately 77% of Americans were covered by both services, up from 66% in 2018
- 21 million Americans still lack access to broadband connectivity

“There is progress. But we have not yet reached all Americans.”

- FCC Chairwoman Jessica Rosenworcel

Increasing Broadband Availability

- Challenges to broadband deployment
 - Rough Terrain
 - Difficult weather
 - Sparse population
- Methods to increase broadband deployment
 - Regulations
 - Funding
 - State and Local Support
 - Federal Support
 - Federal Communications Commission (FCC)
 - National Telecommunications and Information Administration (NTIA)
 - U.S. Department of Agriculture Rural Utilities Service (RUS)



- FCC Initiatives
 - Rural Digital Opportunity Fund
 - Made available **\$20.4 billion** over 10 years to bring high-speed fixed broadband service to rural homes and small businesses in two phases
 - Phase I made available up to **\$16 billion**
 - Auction closed in November 2020
 - 180 bidders won \$9.23 billion in support cover more than 5.2 million locations in 49 states and one territory
 - Phase II will make available up to **\$4.4 billion** plus remaining funds from Phase I
 - 5G Fund
 - Made available **\$9 billion** to bring 5G mobile broadband service to rural areas
 - Phase I will make up to **\$8 billion** to areas not served by a subsidized 4G LTE or 5G service provider
 - Phase II will make up to **\$1 billion** to foster the deployment of 5G networks that can support precision agriculture
 - Based on new mobile coverage data being collected by the FCC

- National Telecommunications and Information Administration
 - Broadband Infrastructure Program
 - **\$288 million** directed to partnerships between a state, or one or more political subdivisions of a state, and providers of fixed broadband service to support broadband infrastructure deployment to areas lacking broadband, especially rural areas
 - Tribal Broadband Connectivity Program
 - **\$980 million** program directed to tribal governments to be used for broadband deployment on tribal lands, as well as for telehealth, distance learning, broadband affordability, and digital inclusion
- U.S. Department of Agriculture Rural Utilities Service
 - Rural eConnectivity (ReConnect) Program
 - Offers **\$1.15 billion** in loans, grants, and loan-grant combinations to facilitate broadband deployment in rural areas
 - Funding is issued in rounds – Round 3 closed on March 9



Kamala Harris ✓

@KamalaHarris

United States government official



In the 21st century, high-speed internet is a necessity.



image: Freepik.com

- Surveys from the Pew Research Center show:
 - Adults making **less than \$30,000** annually are **half as likely to report** having home internet access as adults making **\$75,000** or more, with only **57%** of low-income households reporting access in 2021
 - Some **15%** of home broadband users in the U.S. reported having trouble paying for their high-speed internet service during the pandemic, including **34%** of households making **less than \$30,000** a year
 - A quarter of home broadband users with annual household incomes ranging from \$30,000 to just under \$50,000 say they have had trouble doing so in the pandemic, as have roughly one-in-ten (8%) with household incomes ranging from \$50,000 to \$74,999
- The impact is particularly acute for communities and communities of color
 - Separate survey findings recently released by the Center found that Hispanic (**65%**) and Black adults (**71%**) are less likely than White adults (**80%**) to have broadband at home
 - Black adults are more likely than White adults to say not having home broadband access puts people at a major disadvantage in connecting with doctors or other medical professionals (**63% vs. 49%**) and keeping up with information about the pandemic (**53% vs. 42%**)

- Emergency Broadband Benefit Program
 - Temporary FCC program to help households struggling to afford internet service during the pandemic
 - \$3.2 billion made available by the Congress through the Consolidated Appropriations Act of 2021
 - Affords eligible households:
 - Up to \$50 per month discount off the standard rate for an internet service offering and associated equipment
 - Up to \$75 per month discount for Tribal Lands
 - Up to \$100 single reimbursement for a connected device – *i.e.*, laptop, desktop computer, or tablet
 - Must meet certain criteria to be eligible – *e.g.*, approved for a free and reduced price lunch program, experienced a substantial loss of income since February 29, 2020, satisfied the criteria for a provider's existing low-income or COVID-19 program, etc.
 - Program ended on December 31, 2021

