Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Promoting Telehealth for Low-Income Consumers	)	WC Docket. No. 18-213
	)	
	)	

NOTICE OF INQUIRY

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Comment Date: September 10, 2018
Reply Comment Date: October 10, 2018

By the Commission: Chairman Pai and Commissioners O'Rielly, Carr, and Rosenworcel issuing separate statements.

I. INTRODUCTION

1. The Commission's top priority is to increase digital opportunity for all Americans, and nowhere is this imperative more critical than in the area of health care. High-quality health care has become increasingly reliant on the widespread availability of high-speed connectivity, and broadband-enabled telehealth services are assuming an increasingly vital role in providing care. Indeed, advances in technology mean that the delivery of high-tech services to patients are no longer limited to the confines of connected, brick-and-mortar health care facilities. Rather, there is a movement in telehealth towards connected care everywhere. Whether through remote patient monitoring technologies or mobile health applications that can be accessed on smartphones, tablets, or other connected devices, patients are seeing improved outcomes and significant cost savings through high-tech care that can be delivered directly to them regardless of where they are physically located. Cutting-edge connected care services have been used to respond to a wide breadth of health challenges, including:

- diabetes management,[1]
- pediatric heart disease,[2]
- opioid dependency,[3]
- stroke treatment,[4]

[1] *See, e.g.*, American Telemedicine Association (ATA) Connect2Health Comments, GN Docket No. 16-46, at 3 (filed May 24, 2017) (ATA Connect2Health Comments); Timothy Xu et al., *Telemedicine in the Management of Type 1 Diabetes*, Preventing Chronic Disease 2018 (Jan. 25, 2018), https://www.cdc.gov/pcd/issues/2018/17_0168.htm.

[2] *See, e.g.*, Gary M. Satou et al., *Telemedicine in Pediatric Cardiology: A Scientific Statement from the American Heart Association*, Circulation 2017 (Mar. 14, 2017), http://circ.ahajournals.org/content/135/11/e648.

[3] *See, e.g.*, Dr. Erica Liebelt et al., Telehealth as Means to Diagnose and Treat Opioid Abuse, Healthcare Information and Management Systems Society (Dec. 20, 2017), http://www.himss.org/news/telehealth-means-diagnose-and-treat-opioid-abuse.

[4] *See, e.g.*, ATA Connect2Health Comments at 4; *see also* Stroke Telemedicine (Telestroke), Mayo Clinic (last visited May 30, 2018), https://www.mayoclinic.org/tests-procedures/stroke-telemedicine/about/pac-20395081.

- mental health treatment,[5]
- high-risk pregnancies,[6] and
- cancer treatment.[7]

It is critical that all Americans have access to these connected care services—whether enabled by existing broadband technologies or next-generation technologies, such as 5G. However, many low-income Americans, particularly those living in rural areas, lack access to affordable or adequate broadband and thus might not have the same opportunity to benefit from these and other advanced telehealth services.

2. Today, we therefore launch an inquiry into how the Commission can help advance and support the movement in telehealth towards connected care everywhere and improve access to the life-saving broadband-enabled telehealth services it makes possible. Specifically, we seek comment on creating an experimental "Connected Care Pilot Program" to support the delivery of these telehealth services to low-income Americans, with a focus on the delivery of such services to patients beyond the doors of brick-and-mortar health care facilities. Today's inquiry reflects our continued commitment to supporting broadband connectivity for those facing barriers to high-quality health care and maximizing the benefits of telehealth for all Americans through enhanced digital access. It builds on the Commission's existing initiatives, which have focused on promoting broadband connectivity within and between health care facilities across the country.

II. BACKGROUND

3. The U.S. health care industry has become increasingly reliant on broadband networks in the last two decades. Connectivity within and between health care facilities has enabled a wide range of telehealth uses, from remote radiology to remote surgery, particularly for rural patients that might otherwise lack access to primary care physicians and specialists located hundreds or thousands of miles away. The Commission has taken an active role in promoting health care connectivity through the Rural Health Care Program, which provides eligible health care providers with discounted telecommunications and broadband Internet access services,[8] and has supported the deployment of broadband to create networks of connected health care facilities.[9] The Commission has also been at the forefront of the intersection between connectivity and health, establishing the multidisciplinary Connect2Health Task Force to identify barriers to broadband-enabled health care solutions,[10] and developing an interactive

[5] *See, e.g.*, Healthcare Information and Management Systems Society Connect2Health Comments, GN Docket No. 16-46, at 8-15 (filed July 21, 2017); *see also* U.S. Department of Veterans Affairs, VA Launches Telehealth Program for Rural Vets with PTSD (Mar. 6, 2018), https://www.va.gov/opa/pressrel/pressrelease.cfm?id=4018; American Psychiatric Association, Telepsychiatry, https://www.psychiatry.org/psychiatrists/practice/telepsychiatry (last visited May 30, 2018); Letter from Senator Cory Gardner to FCC Commissioner Brendan Carr (July 9, 2018) (noting high suicide rates in Colorado and observing that telepsychiatry has the potential to alleviate challenges caused by lack of access to mental health care professionals).

