INTERGOVERNMENTAL ADVISORY COMMITTEE

to the

FEDERAL COMMUNICATIONS COMMISSION

ADVISORY RECOMMENDATION No: 2022-1

**In the Matter of State, Local, Tribal, and Territorial
Regulatory and Other Barriers and Incentives to Telemedicine
in Light of the COVID-19 Pandemic**

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I.   INTRODUCTION

In 2019, the previous Intergovernmental Advisory Committee (IAC) submitted Advisory Recommendation No: 2019-2, *In the Matter of State, Local, Tribal, and Territorial Regulatory and Other Barriers and Incentives to Telemedicine* (2019 Telehealth Report), providing recommendations to the Commission on how to identify barriers and disincentives to telemedicine, including state and local licensing laws or regulations that prevent telehealth providers from treating patients across state lines and intrastate restrictions that may prohibit the provision of telemedicine.[1] The Commission has charged the current IAC with updating the previous IAC's 2019 Telehealth Report in light of lessons learned during the COVID-19 pandemic.

One key recommendation of this report is that the FCC use improved geographic broadband location data to include or integrate available, reliable data on the presence and nature of telehealth services offered by healthcare service providers throughout the nation, should it become available. The IAC understands the Commission does not presently collect such data and the IAC is not in a position, at this time, to recommend any particular external data source for that information. However, the IAC recommends that, if and when such data does become available, the Commission should incorporate it into the mapping tool. Other recommendations for the FCC include a broad construction of the term "telehealth" to incorporate software, equipment, data storage, patient record access, and more with regard to broadband-enabled healthcare funding programs.

For the U.S. Department of Health and Human Services (HHS), this report recommends that it determine whether the recent expansion of eligibility for telehealth services through Medicare should continue. For states, this report recommends that policymakers leverage existing Federal programs to provide low-cost solutions to the public, for example, by requiring grantees of broadband expansion grants to participate in programs authorized by the Affordable Care Act. Regarding Tribal lands, this report recommends that the Commission address the fragmentation of federal programs and difficult application requirements that limit Tribes' and providers' ability and interest in participating in federal broadband programs. For healthcare providers, health systems, technology developers, and governments, this report recommends that they take steps to help bridge the digital divide when it comes to digital literacy and equitable access to telehealth, including for individuals with disabilities. Also, telehealth providers and other stakeholders should work together to help standardize data collection, ensure the interoperability of equipment and centralize telehealth with telehealth centers. It is also recommended that healthcare policy stakeholders learn from the COVID-19 pandemic and make telehealth services an integral part of every emergency response, recovery, and implementation plan, including on Tribal lands.

This report first provides an overview of four of the FCC's funding programs that provide support for broadband services needed for broadband-enabled telehealth – the Rural Health Care Program, the COVID-19 Telehealth Program, the Connected Care Pilot Program, and the Affordable Connectivity Program. Next, the report discusses mapping broadband health in America and then it addresses telehealth on Tribal lands. The report next discusses broadband infrastructure requirements for telehealth, optimal features for telehealth provisioning and centralizing telehealth. The report then addresses the lack of digital literacy as a threat to health equity before addressing COVID-19 policy changes that eased constraints on regulatory barriers to telehealth. Furthermore, the report discusses integrating telehealth into emergency planning and then provides two telehealth case studies. Finally, the report concludes with regulatory recommendations for the FCC, the HHS, the Centers for Medicare and Medicaid Services (CMS), and the states. The report also provides recommendations for telehealth on Tribal lands for improving digital literacy and on standardizing telehealth data, interoperability, Application Programming

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[1] *See* FCC.gov, *Intergovernmental Advisory Recommendations No: 2019-2: In the Matter of State, Local Tribal, and Territorial Regulatory and Other Barriers and Incentives to Telemedicine* (Nov. 7, 2019), https://docs.fcc.gov/public/attachments/DOC-360696A5.pdf.

Interfaces (APIs), and centralizing telehealth. In addition, the report provides recommendations on integrating telehealth into emergency planning.

II.   BACKGROUND

Over the last few years, it is difficult to overstate the impact on all Americans of the Coronavirus disease (COVID-19) and resulting pandemic. The COVID-19 pandemic has represented an extraordinary and unprecedented public health challenge, but it also presents compelling evidence of the benefits of remote connected care services provided through broadband connections.[2] Recent studies have shown that telehealth has the potential to increase equitable access to care.[3] Further, pandemic research is showing that the expansion of telehealth services is allowing more people, particularly in urban settings, to obtain the care that they need.

COVID-19 "is an infectious disease caused by the SARS-CoV-2 virus."[4] Symptoms include respiratory illness, which could require medical attention and even hospitalization. "Anyone can get sick with COVID-19 and become seriously ill or die at any age."[5] Experts advise that the best way to prevent and slow down transmission of the virus is through information-sharing and protecting oneself and others. This protection includes, but is not limited to, staying at least six feet apart from others, wearing a properly fitted mask, washing hands frequently, and getting vaccinated. Since the virus can spread from an infected person's mouth or nose in small liquid particles when they cough, sneeze, speak, sing or breathe, public health officials advised the public, especially during the height of the pandemic, to stay home and to self-isolate (quarantine) if sick or if experiencing common symptoms, such as fevers, coughs, or difficulty breathing.[6]

Beginning in 2020, the COVID-19 pandemic changed the way that people learned, worked, and received healthcare. "Efforts to slow the spread of the disease and mitigate strain on the nation's healthcare system … resulted in the dramatic disruption of many aspects of Americans' lives, including social distancing measures to prevent person-to-person transmission that require the closure of schools and workplaces" throughout the United States.[7] The need to reduce the transmission of the virus, especially in the early stages of the pandemic, by social distancing (staying home unless going out was

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[2] *See* Promoting Telehealth for Low-Income Consumers COVID-19 Telehealth Program, Report and Order, 35 FCC Rcd 3366, 3375 (2020) (*COVID-19 Telehealth Program Order*).

[3] *See* Center for Connected Health Policy, *The Latest in Telehealth Research: Studies Show How Telehealth can Increase Equitable Access to Care*, (May 24, 2022), https://mailchi.mp/cchpca/the-latest-telehealth-research-studies-show-how-telehealth-can-increase-equitable-access-to-care (for purposes of this report, the IAC uses the terms "telehealth" and "telemedicine" as adopted by the FCC. *See* Rural Healthcare Support Mechanism, Report and Order, 27 FCC Rcd 16678, n. 42 (2019) ("[T]he term "telehealth" included non-clinical practices such as continuing medical education as well as e-care, which was defined as the "electronic exchange of information—data, images and video—to aid in the practice of medicine, advanced analytics." It encompasses technologies that enable video consultation, remote monitoring and image transmission (store-and-forward) over fixed or mobile networks … Although related to telehealth, telemedicine is usually more narrowly defined. The Centers for Medicare and Medicaid Services (CMS) define "telemedicine" as "two-way, real time interactive communication between the patient, and the physician or practitioner at the distant site." … The American Telemedicine Association defines "telemedicine" as "the use of medical information exchanged from one site to another via electronic communications to improve patients' health status."").

[4] *See* Who.int, *Coronavirus Disease (COVID-19)*, https://www.who.int/health-topics/coronavirus (last visited Sept. 14, 2022)

[5] *Id.*

[6] *See also* CDC.gov for updated guidance to the public on staying safe during the COVID-19 pandemic.

[7] *See COVID-19 Telehealth Program Order*, 35 FCC Rcd at 3367, para. 1.

necessary, staying six feet apart from others when in public, and quarantining when sick or experiencing symptoms) meant that patients, in many circumstances, could no longer freely access in-person healthcare. Many providers began deferring elective and preventive visits, such as annual physicals, due to local and state recommendations restricting travel and nonessential services. Many patients also began avoiding healthcare visits to reduce their risk of exposure. "Early in the pandemic the number of visits to ambulatory care practices declined by nearly 60 percent." [8]

To deal with the pandemic, "[a]cross the country, people [turned] to telemedicine, telework, and online learning to enable social distancing measures, which has only emphasized the importance of access to connected care technologies and services."[9] As patients could access healthcare services without needing to visit a healthcare provider's physical location, telehealth, by minimizing the risk of COVID-19 transmission, began to assume an increasingly critical role in healthcare delivery. [10] "Advances in telehealth are transforming health care from a service delivered solely through traditional brick and mortar health care facilities to connected care options delivered via a broadband Internet access connection directly to the patient's home or mobile location."[11]

III.   DISCUSSION

A.   FCC Funding for Broadband-Enabled Healthcare

Developing and sustaining robust broadband infrastructure is capital-intensive. Over the years, the FCC has established several telehealth funding programs and initiatives to help advance and support telehealth networks and services.

1.   Rural Health Care Program

Pursuant to universal service directives contained in the Telecommunications Act of 1996, the FCC established the Rural Health Care Program (RHCP).[12] The RHCP provides funding to eligible health care providers for telecommunications and broadband services that are necessary for the provision of healthcare. The primary goal of the program is to improve the quality of health care available to patients in rural communities by ensuring that eligible health care providers have access to telecommunications and broadband services. The RHCP is currently made up of two programs: the Healthcare Connect Fund Program and the Telecommunications Program. The Healthcare Connect Fund Program, established in 2012, provides support for high-capacity broadband connectivity to eligible health care providers and encourages the formation of state and regional broadband health care provider networks. The Telecommunications Program, established in 1997, subsidizes the difference between urban and rural rates for telecommunications services. Under the Telecommunications Program, eligible rural health care providers can obtain rates on telecommunications services in rural areas that are reasonably comparable to rates charged for similar services in corresponding urban areas.

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[8] *See* Atee Mehrotra, et al., *The Impact of the COVID-19 Pandemic on Outpatient Visits: A Rebound Emerges*, (May 19, 2020), https://www.commonwealthfund.org/publications/2020/apr/impact-covid-19-outpatient-visits.

[9] *See COVID-19 Telehealth Program Order*, 35 FCC Rcd. at 3367, para. 1.