- Affordable Connectivity Program
 - A new long-term **\$14 billion** program created by Congress to replace the Emergency Broadband Benefit Program
 - Changes from the Emergency Broadband Benefit Program
 - Affords eligible households an up to **\$30** (instead of \$50) per month discount off the standard rate for an internet service offering and associated equipment
 - The up to **\$75** per month discount for Tribal Lands and the up to \$100 subsidy for connected devices remain the same
 - Allows households to become eligible in additional ways, including having an income at or below 200% of the Federal Poverty Guidelines
 - Removes some eligibility criteria such as a substantial loss of income since February 29, 2020 and participation in a provider's COVID-19 program
 - The FCC adopted rules for the program in January 2022
 - The rules will become effective in March and April 2022
 - Participating service providers are in the process of transitioning customers and implementing the program

- COVID-19 Telehealth Program
 - Provides funding to help eligible health care providers provide connected care services to patients at their homes or mobile locations in response to the COVID-19 pandemic
 - **Round 1: \$200 million** in funding made available by Congress as part of the Coronavirus Aid, Relief, and Economic Security (CARES) Act
 - **Round 2: \$249.95 million** in funding made available by Congress in the Consolidated Appropriations Act of 2021
 - Eligible health care providers include non-profit and public (or government) health care providers
 - Providers eligible health care providers reimbursement for telecommunications services, information services, and connected devices needed to provide critical connected care
 - For example, doctor-patient video and voice consultations, remote patient monitoring, and remote patient treatment
 - The FCC announced the final set of Round 1 funding commitments on July 8, 2021, and the final set of Round 2 funding commitments on January 6, 2022
 - Over the course of the two funding rounds, this program has approved 986 awards to providers in each state, territory, and the District of Columbia

- Connected Care Pilot Program
 - Provides up to **\$100 million** from the Universal Service Fund (USF) for select pilot projects to cover 85% of the eligible costs of broadband connectivity, network equipment, and information services necessary to provide connected care services
 - Eligible health care providers include non-profit and public (or government) health care providers
 - Funds may be used to cover the costs of:
 - Providing broadband Internet access services to patients who lack or have insufficient access to such services (e.g., low-bandwidth connections, low usage allowances, etc.)
 - Purchasing new or additional broadband data connections
 - Funding “store-and-forward” technologies that collect clinical data and transmit it to a patient’s doctor
 - Funds may not be used for end-user devices or medical equipment
 - Application window closed on December 7, 2020
 - As of October 27, 2021, the FCC has selected **93 pilot projects** serving patients in **35 states** and the District of Columbia, for over **\$69 million** in funding

- In November 2021, Congress pass the ground-breaking Infrastructure Act
- Allocates **\$65 billion** to support access to broadband – the largest investment in history
 - **\$42.45 billion** to NTIA for the Broadband Equity, Access, and Deployment program (BEAD)
 - Grants made available to states for projects that support broadband infrastructure deployment and adoption
 - **\$14.2 billion** to the FCC to create an Affordable Connectivity Program as a replacement to the Emergency Broadband Benefit Program
 - **\$2.75 billion** to NTIA for a Digital Equity Act Programs
 - Grants to promote digital inclusion and equity for communities that lack the skills, technologies, and support needed to take advantage of broadband connections
 - **State Digital Equity Planning Grant Program** - \$60 million for states and territories to develop digital equity plans
 - **State Digital Equity Capacity Grant Program** - \$1.44 billion for states and territories to implement digital equity projects and support the implementation of digital equity plans
 - **Digital Equity Competitive Grant Program** - \$1.25 billion for specific types of political subdivisions to implement digital equity projects

- **\$2 billion** for the USDA's existing ReConnect Program
- **\$2 billion** for NTIA's existing Tribal Broadband Program
- **\$1 billion** to NTIA for a Enabling Middle Mile Broadband Infrastructure Program
 - Grants to expand and extend middle mile infrastructure to reduce the cost of connecting unserved and underserved areas to the internet backbone
- **\$600 million** for Private Activity Bonds for broadband deployments
- NTIA is responsible for distributing more than \$48 billion in broadband funding
 - On January 7, 2022, NTIA released a request for comments on the five new broadband grant programs
 - Comments were due February 4, 2022
 - On February 4, 2022, NTIA announced that it will host a pre-Notice of Funding Opportunity technical assistance webinar series in March–May 2022 in connection with the five new broadband grant programs



Questions?