[6] *See, e.g.*, Betsy McKay, Telemedicine Helps Pregnant Women at Risk, Wall Street Journal (Sept. 12, 2017), https://www.wsj.com/articles/telemedicine-helps-pregnant-women-at-risk-1505268610; *see also* Erin Clark, MD, University of Utah, Personalized Prenatal Care for Low-Risk Pregnancies Using Telemedicine (last updated Nov. 6, 2017), https://clinicaltrials.gov/ct2/show/NCT01970436.

[7] *See, e.g.*, University of Maryland Medical System, New Telemedicine Program Brings Top-Notch Cancer Care to More Marylanders, https://www.umms.org/umgccc/cancer-services/cancer-care/radiation-oncology/therapies-technology/new-telemedicine-program-brings-top-notch-cancer-care-to-more-marylanders (last visited July 6, 2018).

[8] 47 CFR §§ 54.602(a)- (b), 54.609(a), 54.634(a)-(b).

[9] *See* FCC, Rural Health Care Pilot Program, https://www.fcc.gov/general/rural-health-care-pilot-program (last visited July 5, 2018).

[10] *See* FCC, FCC Initiatives, Connect2HealthFCC, https://www.fcc.gov/about-fcc/fcc-initiatives/connect2healthfcc (last visited June 18, 2018); *FCC Seeks Comment and Data on Actions to Accelerate Adoption and Accessibility of*

mapping platform that overlays health status indicators with broadband availability across the country.[11]

4. While the Commission has worked hard to identify and support the broadband needs of health care facilities, health care trends are rapidly changing. The current "hub-and-spoke"[12] model of supporting broadband connectivity at and between brick-and-mortar health care facilities is not the only effective means of promoting access to health care. Moreover, when patients leave the doors of these facilities, their access to high-tech health care can go away entirely. However, with the rise of interconnected monitoring devices, broadband-enabled video-conferencing, and cloud computing, patients and providers have begun to realize the benefits of technologies that keep patients seamlessly connected to health care *beyond* the facility.[13] By providing care directly to patients in their homes and remotely tracking vital signs and symptoms to detect problems before they arise, the new connected health care model is fundamentally changing how patients access treatment.[14] There is now a continuum of care options available that range from services provided inside connected facilities to direct-to-patient and remote telehealth options.

5. Indeed, studies show that remote patient monitoring—a major component of direct-to-the-patient connected care—has the potential to significantly improve health outcomes.[15] For example, the University of Mississippi Medical Center (UMMC) partnered with a mobile broadband provider to

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Broadband-enabled Health Care Solutions and Advanced Technologies, Public Notice, GN Docket No. 16-46, 32 FCC Rcd 3660 (2017); FCC, FCC Initiatives, Connect2HealthFCC, Beyond the Beltway Series, https://www.fcc.gov/health/beyond-beltway-series (last visited June 18, 2018).

[11] FCC, Mapping Broadband Health in America, https://www.fcc.gov/health/maps (last visited July 5, 2018). The available maps include: Rural Broadband and Physician Shortages; Broadband and Diabetes in Rural America; Broadband Gaps in America; and Broadband Access and Obesity.

[12] *See* James K. Elrod and John L. Fortenberry, Jr., *The Hub-and-Spoke Organization Design Revisited: A Lifeline for Rural Hospitals*, BMC Health Services Research 17 (Dec. 2017), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5751794/.

[13] *See, e.g.*, Darrell M. West, *How 5G Technology Enables the Health Internet of Things*, Center for Technology Innovation at Brookings (July 2016), https://www.brookings.edu/wp-content/uploads/2016/07/5G-Health-Internet-of-Things_West.pdf; Karen Schulder Rheuban & Elizabeth A. Krupinski, Understanding Telehealth ch. 11 (2018); *see also* Letter from Senator Todd Young to FCC Commissioner Brendan Carr (July 10, 2018) (noting "the value of moving from doctor-to-doctor telemedicine interactions to doctor-to-patient interactions and the promise that holds").

[14] *See, e.g.*, Rheuban & Krupinski, *id.*; Greg Slabodkin, "CMS proposes reimbursing home health agencies for remote patient monitoring," Health Data Management (July 3, 2018), https://www.healthdatamanagement.com/news/cms-proposes-reimbursing-home-health-agencies-for-remote-patient-monitoring (statement of CMS Administrator Seema Verma) ("We are proposing to modernize Medicare to promote innovation and improve home health by increasing access to remote patient monitoring. This will allow patients to share more live-time data with their providers and caregivers, which will lead to more tailored care and increased positive health outcomes.").