[10] The U.S. Department of Health and Human Services and the U.S. Department of Justice published guidance on the protections in federal nondiscrimination laws, including the ADA, Section 504 of the Rehabilitation Act of 1973, Title VI of the Civil Rights Act of 1964, and Section 1557 of the Patient Protection and Affordable Care Act, to ensure that telehealth is accessible to people with disabilities and limited English proficient persons.. The July 2022 guidance may be found at: https://www.hhs.gov/sites/default/files/guidance-on-nondiscrimination-in-telehealth.pdf - PDF.

[11] *See COVID-19 Telehealth Program Order*, 35 FCC Rcd. at 3367-68, para. 3.

[12] *See* FCC.gov, *Rural Health Care Program*, (Oct. 5, 2022), https://www.fcc.gov/general/rural-health-care-program.

2. The COVID-19 Telehealth Program

The FCC has established several programs to ensure that Americans stay connected during the COVID-19 pandemic.[13] First, in response to the outbreak, the Coronavirus Aid, Relief, and Economic Security (CARES) Act[14] was enacted, providing, among other things, $200 million to the FCC to support healthcare providers in the fight against COVID-19. To implement the CARES Act, the FCC established the COVID-19 Telehealth Program, to help eligible healthcare providers "maximize their provision of connected care services during the COVID-19 pandemic."[15] In December 2020, as part of the Consolidated Appropriations Act, 2021,[16] Congress appropriated $249.95 million in additional funding for the second round of the COVID-19 Telehealth Program ("Round 2").[17] The COVID-19 Telehealth Program provides funding on a temporary basis to eligible healthcare providers for telecommunications and information services and the connected devices that are necessary for the provision of telehealth services. "This includes support for services and/or devices that generate and transmit patient-reported outcomes from patients to health care providers. Such services could include an end-user device, such as a smartphone or tablet, that allows the patient to report his or her health conditions directly to a provider, independent or in conjunction with other connected medical monitoring devices."[18] The COVID-19 Telehealth Program provides selected applicants with full funding for eligible services and connected devices for telehealth. The Commission capped each awardee at $1 million in funding per round. The COVID-19 Telehealth Program will be available until the allocated funds are expended or until the current pandemic has ended. For Round 1, the FCC issued awards for 539 applications,[19] and for Round 2, the FCC issued awards for 446 applications.[20]

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[13] *See* FCC.gov, *Coronavirus*, (Sept. 30, 2022), https://www.fcc.gov/coronavirus (although we only discuss four FCC funding programs here, the FCC's Connect2Health Task Force (C2H) details on its website the actions that the FCC has taken to help protect the public during the COVID-19 pandemic. C2H has been working with strategic partners since 2015 to advance broadband connectivity as a recognized social determinant of health domain. *See* http://www.fcc.gov/health/SDOH. C2H states, "Connect2HealthFCC is exploring the intersection of broadband, advanced technology and health and further charting the broadband future of health care – serving as an umbrella for all FCC health-oriented activities to help enable a healthier America." Visit https://www.fcc.gov/about-fcc/fcc-initiatives/connect2healthfcc for more on the C2H Task Force.).

[14] *See* Coronavirus Aid, Relief, and Economic Security Act, Pub. L. No. 116-136, 134 Stat. 281 (2020).

[15] *See COVID-19 Telehealth Program Order,* 35 FCC Rcd at 3367, para. 2. *See* FCC.gov, *FCC COVID-19 Telehealth Program Application Portal to Open April 29*, https://www.fcc.gov/document/fcc-covid-19-telehealth-program-application-portal-open-april-29 (last visited Sept. 20, 2022).

[16] *See* Consolidated Appropriations Act, 2021, Pub. L. No: 116-260, Division N-Additional Coronavirus Response and Relief, Title IX-Broadband Internet Access Service, § 903 "FCC COVID-19 Telehealth Program" (2020), *available at* https://www.congress.gov/bill/116th-congress/house-bill/133/text (Consolidated Appropriations Act, 2021).

[17] See COVID-19 Telehealth Program, Promoting Telehealth for Low-Income Consumers, Report and Order and Order on Reconsideration, 36 FCC Rcd 7141, 7143, para. 3 (2021) (*COVID-19 Telehealth Program Round 2 Order).*

[18] *See COVID-19 Telehealth Program Order, 35 FCC Rcd at* 3375, para. 13.

[19] *See* FCC.gov, *COVID-19 Telehealth Awards* (Jul. 8, 2020), https://www.fcc.gov/sites/default/files/covid-19-telehealth-program-recipients.pdf (list of COVID-19 Telehealth Program Round 1 Awards). The FCC is no longer accepting applications for Round 1.

[20] *See* FCC.gov, *R2 Awardees List*, (Jun. 30, 2022), https://www.fcc.gov/sites/default/files/r2_awardees_list_6.30.pdf (list of COVID-19 Telehealth Program Round 2 Awards).

3. The Connected Care Pilot Program

The FCC also established the Connected Care Pilot Program (Pilot Program), which is a limited duration pilot program aimed at "provid[ing] universal service support to help defray health care providers' qualifying costs of providing connected care services, with a primary focus on providing these services to low-income or veteran patients."[21] The Pilot Program supports eligible healthcare providers' efforts to advance connected care initiatives with the hope of maximizing "the potential for meaningful data about the benefits of connected care, and how and whether Federal Universal Service Fund support could be used more broadly in the future to enable the adoption of connected care services among patients and their health care providers."[22] The three-year Pilot Program will, in the long term, "provide [the FCC] a better understanding of the benefits, including cost savings, of connected care, and whether there are obstacles to connected care that could be addressed by the Commission's universal service programs." The FCC selected 107 projects serving patients in 40 states plus Washington, D.C, and requesting a total of approximately $98.2 million in funding.[23]

4. The Emergency Broadband Benefit Program and the Affordable Connectivity Program

After the start of the COVID-19 pandemic, Congress responded by authorizing the FCC to establish two broadband subsidy programs that can aid low-income consumers in the purchase of broadband connectivity usable for telehealth and other purposes.[24] The first, the temporary Emergency Broadband Benefit Program (EBB Program) was a program helping qualifying low-income households struggling to afford internet service during the COVID-19 pandemic.[25] The EBB Program provided a discount of up to $50 per month towards broadband service for eligible households and up to $75 per month for households on qualifying Tribal lands.[26] Eligible households could also receive a one-time discount of up to $100 to purchase a laptop, desktop computer, or tablet from participating providers if they contributed more than $10 but not more than $50 toward the purchase price.[27]

On December 31, 2021, the EBB Program was replaced with the longer–term Affordable Connectivity Program (ACP).[28] The ACP is a $14.2 billion program established by Congress to help

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[21] *See COVID-19 Telehealth Program Order,* 35 FCC Rcd at 3384, para. 37. *See also*, FCC.gov, *Connected Care Pilot Program*, (Mar. 21, 2022), https://www.fcc.gov/wireline-competition/telecommunications-access-policy-division/connected-care-pilot-program.

[22] *See COVID-19 Telehealth Program Order*, 35 FCC Rcd at 3384, para. 37.

[23] *See* FCC.gov, *CCCP Selection List* (Jun. 21, 2021), *https://www.fcc.gov/sites/default/files/ccpp-selection-list_6.21.2021.pdf (*list of all Connected Care Pilot Program projects selected projects as of 6-17-21*).*

[24] While this report provides an overview of the Emergency Broadband Benefit Program and the Affordable Connectivity Program, the FCC's longstanding Lifeline program provides low-income consumers discounts on voice, bundled voice and stand-alone broadband service. The Lifeline program provides eligible low-income subscribers with a monthly discount of up to $9.25 on qualifying broadband or voice and broadband bundled service, and eligible low-income subscribers on Tribal lands up to $34.25 per month. Lifeline subscribers qualify for the Affordable Connectivity Program and can apply both benefits to the same broadband service or can choose to receive two separate broadband services. Additional information on the Lifeline program is available at https://www.fcc.gov/lifeline-consumers.

[25] *See* Consolidated Appropriations Act, 2021, Pub. L. No. 116-260, div. N, tit. IX, § 904(b)(1), 134 Stat. 2130, 2131 (2020).

[26] *Id.* at § 904(a)(7).

[27] *Id.* at § 904(b)(5).

[28] *See* FCC.gov, *Affordable Connectivity Program*, (Oct. 19, 2022), https://www.fcc.gov/acp. *See generally*
(continued …)

ensure that qualifying low-income American consumers can afford the internet connections needed for work, school, and healthcare, among other things. [29] The maximum monthly benefit for the ACP is $30 per month for households not located on qualifying Tribal lands and $75 per month for households on qualifying Tribal lands. [30] Participating households can also receive a one-time device benefit (for a laptop, desktop, or tablet) of up to $100, subject to a co-pay requirement of more than $10, but not more than $50.[31] Households may qualify for the ACP if they participate in Lifeline or the Lifeline qualifying programs, including Medicaid; Supplemental Nutrition Assistance Program (SNAP); Supplemental Security Income (SSI); Federal Housing Assistance, (i.e., Housing Choice Voucher (HCV) Program (Section 8 Vouchers), Project-Based Rental Assistance Program (PBRA)/202/811, Public Housing); Veterans Pension and Survivors Benefit; and, for households on qualifying Tribal lands, Bureau of Indian Affairs General Assistance, Tribally administered Temporary Assistance for Needy Families (Tribal TANF), Food Distribution Program on Indian Reservations, Tribal Head Start (only those households meeting the incoming qualifying standard), and Affordable Housing Programs for American Indians, Alaska Natives, or Native Hawaiians. Households may also qualify for the ACP if they have an income at or below 200% of the Federal Poverty Guidelines or if a household member participates in the Special Supplemental Nutritional Program for Woman, Infants, and Children (WIC), has received a Federal Pell Grant during the current award year, or is approved to participate in the National School Lunch or Breakfast Program (including Community Eligibility Provision schools), or meets the eligibility criteria for a participating provider's existing low-income internet program.[32] Some households that qualified for the EBB Program needed to requalify for the ACP because they qualified under eligibility criteria that were no longer applicable for the ACP, but most households participating in the EBB Program did not need to take any action to participate in the ACP.