[15] *See, e.g.*, Varma N. Ricci RP, *Impact of remote monitoring on clinical outcomes*, 26 J. of Cardiovascular Electrophysiology 1388-1395 (2015) (explaining that a 2015 remote patient monitoring study of nearly 270,000 patients with implanted rhythm devices, including pacemakers, demonstrated significantly improved survivability, with patients not participating in remote patient monitoring dying at twice the rate of those patients having at least 75% compliance); Sandra Mierdel, Kirk Owen. *Telehomecare reduces ER Use and Hospitalizations at William Osler Health System*. *Stud Health Technol Inform* 2015;209:102-108 (finding that a remote patient monitoring initiative in Ontario, Canada showed a 46% reduction in emergency department visits, 53% reduction in hospital admissions, and 25% shorter lengths of stay among the 466 patients enrolled); Polisena J. et al. *Home Telemonitoring for Congestive Heart Failure: a Systematic Review and Meta-Analysis*; J. Telemed Telecare 2010; 16(2):68-76 (describing a 2015 study of 20 remote patient monitoring trials involving more than 3,800 patients which found that remote patient monitoring was associated with a 20 percent reduction in all-cause mortality and a 15 percent reduction in heart failure-related hospitalizations).

remotely monitor diabetes patients in rural Mississippi via tablet computers.[16] During the pilot, doctors and other health practitioners treated patients remotely at home using video streaming and other forms of two-way live communications.[17] The pilot resulted in, among other benefits, a marked decrease in blood glucose levels, early recognition of diabetes-related eye disease, and no diabetes-related hospitalizations or emergency room visits among the patients.[18] Similarly, the Veterans Health Administration (VHA) conducted a three-year remote patient monitoring program involving more than 43,000 veterans with conditions including hypertension, congestive heart failure, chronic obstructive pulmonary disease, depression, and PTSD. The program resulted in a 25 percent reduction in days of inpatient care and a 19 percent reduction in hospital admissions.[19] Moreover, Louisiana-based Ochsner Health System launched a remote monitoring pilot program in 2015 that enabled patients to manage their hypertension via a smart watch.[20] Program participants were more than twice as successful as non-participants in achieving their target blood pressure levels and showed improvement in patient engagement levels.[21] Additionally, developments in telehealth can aid pregnant women in seeking health care before, during, and after pregnancy. At-home health devices can monitor a pregnant woman's weight, fetal heartbeat, and blood pressure, ask survey questions, and send the data via the Internet right to her doctor. If follow-up is needed, two-way video calls can be enabled, limiting the number of in-person visits for low-risk pregnancies. On-demand video visits through a mother's phone, laptop, or tablet with a lactation professional are available through some providers to aid in breastfeeding. Telehealth applications can help diagnose and treat postpartum depression where users are prompted to answer questions about mood, sleep, anxiety, and stress levels.

6. Mobile health applications also have the potential to improve health outcomes, and device manufacturers and app developers are responding to the shift towards providing connected health care at the patient's location. These offerings can address a broad range of health conditions and include pocket-sized blood glucose meters that send real-time alerts to the patient's family members and health care provider;[22] devices to facilitate home-based virtual examinations;[23] and home training consoles that

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[16] *See, e.g.*, Mississippi Telehealth, Remote Monitoring Pays Dividends for Diabetics, Med City News (Sept. 13, 2016), https://medcitynews.com/2016/09/mississippi-telehealth-remote-monitoring/; Testimony of Michael P. Adcock, FACHE, Executive Director, Center for Telehealth University of Mississippi Medical Center, Before the U.S. Senate Committee on Commerce, Science, and Transportation, Subcommittee on Communications, Technology, Innovation and the Internet, at 1-2 (Nov. 7, 2017), https://prodnet.www.neca.org/publicationsdocs/wwpdf/110717adcock.pdf; Letter from Senator Roger Wicker to Commissioner Brendan Carr, Federal Communications Commission (July 5, 2018) (noting that the UMMC pilot program enabled "rural patients to take preventative steps and avoid hospital stays, reducing costs and greatly improving patient outcomes").

[17] UMMC Delta Diabetes Project Improves Use of Telehealth, Clarion Ledger (Oct. 6, 2016), https://www.clarionledger.com/story/news/2016/10/08/delta-project-improves-use-telehealth-university-of-mississippi-medical-center/91670816/.

[18] Testimony of Michael P. Adcock, *supra* note 16, at 2.

[19] Rheuban & Krupinski, *supra* note 13, at 145.

[20] *See* Kelly Gooch, Ochsner Recognized for Hypertension Digital Medicine Program, Becker's Health IT & CIO Report (August 12, 2016), https://www.beckershospitalreview.com/healthcare-information-technology/ochsner-recognized-for-hypertension-digital-medicine-program.html (using wireless blood pressure cuffs, "patients regularly measure their blood pressure ratings at home while the data is sent directly to the clinic for monitoring," and "[s]pecialized pharmacists review the data in real time to provide feedback about important aspects of their care.").

[21] *See* Richard V. Milani et al., *Improving Hypertension Control and Patient Engagement Using Digital Tools*, Am. J. Med., Vol. 130, Issue 1, at 14-20 (January 2017), https://www.amjmed.com/article/S0002-9343(16)30844-0/fulltext.

[22] *See* Philips Medical Systems, 510(k) Summary (Aug. 31, 2007), https://www.accessdata.fda.gov/cdrh_docs/pdf7/K071564.pdf; *see also* Dario Health, Dario Blood Glucose Monitoring System, http://www.dariohealth.com/solutions/my-dario/ (last visited July 6, 2018).

provide ongoing rehabilitation and therapy to patients with brain injuries.[24]

7. Beyond better health outcomes, telehealth technologies also offer the promise of significantly reducing health care costs. The United States spends over $3 trillion on health care every year[25]—a greater percentage of gross domestic product than any other nation in the Organization for Economic Co-operation and Development.[26] Telehealth technologies are expected to create significant savings for chronic disease management, which accounts for over 85 percent of direct health care spending in the country.[27] Analysts further estimate that widespread use of remote patient technology and virtual doctor visits could save the American health care system $305 billion annually.[28]

8. These cost savings have been borne out on a project level.[29] For example, net of costs, the UMMC remote patient monitoring pilot resulted in nearly $700,000 in annual savings due to reductions in hospital readmissions alone. Assuming just 20 percent of Mississippi's diabetic population were to enroll in this type of remote patient monitoring program, Medicaid savings for the state would be approximately $189 million per year. The VHA remote patient monitoring program similarly produced substantial savings: the annual cost of the program was $1,600 per patient compared to more than $13,000 per patient for VHA's home-based primary services.[30]

9. For low-income Americans facing obstacles to obtaining health care—especially those living in rural areas,[31] women, and veterans[32]—the potential of telehealth services to improve access to

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[23] TytoCare, TytoHome, https://www.tytocare.com/tytohome/ (last visited July 5, 2018) (describing the TytoHome device "for examining the ears, throat, heart, lungs, abdomen, skin and capturing heart rate and temperature data").

[24] *See* Trevor Clawson, The Therapy Gap-Startup Offers Hope for Brain Impaired Patients, Forbes (Aug. 31, 2017), https://www.forbes.com/sites/trevorclawson/2017/08/31/the-therapy-gap-startup-offers-hope-for-brain-impaired-patients/#16a1aacd4a5c.

[25] Centers for Medicare and Medicaid Services, NHE Fact Sheet (Apr. 17, 2018), https://www.cms.gov/research-statistics-data-and-systems/statistics-trends-and-reports/nationalhealthexpenddata/nhe-fact-sheet.html.

[26] Rick Schadelbauer, Anticipating Economic Returns of Rural Telehealth, NTCA-The Rural Broadband Association at 1 (Mar. 2017), https://www.ntca.org/sites/default/files/documents/2017-12/SRC_whitepaper_anticipatingeconomicreturns.pdf.

[27] Rheuban & Krupinski, *supra* note 13, at 134.

[28] *See* Goldman Sachs, Internet of Things, Vol. 5, The Digital Revolution Comes to US Healthcare, at 12-13 (2015), https://www.wur.nl/upload_mm/0/f/3/8fe8684c-2a84-4965-9dce-550584aae48c_Internet%20of%20Things%205%20-%20Digital%20Revolution%20Comes%20to%20US%20Healtcare.pdf.

[29] *See, e.g.*, Rheuban & Krupinski, *supra* note 13, at 147 (explaining that a remote patient monitoring program conducted by Geisinger Health Plan found that for every $1 spent to implement the program there was approximately $3.30 return on this investment in terms of cost savings accrued to the provider).

[30] *Id.* at 145.

[31] *See* AHA Connect2Health Comments at 4-5; Schmitz, David F. Written Testimony on Behalf of the National Rural Health Association Before the United States House Subcommittee on Health and Technology at 1 (2017), https://smallbusiness.house.gov/uploadedfiles/7-20-17_schmitz_testimony.pdf; Center of Health Law and Policy Innovation, The Promise of Telehealth: Strategies to Increase Access to Quality Healthcare in Rural America at 3 (Mar. 2016), https://www.chlpi.org/wp-content/uploads/2013/12/Telehealth-and-CHWs_March-2018.pdf; Letter from Senator John Thune to FCC Commissioner Brendan Carr (July 10, 2018) (noting the need for more "telehealth deployments, particularly in rural and tribal parts of the country that might otherwise lack the same access to healthcare as those living in other areas of the country"); Letter from Senator Deb Fischer to FCC Commissioner Brendan Carr (July 10, 2018) ("Nebraskans, particularly seniors and veterans, living far from populous cities must overcome not only the digital divide, but also the patient doctor divide.").