B. Mapping Broadband Health in America

The FCC has recognized that as telehealth and telemedicine gain momentum across the country, the lack of access to adequate broadband can limit the deployment of telehealth and that connectivity itself can present a barrier to the effective utilization of telehealth services. "For rural America, broadband connectivity can serve as a vital gateway to a number of services, including health care. The ability to connect consumers to health care services through broadband is particularly important in areas where chronic disease prevalence is high and physician access is low."[33] The Commission has also recognized that accurate broadband maps can be used by both public and private sectors, as well as local communities, to identify opportunities and gaps in connectivity and care.   The availability of more accurate and granular broadband data, once incorporated into the Connect2Health Task Force's *Mapping Broadband Health in America* platform, can serve to identify priority areas more accurately for policymakers and innovators. These are areas where there are both connectivity issues and significant health needs (*e.g.*, high chronic diseases rates, low physician access, etc.) and where the availability of telehealth services and solutions may be critically needed.

Emergency Broadband Benefit Program, Affordable Connectivity Program*, WC Docket Nos. 20-445, 21-450, Order, DA 21-1477 (WCB Nov. 26, 2021).

[29] *See* Infrastructure Investment and Jobs Act, Pub. L. No. 117-58 (2021).

[30] *See* 47 U.S.C. § 1752(a)(7)(A).

[31] *See* 47 U.S.C. § 1752(b)(5).

[32] *See* Affordable Connectivity Program, Emergency Broadband Benefit Program, Report and Order and Further Notice of Proposed Rulemaking, WC Docket No. 21-450, 20-445, FCC 22-2, 21, para. 49 (2022); 47 CFR § 54.1800(o) (defining "Lifeline qualifying assistance program").

[33] *See* FCC.gov, *Mapping Broadband Health in America*, https://www.fcc.gov/health/maps (last visited Sept. 12, 2022).

Connect2Health. The FCC's Connect2Health *Mapping Broadband Health in America* platform is a web-based mapping platform that enables more efficient, data-driven decision making at the intersection of broadband and health. The platform allows users to visualize, overlay and analyze broadband and health data at the national, state and county levels. The maps are an interactive experience, enabling detailed study of the intersection between connectivity and health for every county in the United States.

Broadband Data Collection. In March 2020, Congress passed the Broadband DATA Act, instructing the FCC to require the biannual collection and dissemination of granular data relating to the availability and of fixed, fixed wireless, satellite, and mobile broadband internet access services that the Commission must use to render publicly accessible nationwide maps.[34] In response, the FCC launched a new Broadband Data Collection (BDC) aimed at mapping broadband service availability data at a location by location level. The BDC will collect information from broadband providers in every state and territory about where providers make broadband services available.[35] This information will be collected from over 2,500 broadband providers. Location-by-location availability data provided by fixed broadband service providers and standardized propagation maps submitted by mobile wireless broadband service providers will be used to build nationwide broadband maps. Better broadband maps mean more information is available for unserved and underserved areas or locations. More accurate broadband mapping can be used to promote the deployment of telehealth and the increased utilization of those services.

The FCC's Broadband Serviceable Location Fabric (Fabric) is a dataset that includes all business or residential locations in the United States and Territories where fixed broadband internet access service has been or could be installed (these locations are referred to as broadband-serviceable locations, or BSLs).[36] On June 23, 2022, the initial version of the Fabric was made available to broadband service providers and federal, Tribal, state, and local governments for the counties in their service area or jurisdiction, respectively. Other stakeholders can also request access to the Fabric for participation in the challenge processes, described in more detail below.[37]

The Fabric reflects each BSL as a single location point defined by a set of geographic coordinates that fall within the footprint of a structure, and each such location has been assigned a unique FCC location identifier. The Fabric allows fixed broadband data filers and the FCC to work from a single, standardized list of locations when filing their availability data in the BDC. On June 30, 2022, the FCC opened its inaugural filing window for facilities-based broadband service providers to begin filing in the BDC system data that reflects where they made mass-market internet access service available as of that date.[38] Filers may choose only one format for their fixed availability data in each BDC filing. If fixed availability data is submitted as a list of locations, then the filing must contain data on all of the BSLs to

[34] *See* Broadband Deployment Accuracy and Technological Availability Act, Pub. L. No. 116-130, 134 Stat. 228 (2020) (codified at 47 U.S.C. §§ 641-646) (Broadband DATA Act). *See also* FCC.gov, *Status Update: Mapping Where Broadband Is – and Is Not – Available in the U.S.*, (Jun. 30, 2022), https://www.fcc.gov/news-events/notes/2022/06/30/status-update-mapping-where-broadband-and-not-available-us.

[35] *See* FCC.gov, *Another Step Toward Better Broadband Maps*, (Sept. 2, 2022), https://www.fcc.gov/news-events/notes/2022/09/02/another-step-toward-better-broadband-maps.

[36] *See* FCC.gov, *What is the Location Fabric?* (Sept. 12, 2022), https://help.bdc.fcc.gov/hc/en-us/articles/5375384069659-What-is-the-Location-Fabric- (a mix of data sources, including parcel data, land and tax records, satellite imagery, and address databases were used to identify serviceable locations).

[37] *See* FCC.gov, *Access to Fabric for Third-Party Stakeholders Announced* (Nov. 15, 2022) https://www.fcc.gov/document/access-fabric-third-party-stakeholders-announced.

[38] See *Inaugural Filing Window for Broadband Data Collection Has Opened, Filers May Begin Submitting Broadband Availability Data*, Public Notice, DA 22-696 (Jun. 30, 2022), https://www.fcc.gov/document/inaugural-broadband-data-collection-filing-window-opens (BDTF).

which fixed broadband service is currently provided or can be provided with a standard broadband installation as directed by FCC rules. If the filer chooses to submit fixed availability data as a coverage polygon, the data must be in an accepted GIS format with polygon geometries and associated data attributes.[39] Mobile broadband providers must submit a propagation map for each network technology they offer (*e.g.*, 3G, 4G LTE, 5G-NR) and for both outdoor stationary and in-vehicle mobile network coverage, and must include details of their propagation models and of the link budgets they use for modeling cell edge network throughput.[40] All mobile files must contain valid GIS data in a supported file format (*i.e.*, ESRI Shapefile, ESRI FileGDB, GeoJSON, or GeoPackage).

On September 12, 2022, the FCC began receiving bulk challenges to Fabric locations from governmental entities and other third parties and, now that the national broadband map has been published (see discussion below), consumers may challenge individual locations reported on the map for their own residences and small businesses.[41] Permissible grounds for challenges to the Fabric include adding missing locations, correcting the address, unit count or geographic coordinates for a location, or disputing the categorization of a location as a BSL.[42] Availability data collected in each subsequent biannual BDC filing window will rely on an updated version of the Fabric. The Fabric will be updated based on new underlying location/GIS data as well as the results of Fabric challenges adjudicated and incorporated into the next iteration of the Fabric in advance of the opening of the next availability filing window.

On November 18, 2022, the FCC released a pre-production draft of its new National Broadband Map showing fixed and mobile broadband availability, based on data submitted by providers, as of June 30, 2022.[43] The initial map provides a far more accurate picture of broadband availability in the United States than ever before. However, the Commission's mapping process is iterative, and the resulting maps will be updated, refined, and improved over time.

Now that the first map has been released, state and local governments, Tribal governments, consumers, and interested third parties, including providers, will be able to challenge and improve the accuracy of the fixed and mobile availability data submitted by providers.[44] Challengers may dispute the availability of fixed broadband service at a particular location (or set of locations), including the network technology and maximum advertised download and upload speed reported by the fixed broadband service provider. In general, challenges to fixed broadband availability may be based on the reported service not being offered or the reported speed not being available for purchase, a provider's denial of a request for

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[39] *See* Broadband Data Task Force, *Broadband Serviceable Location Fabric: An Overview for Fixed Availability Data Filers*, YouTube (May 21, 2022), https://www.youtube.com/watch?v=tCmWMk_DSOg&t=

[40] *See* FCC.gov, *Formatting Mobile Broadband Availability Coverage Maps*, (Jun. 21, 2022), https://help.bdc.fcc.gov/hc/en-us/articles/6047425308187-Formatting-Mobile-Broadband-Availability-Coverage-Maps-.

[41] *See Broadband Data Task Force, Wireline Competition Bureau, and Office of Economics and Analytics Announce Start of Fabric Bulk Challenge Process*, WC Docket Nos. 11-10, 19-195, Public Notice, DA 22-913 (BDTF, WCB, OEA Sept. 2, 2022).

[42] *See* Broadband Data Task Force, *Broadband Serviceable Location Fabric Bulk Challenge Process Webinar*, YouTube (Sept. 8, 2022), https://www.youtube.com/watch?v=vb7vIORyH54&t.

[43] *See* FCC.gov, *FCC Releases New National Broadband Maps*, (Nov. 18, 2022), https://www.fcc.gov/document/fcc-releases-new-national-broadband-maps.

[44] *See* FCC.gov, *Broadband Data Collections Challenge Processes*, https://www.fcc.gov/sites/default/files/bdc-challenge-overview.pdf (last visited Oct. 20, 2022).

service or demand of connection charges that exceed a provider's standard installation charge, or the provider's failure to schedule an installation within ten business days of a request for service (or failed to perform the install within ten business days of a request for service). Challengers may also dispute the availability of mobile broadband service using on-the-ground speed test data submitted using the FCC's Speed Test app (or another third-party speed test app approved by the FCC's Office of Engineering and Technology), or for governmental and other entities, speed test data collected using their own hardware and software (as long as such information meets the same data metrics required to submit on-the-ground speed tests to the Commission).