[32] *See* Rand Health Quarterly, Balancing Demand and Supply for Veterans (2016), https://www.rand.org/pubs/research_reports/RR1165z4.html; *see also* Eric Wicklund, Telehealth Can Work for

affordable health care is particularly significant. In addition to the rising health care costs affecting many Americans,[33] rural residents face endemic hospital closures[34] and doctor shortages,[35] and are often forced to spend extensive amounts of time and money to travel to access essential health care.[36] Low-income rural areas have also been hit especially hard by the opioid crisis, due to a lack of access to addiction treatment.[37] Likewise, veterans living in rural areas are among the largest population of Americans who struggle to receive accessible and affordable health care.[38]

10. Connected care services have the potential to produce measurable improvements in health outcomes and cost savings for low-income Americans, but without access to affordable high-speed broadband service, they cannot take advantage of this new and growing trend in telehealth. While the Commission has played, and will continue to play, an important role in supporting the broadband needs of health care facilities, we believe that we can do more to support the broadband needs of low-income patients to ensure that they can realize the benefits of connected care everywhere.

III. DISCUSSION

11. We believe that universal service support can play a vital role in improving access to cutting-edge digital health resources and bridging the health care divide for low-income patients in particular. This Notice of Inquiry is thus the first step in developing a Universal Service Fund (USF) pilot program to explore how to promote the use of broadband-enabled telehealth services and applications by low-income families and low-income veterans, with a focus on such services and applications delivered directly to patients outside of brick-and-mortar health care facilities. We seek comment on instituting such a pilot program with the aim of providing affordable broadband for these connected care services to low-income patients and thereby improving health outcomes and reducing health care costs.

12. Creating such a pilot program is in keeping with the Commission's tradition of conducting pilots to explore the benefits of using USF support to enhance access to broadband service. In 2006, the Commission established a pilot program under the Rural Health Care support mechanism "to examine how the rural health care . . . funding mechanism can be used to enhance public and non-profit health care providers' access to advanced telecommunications and information services."[39] Health care providers selected to participate in that pilot program received funding to construct dedicated broadband

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Veterans Dealing with Depression at 3 (2016), https://mhealthintelligence.com/news/telehealth-can-work-for-veterans-dealing-with-depression.

[33] *See, e.g.*, National Conference of State Legislatures, Health Insurance: Premiums and Increases (June 8, 2018), http://www.ncsl.org/research/health/health-insurance-premiums.aspx; Centers for Medicare and Medicaid Services, NHE Fact Sheet (April 17, 2018), https://www.cms.gov/research-statistics-data-and-systems/statistics-trends-and-reports/nationalhealthexpenddata/nhe-fact-sheet.html.

[34] AHA Connect2Health Comments at 10; Center of Health Law and Policy Innovation, The Promise of Telehealth: Strategies to Increase Access to Quality Healthcare in Rural America at 3 (Mar. 2016), https://www.chlpi.org/wp-content/uploads/2013/12/Telehealth-and-CHWs_March-2018.pdf.

[35] AHA Connect2Health Comments at 4-5; Schmitz, David F. Written Testimony on Behalf of the National Rural Health Association at 1 (2017). Analysts project a shortfall of between approximately 42,000 and 121,000 physicians in the U.S. by 2030. *See* Association of American Medical Colleges, Research Shows Shortage of More Than 100,000 Doctors by 2030 (Mar. 14, 2017), https://news.aamc.org/medical-education/article/new-aamc-research-reaffirms-looming-physician-shor/.

[36] *See* Center of Health Law and Policy Innovation, *supra* note 34, at ii.

[37] *See, e.g.*, U.S. Department of Agriculture, Opioid Misuse in Rural America, https://www.usda.gov/topics/opioids (last visited July 11, 2018).

[38] Rand Health Quarterly Balancing Demand and Supply for Veterans, *supra* note 30; *see also* Wicklund, *supra* note 32.