C. Telehealth on Tribal Lands

Telehealth on Tribal lands largely focuses on "improving access to care for rural tribal communities, which can face persistent barriers to care related to geographic isolation and health workforce shortages."[45] There is a lower life expectancy and disproportionate disease burden in these communities that can be broadly traced to economic and social challenges, which often block access to healthcare. "Telehealth can help reduce these socioeconomic burdens and health disparities by providing a more convenient, lower-cost model of care."[46] Indeed, "[t]he Indian Health Service (IHS)[47] finds telemedicine to be one of the best ways to get health care services to the people and places where they are needed most. IHS collaborates with tribal leaders to deploy telemedicine services that respond to patient and community need."[48] IHS believes that telehealth can reduce health disparities in tribal communities by providing access to care that may have been previously unavailable at a local clinic, reducing travel costs for appointments, taking less time away from work or family, and providing the potential for in-home appointments.

The FCC's COVID-19 Telehealth Program targeted funding towards "areas that were hardest hit by the COVID-19 pandemic,"[49] and for Round 2, the Commission expressly "aimed to prioritize applications to serve sites located in Tribal areas given the obstacles to broadband deployment that Tribal lands face and the significantly higher risk from the COVID-19 pandemic."[50] Additionally, IHS received more than $9 billion in COVID-19 relief funding, some of which was used to address certain longstanding, systemwide needs, including replacing an obsolete electronic health records

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[45] *See* Rural Health Information Hub, *Implementation Considerations for Tribal Telehealth Programs*, (May 21, 2019), https://www.ruralhealthinfo.org/toolkits/telehealth/4/specific-populations/tribes.

[46] *See* Telehealth.HHS.gov, *Telehealth for American Indian and Alaska Native Communities*, (May 13, 2022), https://telehealth.hhs.gov/providers/telehealth-for-american-indian-communities/getting-started/.

[47] *See* GAO.gov, *Indian Health Service: Relief Funding and Agency Response to COVID-19 Pandemic*, (Mar. 31, 2022), https://www.gao.gov/products/gao-22-104360, ("Indian Health Service provides health care to 2.6 million American Indians and Alaskan Natives. Outdated facilities, few inpatient beds, and health care provider shortages make IHS's pandemic response especially challenging. IHS took steps to mitigate these challenges by using its $9 billion in COVID-19 relief funding to address immediate and longstanding needs, e.g., covering vaccine- and testing-related costs and implementing a video telehealth system. IHS also adjusted its care delivery, changed policies, and coordinated with partners. For example, it worked with the Veterans Health Administration to help meet its staffing needs.").

[48] *See* IHS.gov, *IHS Telehealth Programs*, https://www.ihs.gov/telehealth/telehealthprograms/ (last visited Sept. 14, 2022).

[49] *COVID-19 Telehealth Program Order*, 35 FCC Rcd at 3377, para. 19.

[50] *See* USAC.org, *COVID-19 Telehealth Program*, https://www.usac.org/about/tribal-nations/usac-congressional-response-programs/covid-19-telehealth-program/ (last visited Sept. 14, 2022) ("[T]he FCC found it was in the public interest to use the Universal Service Administrative Company (USAC) to administer the program's second round."). *See also COVID-19 Telehealth Program Round 2 Order,* 36 FCC Rcd at 7161, para. 42 (discussing the prioritization of applications serving Tribal areas for Round 2 of the COVID-19 Telehealth Program).

system and implementing a clinical video telehealth system.[51]   However, broadband access for people living on Tribal lands continues to lag behind the rest of the country, perpetuating the digital divide.[52] Testifying before the Senate Indian Affairs Committee, IHS Chief Medical Officer Michael Toedt, MD, stated, "[t]he pandemic highlighted the challenges and risks of our current IT architecture, which created significant barriers to the rapid response needed for COVID-19 … In terms of telehealth, we've had successes by expanding our videoconferencing system and were able to see more patients. But the vast majority of our telehealth visits were by telephone rather than video. And that's because of that last mile. The person on the other end doesn't necessarily have the bandwidth capability to do a telehealth visit."[53]

Broadband deployment on Tribal lands continues to lag and is less robust than in most areas of the country. "Conservative estimates show more than 18 percent of people living on Tribal lands remain unserved by broadband as of 2020, compared to about 4 percent of people in non-tribal areas."[54] The fragmentation of federal programs and difficult application requirements limit tribes' and providers' ability and interest in participating in federal broadband programs. In addition, the American Broadband Initiative (ABI), the nation's primary broadband coordination body, lacks a framework for addressing Tribal barriers and has admitted that they do not regularly address Tribal issues. GAO has identified the need for increased focus within the ABI on Tribal issues.

On December 8, 2021, the FCC conducted an inaugural Broadband Data Collection Tribal Governments' Technical Assistance Workshop to inform Tribal governments on the new methods and systems the FCC is implementing to collect and publish nationwide broadband availability data. "This Broadband Data Collection will include a process through which Tribal governments may submit their own primary broadband availability data to assist the Commission in verifying the accuracy of the data it collects from service providers and for inclusion on the maps that the Commission will make available to the public. This process will enable Tribal entities (as well as federal, state, and local agencies) to help ensure that high-speed, reliable broadband service is available throughout the country."[55] Accordingly, the widespread deployment of broadband services on Tribal lands will enable the additional use of telehealth services on such lands.

D. Broadband Infrastructure Requirements and Optimal Technical Features for Telehealth Provisioning

1. Broadband Infrastructure Requirements for Telehealth

Telemedicine settings include hospitals, clinics, provider offices, schools, skilled nursing

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[51] *See* GAO.gov, *Indian Health Service: Relief Funding and Agency Response to COVID-19* Pandemic (Mar. 31, 2022), https://www.gao.gov/products/gao-22-104360.

[52] *See* US Government Accountability Office, *Tribal Broadband: National Strategy and Coordination Framework Needed to Increase Access* (Report to Congressional Requesters, Jun. 2022), https://www.gao.gov/assets/gao-22-104421.pdf.

[53] *See* Stephen Spotswood, *Infrastructure Lack Increases Health Risks of Native Americans* (May 10, 2021), https://www.usmedicine.com/clinical-topics/pharmacy-clinical-topics/infrastructure-lack-increases-health-risks-of-native-americans/.

[54] *See* U.S. Gov't Accountability Off., GAO-22-104421, Tribal Broadband: National Strategy and Coordination Framework Needed to Increase Access (2022), https://www.gao.gov/assets/gao-22-104421.pdf.

[55] *See* FCC.gov, *The Broadband Data Collection Tribal Governments' Technical Assistance Workshop*, (Dec. 8, 2021), https://www.fcc.gov/news-events/events/2021/12/broadband-data-collection-tribal-governments-technical-assistance. The Broadband Data Collection Tribal Governments' Technical Assistance Workshop may also be viewed on YouTube. *See* Broadband Data Task Force, *Broadband Data Collection Tribal Governments' Technical Assistance Workshop* (Dec. 9, 2021), https://www.youtube.com/watch?v=MoZln03GT5w).

facilities, and private homes, among others. Broadband infrastructure for telehealth needs varies substantially by setting. Each telemedicine setting (whether an originating or distant site) requires both connectivity and equipment, with differences in the type and acuity of the care being delivered requiring varying levels of technology and support. For example, telemedicine requires the underlying physical network to be able to handle necessary medical data transfer and communication needs, as well as all the other needs of other members of the home or facility at the same time without causing service problems or interruptions.

Settings that must have the necessary infrastructure include homes of older adults (to support aging-in-place) and clinics or independent provider offices in rural and frontier communities that are far from a hospital. Differences in broadband infrastructure requirements must be considered when evaluating the appropriateness of telemedicine in various settings. For example, mobile broadband plays an important role for telemedicine, especially in rural areas and in applications used by emergency responders and mobile clinics. Further, redundancy of broadband access networks is important so that patient care is not interrupted by the service disruptions of one provider.

The task is to identify the facilities (hospitals, clinics, shelters) that require specialized broadband infrastructure for telehealth implementation.[56] Each may require different types of telecommunications, software, and equipment in order to realize a successful outcome. To support these requirements, broadband networks must provide low total latency, sufficient upload bandwidth, and resiliency and reliability to support the requirements for audio and video.

2. Optimal Technical Features for Broadband Telehealth Provisioning

Broadband infrastructure for telehealth requires accessible and secure communications capabilities. The metrics of broadband telehealth services should include more than download and upload speed. More comprehensive measurements should be taken over long periods of time to gauge latency, dropped packets, network congestion, device density, and various data transfer patterns. These broadband measurements should serve as a basis for assessing performance of telehealth software applications.

Required technical features of telehealth should include live video with image and audio quality sufficient for a healthcare provider to assess a patient. The audio quality should be crystal clear to avoid adding to the difficulty of understanding of local accents, and non-native English speakers' pronunciations. The audio also should preserve intonations, tremolos, and other non-verbal sounds relevant to understand stress levels. The visual image should be clear enough to permit distinguishing facial expressions, insect bites or rashes and labels of medication. Both audio and video refresh rate should be fast enough to provide continuous quality images while the camera is in motion and provide no delay between the audio and the video.[57] The lag between transmission by the patient and viewing by the provider should be less than one second to reduce crosstalk. Disability access should be ensured by using an accessible platform, website, and online tools that allow accessibility solutions such as captioning, screen readers, and interpreting services.[58]

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[56] We note that the types of "facilities" that are emerging as sites for telehealth are rapidly increasing. Among other things, they include cars and a very wide variety of single-family homes, multi-family dwellings and many types of businesses. *See* NEHI-us.org, *In-car Telehealth,* https://www.nehi-us.org/writable/publication_files/file/incare_telehealth.pdf.

[57] Providers and patients often need to view and discuss together various types of images (*e.g.*, CT Scans, MRI, X-ray etc.). These are very data intense products which require significant bandwidth in order to transmit efficiently.

[58] *See* Telehealth.HHS.gov, *Improving Access to Telehealth*, (Jul. 27, 2022), https://telehealth.hhs.gov/providers/health-equity-in-telehealth/improving-access-to-telehealth/#telehealth-for-people-with-disabilities. *See also* National Consortium of Telehealth Resource Centers, *Telehealth & Disability: Recommendations for Providers*, (Sept. 27, 2021), https://telehealthresourcecenter.org/resources/fact-
(continued …)

Telehealth provider access to the latest patient information should include lab results, medication, and previous telehealth video recordings. Full access to the patient chart is desirable in the long term, but not mandatory to derive benefits from telehealth more immediately.[59] Access to data from remote monitoring medical devices installed at the patient's mobile device (smartphone and/or tablet) should be accessible, and wireless devices used for telehealth should have battery strength lasting long enough for a telehealth session. Wireless devices should have front and rear cameras to display data as well as a medical condition on the body of the patient or the face of the patient. Underlying networks should be available for redundancy. Any device should have sufficient computing power and memory to support modern video compression and upload algorithms and should be capable of running on one of the top three mobile operating systems in the USA.

Devices themselves must be either intuitive and easy to use by the end user, or the hospital, clinic, doctor's office, or other origination site should be able to train the recipient in the use of the device. There should be a range of devices for the user's different skill levels and abilities. Further, there should be a pipeline of devices available for people who have little ability to afford the device. Healthcare providers should work with governments, non-profits, and other organizations to be able to provide low-to-no-cost devices to people who otherwise have no ability to connect to the internet.

Telehealth software infrastructure should be required to allow providers to retrieve the latest information as each session begins. Over time, this requirement should evolve to gather data from a wide variety of sources – multiple emergency rooms (ERs or EMRs), laboratories, primary care providers, emergency services (hospital or 911), preventive care plans, wearable devices, smartphones, social, environmental and educational services providers, fitness/activity, nutritional data, and medication data. This would require health information exchanges (HIEs) – systems that allow doctors, nurses, pharmacists, other health care providers and patients to appropriately access and securely share a patient's vital medical information electronically [60] – to be non-proprietary and open in their interfaces. Data and documents should be able to be transferred in multiple formats and structures in order to be operable in the various application programming interfaces (API), rather than in the prevailing "PDF" format, to allow electronic transfer with full interoperability and use of the underlying data elements. In order to be considered interoperable, software vendors should be required to open their systems to communicate electronically patient information.

In addition, 911 EMT services are starting to adopt video to provide better service, in particular to rural areas and Tribal lands with longer driving distances. This optimizes dispatch decisions (*e.g.,* recommending that the patient be driven by a family member to a local health center, rather than awaiting the arrival of an ambulance). It is also a way to serve more citizens during emergencies when resources must be prioritized (e.g., mutual assistance does not work given the distances). Equipping Public Safety Answering Points (PSAPs) with video capability may also allow for improved communications with speakers of American Sign Language. Those 911 video initiatives should be considered telehealth services.

sheets/telehealth-disability-recommendations-for-providers.

[59] *See* Gianulli, T., *Patient Directed Healthcare Data Exchange*, YouTube (Sept. 5, 2018), https://www.youtube.com/watch?v=UcDiMf2HuC8 (example of patient directed healthcare data exchange using blockchain technology, *see* Patient Directed Healthcare Data Exchange).

[60] *See* HealthIT.gov, *What is HIE*, (Jul. 24, 2020), https://www.healthit.gov/topic/health-it-and-health-information-exchange-basics/what-hie. *See also* Tayla Holman, *Definition - Health Information Exchange (HIE)*, (May 2018), *https://www.techtarget.com/searchhealthit/definition/Health-information-exchange-HIE* ("While HIE typically refers to the act of exchanging information between two or more healthcare organizations or providers, it may also refer to an organization that is responsible for facilitating the exchange.").

Regarding cybersecurity, networks, devices, and software supporting telehealth programs should have appropriate cybersecurity measures to protect against or prevent the disruption, alteration, or destruction of vital telehealth services or data. Cybersecurity measures should strengthen the confidentiality and integrity of patient-doctor information and medical data, especially personally identifiable information (PII) and laboratory results, while enhancing the availability of data and services. Malicious cyber actors have used the pandemic as a means of gaining unauthorized access to personal health information, healthcare pages, and Domain Name System (DNS) servers.[61] Further, with the distribution of health informatics, the exploitation space for threat actors has increased exponentially.[62]

3. Standardizing Telehealth Data, Interoperability and Application Programming Interfaces and Centralizing Telehealth

a. Standardizing Telehealth Data

Telehealth data often comes from multiple entities using different platforms and applications and there are also differences in how the data is coded or presented. Telehealth care providers and other stakeholders, including software engineers and health informaticists, should work together to help standardize data collection efforts that can be implemented nationally to foster better telehealth care. With so many ways to store and present data, standardizing and centralizing data presents an enormous challenge for telehealth providers. But since standardization also reduces ambiguity and makes data useable across systems to "promote data-sharing and analytics across the care continuum, it also presents an enormous opportunity."[63]

b. Interoperability and Application Programming Interfaces

In addition to data standardization, telehealth systems should also be interoperable, *i.e.*, able to share information with one another easily and securely. [64] Interoperable health systems not only improve patient outcomes by delivering safe and effective care they also help to reduce cost. "For example, interoperable systems can provide clinicians access to recent lab results, no matter their source, which can reduce unnecessary repeat testing. Access to comprehensive medication and allergy information can potentially reduce preventable adverse drug events, especially when … patient[s] [are] unable to provide information themselves. More detailed information can enable more comprehensive treatment plans and can affect both clinical and financial measures, such as readmission rates. Another benefit is the resulting increase in productivity. Without having to pull reports from multiple systems, organizations can see a rise in … operational efficiencies."[65]

Interoperability makes sense as an essential part of any healthcare activity, but especially in the

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[61] *See* HealthITsecurity.com, *COVID-19 Cyber Threats: Hackers Target DNS Routers, Remote Work,* (Mar. 27, 2020), https://healthitsecurity.com/news/covid-19-cyber-threats-hackers-target-dns-routers-remote-work.

[62] *See* AT&T Business, *AT&T Cybersecurity 2022 Securing the Edge, Focus on Healthcare* (2022), https://www.business.att.com/content/dam/attbusiness/reports/att-cybersecurity-insights-report-a-focus-on-healthcare.pdf.

[63] *See* Shania Kennedy, *How to Improve Data Normalization in Healthcare*, HealthAnalytics.com (Apr. 29, 2022), https://healthitanalytics.com/features/how-to-improve-data-normalization-in-healthcare.

[64] *See* HealthIT.gov, *The Path to Interoperability*, (Sept. 2013), https://www.healthit.gov/sites/default/files/factsheets/onc_interoperabilityfactsheet.pdf ("Interoperability is the ability of two or more systems to exchange health information and use the information once it is received.").

[65] *See* Dr. Michael Blackman, MD., *Lowering the Cost of Care Through Interoperability While Improving Quality*, Population Health and Analytics, Allscripts (Jul. 3, 2018) https://www.modernhealthcare.com/article/20180703/SPONSORED/180709967/lowering-the-cost-of-care-through-interoperability-while-improving-quality.

case of telehealth, because of its reliance on data sharing. Providers must ensure that any equipment they purchase is interoperable and meets industry standards and can be used to connect to multiple telemedicine platforms. Equipment and software must be interoperable, and ideally, equipment owned by one provider should be able to be accessed by other authorized providers.   To be considered interoperable, software vendors should be required to open their systems to communicate patient information electronically.

Increasing telehealth care brings about the need for healthcare providers to invest in telehealth software solutions. Although we primarily associate telehealth care with video doctor visits, telehealth can encompass a broad range of remote care services and related activities, including voice and text chats, transmission of data, visit scheduling, remote patient monitoring, lab test ordering, e-prescribing and prescription refills, billing, and more.[66] To implement and support these services, many providers rely upon mobile health apps, patient web-portals, and existing hospital systems augmented with telehealth functionalities, for example.

In this environment, APIs have become an essential part of telehealth. APIs "enable interoperability or smooth data exchange between health systems and create fertile ground for telehealth app development."[67] Generally, APIs, among other things, give access to a range of services that can be implemented into software within a few days or weeks, connect to different types of clinical data, support a common "language" of machine-to-machine communication, and take care of HIPAA[68] compliance. APIs can cut down on expenses and significantly reduce development costs. To further maximize the benefits of APIs to telehealth, data and documents should be able to be transferred in multiple formats and structures in order to be operable in various mobile health apps, patient web-portals, and hospital systems, rather than in the prevailing "PDF" format. This will allow electronic transfer with full interoperability and use of the underlying data elements.

E.   Centralizing Telehealth

With the increased demand for telehealth resulting from the pandemic, healthcare providers are looking to increase efficiency and improve patient outcomes through use of centralized telehealth. In a recent study, centralized telehealth was shown to increase telehealth utilization and improve satisfaction for patients, providers, and administrators. Centralized telehealth means that individual practices or hospital departments are brought together to coordinate telehealth across an entire medical center or hospital. For example, a telehealth center in a main hospital building could include video conferencing rooms and space for staff to manage all telehealth services, including scheduling appointments, managing video conferencing, coordination, and research and development.[69]

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[66] It is important to mention here that rapid advances in Artificial Intelligence (AI), machine learning, and the Internet of Things (IOT) are enabling whole new classes of devices that are not only programmable, but also automated. This means that a wide variety of functions from data capture to data interpretation and problem response and mitigation can now be handled automatically and instantly without the direct input of the patient or physician. For example, continuous glucose monitors (CGMs) are already available and widely used on many patients with diabetes, eliminating the need for multiple finger pricks throughout the day to test blood sugar levels. The CGM can collect and send this information back to the doctor within a matter of seconds multiple times per day if needed. In the future, many more patients will use these devices for their diabetes management and many other devices like these will be developed for other diseases. Having the necessary broadband and telehealth infrastructure to enable these devices to work anywhere and anytime as needed is critical to a digital future.