[39] *Rural Health Care Support Mechanism*, Order, 21 FCC Rcd 11111, para. 1 (2006) (*Rural Health Care Order*).

networks that connected health care providers in a state or region.[40] Similarly, in 2012, the Commission established a pilot program within the Lifeline support mechanism "to gather data on whether and how the Lifeline program can be structured to promote the adoption and retention of broadband services by low-income households,"[41] providing qualifying low-income consumers up to 12 months of discounted broadband services.[42]

13. Consistent with the Commission's history of establishing pilot projects through the universal service support mechanisms, and as discussed in more detail below, we seek comment on conducting a pilot program with a limited number of health care providers to explore the use of USF support to promote the use of connected care services among low-income households and low-income veterans. We would expect to set aside up to $100 million in total funding for this pilot program and each telehealth pilot project could receive up to $5 million in funding to support broadband connectivity to low-income patients and increased capabilities for the health care provider. In the sections that follow, we discuss and seek comment on (1) the goals of the pilot program; (2) the structure of the program; and (3) how to measure the effectiveness of the program.

14. We also seek comment on our legal authority to establish a Connected Care Pilot Program. We seek comment in particular on whether creating the pilot program is consistent with the Commission's authority under the universal service provisions of the Communications Act. In enacting section 254, Congress identified a series of principles governing the Commission's duty to advance universal service, several of which appear to be consistent with the pilot program. These include the principles that: (1) "[q]uality services should be available at just, reasonable, and affordable rates"; (2) "[a]ccess to advanced telecommunications and information services should be provided in all regions of the nation"; (3) "[c]onsumers in all regions of the Nation including low-income consumers and those in rural, insular, and high cost areas, should have access to telecommunications and information services, including . . . advanced telecommunications and information services, that are reasonably comparable to those services provided in urban areas"; and (4) "health care providers . . . should have access to advanced telecommunications services as described in subsection (h) of this section."[43] Further, under section 254(h)(2), the Commission is authorized to establish competitively neutral rules "to enhance, to the extent technically feasible and economically reasonable, access to advanced telecommunications and information services for all . . . health care providers . . . ."[44] In defining the services supported by the universal service support mechanisms, Congress emphasized the "evolving" nature of telecommunications and exhorted the Commission to "tak[e] into account advances in telecommunications and information technologies and services."[45] Congress further gave the Commission authority to "designate additional services" eligible for support for health care providers.[46]

15. In light of the Commission's discretion in implementing universal service policies,[47] and Congress' directive to take into account technological innovations in advancing universal service, we

[40] *Id.* at 11112, para. 3.

[41] *Lifeline and Link Up Reform and Modernization et al.,* Report and Order and Further Notice of Proposed Rulemaking, 27 FCC Rcd 6656, 6795, para. 323 (2012) (*2012 Lifeline Order*).

[42] *Id.* at 6801, para. 340.

[43] 47 U.S.C. § 254(b)(1), (2), (3), (6).

[44] 47 U.S.C. § 254(h)(2)(A). The Commission cited to this section as its legal authority to establish the 2006 Rural Health Care Pilot Program. *Rural Health Care Order*, 21 FCC Rcd at 11111, 11115-16, paras. 1, 10-11, 14-15.

[45] 47 U.S.C. § 254(c)(1).

[46] 47 U.S.C. § 254(c)(3). The Commission has determined that "additional services" are not restricted to telecommunications services and that subsection (h) may support Internet access. *See Texas Office of Public Utility Counsel v. FCC*¸ 183 F.3d 393, 441-43 (5th Cir. 1999).

[47] *See Texas Office of Public Utility Counsel v. FCC, id.* at 411.

believe that the Commission is authorized under section 254 to establish a discrete, time-limited pilot program focused on exploring how USF support can be used to promote low-income Americans' access to broadband-enabled telehealth services and applications.[48] We seek comment on this analysis. Are there additional provisions in the Act that support our authority to establish this pilot program? How should we structure the pilot program in light of our statutory authority?

A. Goals of the Pilot Program

16. Before launching any pilot program, we believe it is imperative to define our goals and objectives. We seek comment on the specific goals discussed below and any others that commenters believe we should consider.

17. *Improving Health Outcomes Through Broadband Access*. We first seek comment on the goal of using broadband to increase access to telehealth services and thereby improve health outcomes among participating low-income patients. How can the USF best support this goal? The Commission's existing work on telehealth has produced maps that show the correlation between low-income communities, poor health outcomes, and lack of broadband access.[49] We thus view the Connected Care Pilot Program as a way to help address this identified issue.

18. We also seek comment on the role of broadband in improving health outcomes generally. To that end, we ask that commenters provide data regarding the current state of the remote telehealth and connected care market, specifically data on the types of telehealth services that use broadband connections, the bandwidth required for such services, and any relevant market trends. Have certain types of remote telehealth services been shown to produce better health outcomes than others? What types of benefits can consumers derive through increased access to these broadband-enabled telehealth applications? For example, can a pregnant woman's weight, fetal heartbeat, and blood pressure be read by devices from afar? Can visits with lactation professionals or gestational diabetes specialists be made available via secure broadband connection? Can data be collected online, aggregated for a physician serving a patient who does not reside nearby, and then used to support two-way video consultations? What are the costs associated with increased use of these telehealth services?