[67] *See* Altexsoft, *Telehealth APIs: Building Tools for Remote Medical Care*, (Mar. 24, 2021), https://www.altexsoft.com/blog/telehealth-apis.

[68] *See* Health Insurance Portability and Accountability Act of 1996, Pub. L. No. 104-191 § 264, 110 Stat. 1936 (HIPAA).

[69] *See* Lily Mercer, *How Centralized Telehealth Increases Telehealth Utilization*, (continued …)

A centralized telehealth center, as in the example above, should practice a multidisciplinary team approach to coordinated patient care. For example, the telehealth center could focus on certain clinical specialties, such as geriatrics, cardiology, dermatology, and endocrinology. Centralized telehealth also makes the practice of telehealth less challenging for healthcare providers with little or no previous experience with telehealth. Additionally, centralized telehealth allows providers to schedule telehealth visits between in-person visits or before and after rotations.

F.   Lack of Digital Literacy as a Threat to Health Equity

The digital acumen of patients and their families are a critical part of seeking and utilizing telehealth. Although the general public is exhibiting an increasing familiarity with smart devices, web applications and utilities, the problem of lack of digital literacy, especially during a pandemic when access to telehealth is critical, becomes one of equitable access to care.[70] The lack of digital literacy is concentrated among groups of people who already experience worse health than others. "About one-third of the 32 million Americans who cannot use a computer are seniors, but digital literacy is also common among people of Black or Hispanic origin, with low income, or no college education."[71] Similarly, Americans with disabilities are three times as likely over individual without disabilities to say that they never go online (15% vs. 5%), and "[s]ome 62% of adults with a disability say they own a desktop or laptop computer, compared with 81% of those without a disability."[72]

IV.   LESSONS LEARNED

A. Implementation of COVID-19 Policies Eased Regulatory Barriers to Telehealth Services

The global pandemic upended many of the longstanding regulations that otherwise constrained the deployment of telehealth throughout the country. For example, the federal government declared a COVID-19 public health emergency and took steps to make providing and receiving care through telehealth easier.[73] One of the temporary measures that came about was more flexibility for providers to use everyday technology for virtual telehealth visits without the risk of penalties for violations of HIPAA rules for the good faith provision of telehealth services. Under this declaratory notice, the U.S. Department of Health and Human Services (HHS) Office for Civil Rights announced that covered health care providers may use popular applications to deliver telehealth as long as they are non-public facing.[74]

Additionally, in response to the pandemic, HHS and the Centers for Medicare & Medicaid Services (CMS) took a number of actions to temporarily expand access to telehealth for Medicare

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https://www.healthrecoverysolutions.com/blog/how-centralized-telehealth-increases-telehealth-utilization (last visited Oct. 12, 2022).

[70] *See* Liana Loewus, *What is Digital Literacy* (Nov. 8, 2016), https://www.edweek.org/teaching-learning/what-is-digital-literacy/2016/11 ("Digital literacy is the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills.").

[71] *See* Telehealth Equity Coalition, *Improving Digital Literacy to Improve Telehealth Equity* (Oct. 18, 2021), https://www.telehealthequitycoalition.org/improving-digital-literacy-to-improve-telehealth-equity.html.

[72] See Andrew Perrin and Sara Atske, *Americans with disabilities less likely than those without to own some digital devices,* Pew Research Center (Sept. 10, 2021), https://www.pewresearch.org/fact-tank/2021/09/10/americans-with-disabilities-less-likely-than-those-without-to-own-some-digital-devices.

[73] *See* Telehealth.HHS.gov, *Policy Changes During COVID-19*, (Jun. 29, 2022), https://telehealth.hhs.gov/providers/policy-changes-during-the-covid-19-public-health-emergency/hipaa-flexibility-for-telehealth-technology/.

[74] *See* HHS.Telehealth.gov, *HIPPA Flexibility for Telehealth Technology*, (Jun. 29, 2022), https://telehealth.hhs.gov/providers/policy-changes-during-the-covid-19-public-health-emergency/hipaa-flexibility-for-telehealth-technology/.

beneficiaries. According to HHS' Office of Inspector General, "CMS allowed beneficiaries to use telehealth for a wide range of services; it also allowed beneficiaries to use telehealth in different locations, including in urban areas and from the beneficiary's home."[75] The number of eligible services were increased to 264, allowing for many types of visits to be performed through telehealth. These policy changes resulted in over 28 million Medicare beneficiaries using telehealth during the first year of the pandemic. "This was more than 2 in 5 Medicare beneficiaries. In total, beneficiaries used 88 times more telehealth services during the first year of the pandemic than they used in the prior year."[76]

During the pandemic, many barriers to telehealth were relaxed, but not permanently. "The U.S. Department of Health and Human Services took a range of administrative steps to expedite the adoption and awareness of telehealth during the COVID-19 pandemic. Many of the telehealth flexibilities are temporary and will lapse at the end of the COVID-19 public health emergency."[77] Now is the time to determine the efficacy of the utilization of telehealth to make determinations as to which policy changes from the pandemic should remain permanent and which should revert to the pre-pandemic state. Reinstating pre-pandemic era restrictions on the use of telehealth may eliminate the ability for many to receive the care that they need.[78]

B. Integrating Telehealth into Emergency Planning

The pandemic has highlighted the need to integrate telehealth into emergency planning. New estimates show approximately 14.9 million COVID-19 pandemic-related deaths worldwide between January 1, 2020, and December 31, 2021.[79] The United States accounts for approximately 800,000 of these deaths.[80] This undoubtedly makes the COVID-19 pandemic one of the greatest disasters of the 21st Century.[81] This also emphasizes the need for readiness for this type of public health crisis and telehealth

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[75] *See* Office of Inspecter General, *Telehealth Was Critical for Providing Services to Medicare Beneficiaries During the First Year of the COVID-19 Pandemic* (Mar. 15, 2022), https://oig.hhs.gov/oei/reports/OEI-02-20-00520.asp.

[76] *Id. See also* Telehealth.HHS.gov, *Telehealth: Health Care from the Safety of our Homes*, https://telehealth.hhs.gov (last visited Oct. 17, 2022) ("The Telehealth.HHS.gov website provides information for health care providers and patients about the latest federal efforts to support and promote virtual health care, known as telehealth. It was built by the Health Resources and Services Administration (HRSA), an agency of the U.S. Department of Health and Human Services (HHS).").

[77] *See* Telehealth.HHS.gov, *Telehealth Policy Changes after the COVID-19 Public Health Emergency*, (Aug. 10, 2022), https://telehealth.hhs.gov/providers/policy-changes-during-the-covid-19-public-health-emergency/policy-changes-after-the-covid-19-public-health-emergency/ ("The current COVID-19 public health emergency declaration is effective through October 13, 2022. Once the end of the COVID-19 public health emergency occurs, the Consolidated Appropriations Act, 2022 … has ensured a 151-day extension period before many of the policies outlined in the COVID-19 public health emergency are set to expire, to allow for a transition period.").

[78] We note that certain waivers and flexibilities under CMS rules during the pandemic have been considered or are actively being considered for continuation. *See* CMS.gov, *Creating a Roadmap for the End of the COVID-19 Public Health Emergency* (Aug. 18, 2022), https://www.cms.gov/blog/creating-roadmap-end-covid-19-public-health-emergency. However, certain CMS rules or requirements that need to be eliminated or relaxed may require Congressional action.

[79] *See* WHO.int, *14.9 Million Excess Deaths Associated with the Covid-19 Pandemic in 2020 and 2021*, (May 5, 2022), https://www.who.int/news/item/05-05-2022-14.9-million-excess-deaths-were-associated-with-the-covid-19-pandemic-in-2020-and-2021.

[80] *See* CDC.gov, *CDC Data Tracker Weekly Review*, https://covid.cdc.gov/covid-data-tracker/#trends_totaldeaths_select_00 (last visited Aug. 31, 2022).

[81] *See* Oguz Karcioglu, et al., *Covid-19: The Biggest Threat of the 21st Century: In Respectful Memory of the Warriors All Over the World*, 21(6) Turk. Thorac J. 409 (2020) https://pubmed.ncbi.nlm.nih.gov/33352097

will necessarily play a crucial role. Although we may not know the date of the next pandemic, another one is most certain to happen. According to one columnist, "As the global population grows, as the climate changes, and as humans push into spaces occupied by wild animals, future pandemics become more likely. We are not guaranteed the luxury of facing just one a century, or even one at a time."[82]

Healthcare policy stakeholders have learned many lessons from the COVID-19 pandemic, one of the greatest being that the U.S. healthcare delivery system was not adequately prepared. For example, "hospitals' pre-COVID emergency management and disaster preparedness plans were insufficient to handle the scale, intensity, and duration of a health disaster like COVID-19."[83] Although COVID-19 is not yet over, we must already begin to think about how we can integrate telehealth into emergency planning, so that we are better prepared in the future. "[H]ealth care industry leaders and regulators have already begun to think about how to implement post-pandemic changes to health care delivery based on lessons learned during the global emergency of the past year and a half. For instance, some temporary solutions to challenges presented by COVID-19 are being made permanent due to their proven efficiency or effectiveness. The expansion of telehealth is a primary example of this."[84]

Telehealth services should be an integral part of every emergency response, recovery, and implementation plan. In many ways, emergency response parallels the challenges of delivering health care in rural areas in that there are usually challenges of limited resources. But telehealth requires effective coordination of all the emergency management partners to optimize outcomes. The medical support commercial community has been at the vanguard of promoting flexible telehealth solutions. Today's telehealth infrastructure offers much quicker realignments in demand and supply capacity than in the past. However, while business organizations rely on processes and technology to create greater flexibility, humanitarian organizations still tend to be driven by people and paper. The role of government regulators in emergency management can be an effective bridge between business and humanitarian organizations to help create more predictable and manageable emergency relief chains.