19. We further seek comment on how the pilot program can improve health outcomes by focusing on particular demographics or geographical areas. Are there particular populations or demographic groups that are more likely to benefit from increased access to and use of broadband-enabled telehealth services? Do low-income households in certain areas of the country or certain segments of the population experience greater challenges in accessing high-quality health care and achieving good health care outcomes than other groups?

20. Additionally, should the pilot program focus on particular health conditions, areas of medicine, or health crises? We seek comment on these and any other issues commenters believe are relevant in determining how to most effectively allocate the pilot program's resources.

21. *Supporting the Trend Towards Connected Care Everywhere*. As discussed above, there is a movement in telehealth beyond connectivity within and between physical health care centers and towards a connected care everywhere model. This trend has shown promising results for patients, communities, and the health care system. We therefore seek comment on using the pilot program to support the current movement towards direct-to-consumer health care and ensure that low-income Americans can realize the benefits of this trend. What are the costs and benefits of the shift towards ubiquitous connected care?

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[48] The Commission previously relied on its authority under section 254(c)(1) and the universal service principles in section 254(b) to establish the "discrete, time-limited" 2012 Lifeline broadband pilot program to determine whether the Lifeline program could be used to increase broadband adoption among low-income consumers. *2012 Lifeline Order*, 27 FCC Rcd at 6797, paras. 328-330.

[49] FCC, Mapping Broadband Health in America, https://www.fcc.gov/health/maps (last visited July 5, 2018).

22. *Reducing Health Care Costs for Patients, Facilities, and the Health Care System*. We seek comment on using the pilot program to help reduce the rising health care costs faced by consumers and health care facilities.[50] How can the pilot program improve health care affordability for low-income Americans and counteract the burdens of increasing out-of-pocket expenses, including transportation costs for rural and remote patients?[51] How can the pilot program reduce health care expenditures for participating health care providers and their qualifying patients? Can support for telehealth services for low-income patients create savings for Medicaid, and in turn, lessen burdens for taxpayers? To the extent that remote patient monitoring and connected care technologies more generally continue to reduce the overall costs of healthcare in the country, what steps can be taken to incentivize payors in the healthcare system to more fully support the long-term deployment and use of these technologies?

23. *Determining How Universal Service Funding Can Positively Impact Existing Telehealth Initiatives*. We seek to ensure that the pilot program enhances existing telehealth initiatives by the Commission and other federal agencies and we seek comment on this goal. As discussed above, the Commission has assisted with the expansion of health care connectivity in rural and underserved areas through other initiatives such as the Rural Health Care Program and the Connect2Health Task Force. How can the Connected Care Pilot Program act in concert with these existing initiatives? How can we structure the program to avoid duplication of other Commission initiatives and to ensure we test new and novel concepts focused on telehealth delivery and applications?

24. Other federal agencies have also established programs to support telehealth. For example, the Veterans Administration's Home Telehealth program collects information about symptoms and vital signs from the patient's home.[52] The Department of Health and Human Services (HHS) also has various initiatives to promote telehealth, including initiatives focused on providing telehealth services for rural, veterans, and Tribal populations.[53] Notwithstanding these initiatives, physicians and veterans' organizations have stated that lack of connectivity remains a significant barrier to telehealth adoption.[54] We seek comment on lessons learned from these and other government-run telehealth programs, and how the Connected Care Pilot Program could bridge gaps in the federal government's existing initiatives. Which programs have been the most successful at improving health care outcomes? Are there aspects of other programs we should seek to emulate in the pilot program? We also seek comment on how the pilot

[50] *See* Centers for Medicare and Medicaid Services, *supra* note 25.

[51] *Id*.

[52] U.S. Department of Veterans Affairs, Home Telehealth Services, https://www.telehealth.va.gov/ccht/index.asp (last visited June 7, 2018).

[53] HHS has a number of grant programs focused on telehealth, including the Telehealth Network Grant Program, Telehealth Resource Center Grant Program, Evidence-Based Tele-Emergency Network Grant Program, Rural Veterans Health Access Program, Licensure Portability Grant Program, and the Rural Child Poverty Telehealth Network Grant Program. *See* Department of Health and Human Services, Rural Health Funding Opportunities, https://www.hrsa.gov/ruralhealth/programopportunities/fundingopportunities/default.aspx (last visited June 19. 2018). The Indian Health Service has also launched telehealth programs. *See, e.g.,* Indian Health Service, Indian Health Service launches telehealth program to expand health care access for Native veterans, Dean M. Seyler, Director Portland Area Indian Health Service, Indian Health Service Launches Telehealth Program to Expand Health Care Access for Native Veterans, (Nov. 10, 2016), https://www.ihs.gov/newsroom/ihs-blog/november2016/indian-health-service-launches-telehealth-program-to-expand-health-care-access-for-native-veterans/.