Telehealth services is an important and necessary component to the challenge of healthcare access during a health emergency, particularly in rural, tribal, and territorial areas, but flexibility is key. After a public health emergency, when local healthcare facilities may be destroyed or otherwise unavailable, telehealth may be the only way for vital health care services to be provided to the public.[85] For telehealth to be effective in responding to such emergencies, however, healthcare organizations, local governments and all emergency management partners must be able to deal with the unexpected. Not only may the location, nature, cause, and scale of the emergency be unpredictable, but the actors in the relief chain may be new. An effective telehealth system should be flexible enough to integrate partners who were not part of the coordinated system that existed before the emergency occurred.

With any emergency preparedness plan, careful consideration must be given to all feasible technical solutions and resources to optimize saving lives, efficiency, and cost-effectiveness. For example, remote healthcare providers may alleviate some of the surge in pandemic-related health services through telehealth connectivity. There are increasingly advanced, self-contained "medical units" that

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[82] *See* Ed Yong, *We're Already Barreling Toward the Next Pandemic* (Sept. 21, 2021), https://www.theatlantic.com/health/archive/2021/09/america-prepared-next-pandemic/620238

[83] See Krusheeta R. Patel, et al, *Lessons from the COVID-19 Pandemic: Planning for Disaster Preparedness and Emergency Management in Hospitals,* POSTED IN COVID-19, HOSPITALS & HEALTH SYSTEMS (Oct. 27, 2021), https://www.healthcarelawbrief.com/2021/10/lessons-from-the-covid-19-pandemic-planning-for-disaster-preparedness-and-emergency-management-in-hospitals.

[84] *Id.*

[85] We note that it is necessary to have rapid deployment of scalable telecommunications infrastructure as part of emergency planning to prepare for loss of telecommunications infrastructure (*e.g.*, cell towers, wireline telephone infrastructure, etc.).

provide connectivity to electronic medical records, video/image capabilities, and clinical equipment necessary for telehealth consults. These units may be cost-prohibitive for some communities and satellite communication may not be readily available to other areas, but that is why careful planning is necessary to best optimize care and resources. Severely under-resourced areas will face the greatest challenges finding support and funding for technical assistance in integrating protocols and procedures into emergency management plans. However, advanced planning will enable all communities to take advantage of the wide array of technical and medical advancements for the better provision of telehealth care during a public health emergency such as the COVID-19 pandemic.

The COVID-19 pandemic taught us that there is much more emergency response partners can do to better ready themselves for the next pandemic. Readiness plans should be incorporated into all telehealth-integrated emergency management plans. For example, all emergency response partners, including government agencies and healthcare providers, should provide information to communities relating to access to telehealth. Similarly, telehealth hotlines and websites could provide information and guidance to communities on the need to work with their doctors on: (1) how to access their doctors' telehealth services; (2) how to maintain health and wellness between telehealth visits; (3) how to update or access prescription medication if the doctor's office is closed or inaccessible; (4) how to prepare an emergency supply of prescriptions and medical supplies; and (5) how to collect and ready important medical records and documents for telehealth visits. In turn, doctors' offices and other healthcare providers should also be prepared to communicate this telehealth information to their patients with and without disabilities via letters, emails, texts, websites, and more.

At times during the COVID-19 pandemic, certain healthcare providers not deemed essential were closed for some period of time and patients were not always given good information on options for alternate care. Additionally, many patients were not sure what to do when they felt COVID-like symptoms or tested positive for COVID. Some providers were simply overrun with the overwhelming number of patients resulting from the pandemic.[86] Other patients needing routine care or appointments for chronic conditions found long wait times for appointments. Telehealth-integrated emergency response partners should study these issues, many of them related to the novelty of the coronavirus and develop coordinated plans to address such issues in the future in emergency management plans.

Telehealth services can be a much needed and essential part of responding to and recovering from a public health emergency. For that reason, it is essential that emergency mitigation efforts include planning for telehealth and ensuring that resilient broadband infrastructure is in place to support telehealth services.

V.   SELECTED CASE STUDIES

We have identified case studies in Ohio and Michigan that provide useful models for public policy telehealth initiatives.

A. Ohio Telehealth Case Studies

As a result of infrastructure assistance, such as the FCC's E-Rate program,[87] schools may

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[86] *See* New Hampshire Bulletin, *The Word is Heartbreaking: As COVID Patients Fill Hospitals, Others are Turned Away*, https://newhampshirebulletin.com/2022/01/05/the-word-is-heartbreaking-as-covid-patients-fill-hospitals-others-are-turned-away (last visited Oct. 11, 2022) ("There's no way to quantify how many Americans are now suffering serious, if not irreversible, harm to their health because hospitals are buckling under the weight of the omicron variant of the coronavirus. But doctors say the consequences are far-reaching, given how many procedures have been postponed.").

[87] FCC.gov, *E-Rate – Schools & Libraries USF Program*, (Oct. 5, 2022), https://www.fcc.gov/general/e-rate-schools-libraries-usf-program ("The schools and libraries universal service support program, commonly known as the E-rate program, helps schools and libraries to obtain affordable broadband… The E-rate program is administered (continued …)

sometimes have better internet connectivity than their surrounding communities. Consequently, Ohio schools have become places where children may now have the opportunity to receive mental and primary care services through a telehealth system. This puts Ohio school systems at the intersection of student need and available resources.

Ohio has two major telehealth initiatives currently underway where the schools are being used as a conduit to provide telehealth services to students. First, the Switzerland of Ohio school district in Monroe County has eight different school buildings, all of which are connected to a robust fiber connection through the state research and education network, OARnet.[88] Each building has been equipped with the necessary technology and room upgrades to be able to accommodate telehealth services. Currently, the sites are being used for mental health services, where a provider no longer needs to drive over an hour to provide crisis intervention. "On March 9, 2020, the state announced the launch of a telehealth pilot project to connect students with behavioral health providers. The objective is to connect the school district with behavioral health services while also providing high-speed internet connections to Ohioans who have been digitally left behind."[89]

The second initiative is The Muskingum Valley ESC's School-Based Telemental Health in Appalachian Ohio Project, which will "provide telehealth services to 15 school districts, spanning six counties in rural Appalachian Ohio."[90] The expansion initiative will connect nearly 20,000 students to telehealth services through a $1.15 million appropriation by InnovateOhio. Funding for this program also allows four school districts in the region to access telemedicine support for students with acute illness or chronic conditions through remote access to pediatricians and other providers.

B.   Michigan Digital Literacy Case Study

In Detroit, Michigan, the City of Detroit, Wayne State University, the United Way of Southeast Michigan, Microsoft and others worked to digitally empower 8,000 Detroit seniors through their Connect 313 initiative.[91] Through Connect 313, seniors were provided with a computing device, subsidized internet access, and tech support to ultimately assist them in navigating health portals. The local partners identified digital literacy and technical support to be a longstanding challenge that, if uncorrected, would lead some low-income seniors to forgo digital care. Through Connect 313, Michigan sought to "close the digital gap in Detroit by providing tablets, digital training and tech-enabled healthcare services to low-income elders." The program is funded through a $3.9 million dollar grant and signifies the effort to ensure that low-income seniors have adequate access to technology. "The disparity in digital equity is a systemic, generational issue that was exacerbated by the COVID-19 pandemic," said Joshua Edmonds,

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by the Universal Service Administrative Company under the direction of the FCC.").

[88] *See* Ohio Resources Network, https://www.oar.net/about/history (last visited Oct. 21, 2022) ("The Ohio Academic Resources Network was created in 1987 by the Ohio Board of Regents, now the Ohio Department of Higher Education, through legislation by the Ohio General Assembly… Exponentially increasing demand from college and university researchers for statewide connectivity and increased bandwidth led to the acquisition of dark fiber to create a highly scalable, fiber-optic infrastructure, launched in November 2004… Today, the OARnet network consists of more than 5,500 miles of fiber-optic backbone operating at ultrafast 100 Gbps speeds. The network blankets the state, providing connectivity to Ohio's colleges and universities, K-12 schools, public broadcasting stations, academic medical centers, government agencies, and partnering research organizations.").

[89] See InnovateOhio.gov, *Telehealth in Schools Blueprint*, https://innovateohio.gov/priorities/resources/broadband/telehealth-blueprint (last visited Aug. 11, 2022).

[90] *See* InnovateOhio.gov, *Husted Announces Broadband Expansion Project Connecting Students with Telehealth Services in Zanesville, Surrounding Counties* (May 26, 2021), https://innovateohio.gov/news/news-and-events/052621.

[91] *See* Megan Kirk, *Detroit Seniors Gain Access to Technology with Connect 313* (Nov. 5, 2020), https://michiganchronicle.com/2020/11/05/detroit-seniors-gain-access-to-technology-with-connect-313.

Digital Director for the City of Detroit and Chief Advocate of Connect 313. "Connect 313 is designed to undertake an ecosystem approach to eradicate the digital divide. We've already made great strides in connecting students to critical technology resources, but we must not lose focus on our seniors who are facing economic hardship and persistent technology adoption challenges that make telehealth a distant reality." Wayne State University President M. Roy Wilson, stated that "[t]his initiative rallies Wayne State resources to support low-income older adults with much needed access to primary health services and accelerates our commitment to eliminate health disparities in our community."

VI.   CONCLUSION AND RECOMMENDATIONS

Increased utilization of telehealth services will benefit from further support, teaching and training from governments, healthcare providers, and technology developers. Implementation of specific funding and support will also increase telehealth utilization when connectivity is no longer an issue. The successful implementation of telehealth on a nation-wide basis is not only dependent upon practical circumstances, such as broadband availability (access and adoption), provider and user acceptance of telehealth services and solutions, and affordability, but also upon loosening regulations and policies that restricts access and services. Additionally, understanding telehealth deployment and utilization challenges from the perspective of Tribal communities and those affected by a lack of digital literacy offers a unique and inclusive approach to addressing the issues of healthcare equity. As patients increasingly accept the use of telehealth applications and remote communications, health-care providers should continue with meticulous planning, including emergency planning for future pandemics, strategic phasing, and ongoing assessments in the deployment of the systems that comprise the telehealth ecosystem.

A. Regulatory Recommendations for the FCC

- The FCC should consider expanding the list of eligible equipment and services in the Rural Health Care Healthcare Connect Fund Program to cover institutional mobile technologies that are not currently covered under the program, including mobile devices and service.[92]

- The FCC should require that provider data on 3G subscribers be made available to localities to help take inventory of who in their communities might need to upgrade.

- The FCC should consider leveraging the Commission's affordability programs, including the Affordable Connectivity Program and Lifeline Program, to support consumer upgrades to 4G-enabled devices and also to provide outreach resources to local governments and organizations as well as resources to digital navigators to train consumers on how to use new equipment.

- The Commission should periodically update its broadband data maps to include or integrate available, reliable data on the presence and nature of telehealth services offered by healthcare service providers throughout the nation, should it become available. The IAC understands the Commission does not presently collect such data and the IAC is not in a position, at this time, to recommend any particular external data source for that information. However, IAC recommends that, if and when such data does become available, the Commission should incorporate it into the mapping tool.

- For FCC broadband-enabled healthcare funding programs, the term "telehealth" should be construed broadly, and should incorporate the need for software, equipment, data storage and patient record access along with the various spectrum, telecommunications and broadband deployment solutions targeted by such programs.

- For FCC broadband-enabled healthcare funding programs, telehealth policy should address broadband deployment and the provision of necessary telehealth equipment to the homes of older

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[92] *See* 47 CFR §54.612 (eligible services) and 47 CFR §54.613 (eligible equipment).

adults and provider offices in rural and frontier communities that are far from a hospital.

B.   Regulatory Recommendations for the U.S. Department of Health and Human Services (HHS), Centers for Medicare & Medicaid Services (CMS)

- HHS should conduct additional research to determine whether the recent expansion of eligibility for telehealth services through Medicare should continue and which services should revert back to pre-pandemic status.

- Reimbursement rate structures should be sufficient for provider visits to encourage providers to deliver telehealth services and allow patients to determine how they wish to receive care.

- HHS and CMS should make permanent the emergency temporary COVID-19 reimbursement for telehealth services to align with in-office care services. This should be a national model. All states should follow.

- HHS and CMS should help to increase telehealth accessibility by providing reimbursement for telehealth patient consultations with multiple providers at the same time. This multidisciplinary telehealth approach will help to reduce barriers, such as transportation to multiple provider locations, scheduling issues, and miscommunication among providers, and it will also lead to more patient-centered and successful telehealth visits.

C.   Regulatory Recommendations for the States

- State policy makers should leverage existing Federal programs to provide low-cost solutions to the public. Specifically, grantees of broadband expansion grants should be required to participate in federal subsidy programs, including, but not limited to, the Affordable Connectivity Program (ACP). If the state has a grant program, grantees should be required to participate in the ACP or provide another comparable low-cost broadband service option. Further, providers should be required to have a low-cost option that mirrors the requirements of the National Telecommunications and Information Administration's Broadband Equity, Access, and Deployment (BEAD) program.[93] Specifically, the low-cost option should be free from data caps and have speeds that allow multiple users to be online at once for purposes of telehealth and other uses.

- State boards should change policies and other licensing requirements for medical professionals to recognize other state licenses in order to eliminate geographic boundaries to telehealth, especially during an emergency.

- State policymakers and economic development offices should incentivize telehealth by establishing tax breaks and other economic stimulus that foster its utilization in a jurisdiction.

D.   Recommendations for Telehealth on Tribal Lands

- Because estimates show that more than 18 percent of people living on Tribal lands remain unserved by broadband as of 2020, fragmentation of federal programs and difficult application requirements that limit Tribes' and providers' ability to, and interest in participating in, federal broadband programs should be addressed.

- The American Broadband Initiative (ABI), the nation's primary broadband coordination body, which currently lacks a framework for addressing Tribal issues, should increase focus on Tribal matters.

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[93] *See* BroadbandUSA, *Broadband Equity, Access, and Deployment Program (BEAD)* (Sept. 12, 2022), https://broadbandusa.ntia.doc.gov/broadband-equity-access-and-deployment-bead-program.

- Congress should provide Tribal Nations the flexibility needed to deploy broadband and telehealth grant or funding opportunities. At the same time, federal agencies should, consistent with Congressional intent, flexibly interpret the laws Congress passes in favor of Tribes. This flexibility will result in more strategic approaches that enhance efficiency, adoption and success.

- The Federal government should minimize the regulatory barriers and uphold its treaty and trust responsibility to Tribal Nations by providing the necessary resources to expand affordable broadband access.

- Tribal governments need to be aware of the technologies and services available for telehealth.

- Tribes should develop robust digital literacy and digital navigator programs within their governments or health systems to provide support for citizens to receive services through telehealth.

- Indian Health Services (IHS) has two national telehealth programs,[94] but one is locally driven, which doesn't bring consistency for all Native patients utilizing telehealth services. IHS should be encouraged to use standardized telehealth program approaches to give patients in both programs similar options for telehealth services to use standard telehealth services to give patients the ability to choose how they would like to receive care.

- Telehealth considerations and the infrastructure to provide health services virtually should be integrated into all Tribal lands emergency planning.

E. Recommendations on Improving Digital Literacy

The following are steps healthcare providers, health systems, technology developers, and governments can take to help bridge the digital divide when it comes to digital literacy and equitable access to telehealth:

- <u>Educate</u>: Telehealth providers should provide patients with educational materials outlining what to expect from a telehealth program and what is expected from the patient regarding engagement with the technology.

- <u>Adopt the right technology</u>: Organizations purchasing technology should ensure that it meets the needs of patients with digital literacy barriers.

- <u>Develop user-friendly technology</u>: Technology developers should make their technology more user friendly and help institutions plan to deploy it, including accessibility features to make the technology accessible to individuals with disabilities.

- <u>Monitor</u>: Telehealth providers should look at who is using audio versus video telehealth to offer additional help to patients who need it, including accommodations to patients with disabilities.

- <u>Recommend</u>: Telehealth providers should recommend patients use free mobile-based telehealth solutions for ease of patient adoption and accessibility if there are connection issues.

- <u>Advocate</u>: Health systems should become powerful advocates at local, state and national levels for increasing access to, and adoption of affordable broadband and devices by highlighting the value of connectivity.

- <u>Increase broadband support to communities identified as having issues with digital literacy</u>:

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[94] *See IHS Telehealth Programs*, https://www.ihs.gov/telehealth/telehealthprograms/ (last visited Oct. 17, 2022) (the IHS-Joslin Vision Network Teleophthalmology Program is dedicated to preventing diabetes-related blindness and the IHS Telebehavioral Health Center of Excellence provides, promotes, and supports the delivery of high-quality, culturally sensitive telebehavioral health services to American Indian/Alaska Native people).

Governments should increase broadband support (such as funding and education) to rural and disadvantaged communities, so that lack of digital literacy and adoption deficits do not exacerbate the digital divide.

- Focus on diversity: Providers should focus on developing diversity within their support staff to ensure that they are sensitive to other languages and cultures.

F.   Recommendations on Standardizing Telehealth Data, Interoperability, APIs and Centralizing Telehealth

- Telehealth providers and other stakeholders,[95] including software engineers and health informaticists, should work together to help standardize data collection that can be implemented nationally to foster better telehealth care.

- Providers must ensure that any equipment they purchase is interoperable and meets industry standards and can be used to connect to multiple telemedicine platforms. To be considered interoperable, software vendors should be required to open their systems to communicate patient information electronically.

- Data and documents should be able to be transferred in multiple formats and structures in order to be operable in the various application programming interfaces (APIs), rather than in the prevailing "PDF" format, to allow electronic transfer with full interoperability and use of the underlying data elements.

- Networks, devices, and software supporting telehealth programs should have appropriate cybersecurity measures to protect against or prevent the disruption, alteration, or destruction of vital telehealth services or data.

- Providers should increase the number of centralized telehealth centers. Centralized telehealth centers should practice a multidisciplinary team approach to coordinated patient care.

G.   Recommendations on Integrating Telehealth into Emergency Planning

- Incorporate telehealth services as an integral part of every emergency plan to help manage the surge in hospital and doctor's office visits that may result from a public health disaster.

- Plan for effective coordination of all the disaster management partners to maximize outcomes, including the medical support community and government regulators.

- Plan for a flexible telehealth system that can integrate partners who were not part of the coordinated system that existed before the emergency occurred.

- Plan to take advantage of the wide array of technical and medical advancements for the better provision of telehealth care during a public health emergency, such as the COVID-19 pandemic.

- All emergency response partners, including government agencies and healthcare providers, should provide information to communities relating to access to telehealth. For example, telehealth hotlines and websites could provide information and guidance to communities on the need to work with their doctors on: 1) how to access their doctors' telehealth services; 2) how to maintain health and wellness between telehealth visits; 3) how to update or access prescription medication if the doctor's office is closed or inaccessible; 4) how to prepare an emergency supply of prescriptions and medical supplies; and 5) how to collect and ready important medical

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[95] We believe that an important stakeholder in these recommendations is the Office of the National Coordinator for Health IT, the principal federal entity charged with coordination of nationwide efforts to implement and use the most advanced health information technology and the electronic exchange of health information. *See* HealthIT.gov, *About ONC*, https://www.healthit.gov/topic/about-onc (last visited Oct. 17, 2022).

records and documents for telehealth visits. In turn, doctors' offices and other healthcare providers should also be prepared to communicate this telehealth information to their patients with and without disabilities via letters, emails, texts, websites and more.

- Telehealth-integrated emergency response partners should study the novel issues of the coronavirus pandemic and develop coordinated plans to address such issues in the future. For example, emergency plans should consider options for alternate care, such as telehealth care, if provider offices are closed due to local regulations or are simply overrun with patients, or are not accepting patients with disease, or those who test positive for disease.

- State boards should change policies and other licensing requirements for medical professionals to recognize other state licenses in order to eliminate geographic boundaries for telehealth, especially during emergencies.