[54] *See, e.g.,* Derek B. Johnson, VA Expands Telehealth Access (Aug. 3, 2017), https://fcw.com/articles/2017/08/03/va-telehealth-white-house.aspx (noting the American Legion's concern that veterans facing connectivity barriers may be unable to benefit from expanded telehealth programs); Erin Dietsche, What's Preventing Doctors from Adopting Virtual Care Technologies (July 18, 2018), https://medcitynews.com/2018/07/doctors-virtual-care/?rf=1 (noting that according to one survey, 28 percent of participating doctors "desire improved wireless capabilities" to support telemedicine applications and "[o]nly 14 percent of doctors said they have video visit capabilities").

program can complement existing telehealth initiatives by these federal agencies. How can we avoid duplicating existing programs? Should the Commission coordinate with HHS or other federal agencies in administering and developing the pilot program?

25. *Increasing Broadband Deployment in Unserved and Underserved Areas*. Over the past year and-a-half, the Commission has taken numerous steps to accelerate the deployment of broadband services, remove regulatory barriers to infrastructure deployment, and promote competition in the broadband market.[55] The *2018 Broadband Deployment Report* shows that as of year-end 2016, there have been significant improvements in access to broadband across urban, rural, and Tribal areas.[56] However, broadband deployment in rural and Tribal areas continues to lag behind other parts of the country, and certain non-rural areas are unserved or underserved.[57] We remain committed to promoting further deployment progress and closing this digital divide. We thus seek comment on using the pilot program to promote broadband deployment to unserved and underserved areas.

26. *Increasing Adoption of Broadband Among Low-Income Households*. The Commission's *2018 Broadband Deployment Report* shows year-to-year increases in broadband adoption rates across the country, including in rural areas and on Tribal lands.[58] Adoption rates remain lower among low-income, rural, and Tribal populations, however, compared to other segments of the population.[59] We therefore seek comment on whether another goal of our pilot program should be increasing adoption of broadband in low-income households by making broadband service more affordable.

27. To the extent the pilot program would additionally increase adoption of broadband service among non-adopters, we believe program participants could also gain from the many other benefits of broadband subscription, and that these benefits should be accounted for in evaluating the pilot program. We seek comment on this view. The *2012 Lifeline Order* noted that one of the benefits of increasing the availability of broadband for low-income Americans is that of the network effects of widespread subscribership.[60] How could this pilot program help to bridge the digital divide? What externalities might the pilot program produce for the economy and society?

[55] *See Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, 33 FCC Rcd 1660, 1661-62, para. 5 (2018).

[56] *Id.* at 1681-91, paras. 50-61.

[57] *See id*.

[58] *Id.* at 1698-1702, paras. 72-78.

[59] *Id.*

[60] *2012 Lifeline Order*, 27 FCC Rcd at 6665-67, paras. 16-18.

B. Structure of the Program

28. We seek comment on designing the Connected Care Pilot Program to fund a limited number of projects that would promote the use of broadband-enabled telehealth services to low-income consumers, including low-income veterans, with a focus on such services delivered to patients beyond the doors of brick-and-mortar health care facilities. More specifically, we could permit up to 20 health care providers that serve primarily low-income populations to partner with at least one facilities-based broadband service provider and apply for a maximum of $5 million in universal service funding for supported services that would be used to deliver these connected care services to eligible low-income patients We seek comment on this structure generally and on a number of specifics regarding how to design the pilot program, including (1) the size of the program budget; (2) the application process and the types of broadband-enabled telehealth projects that should be selected; (3) eligibility criteria for participating health care providers, broadband service providers, and low-income consumers; (4) the broadband services and other communications services and equipment that should be supported; (5) the number of projects that should be selected, the amount of support, and how it should be disbursed; and (6) the duration of the pilot program. We also seek comment below on any federal, state, or local regulatory barriers to telemedicine that we should consider, on how to ensure that pilot program funds are used responsibly, and on how to ensure that patient information is protected. Finally, we seek comment on how lessons learned from past Commission pilot programs should inform the structure of this pilot program.

1. Budget

29. We seek comment on the budget for this program. Subject to the careful identification of appropriate pilot projects, we seek comment on directing USAC to set aside $100 million in funding for the pilot program. Is a $100 million budget adequate to conduct robust analysis of the effectiveness of directing universal service support to promoting the use of connected care services by low-income patients?

30. What other factors should we consider when establishing the budget for this pilot program? In particular, while any increase in USF expenditures must be paid for through contributions from ratepayers, we recognize at the same time that overall spending in the Lifeline program has declined recently.[61] In light of this, what impact would a $100 million budget have on the USF contribution factor and would any additional costs borne by ratepayers be outweighed by the potential benefits of the pilot program? Further, we note that the pilot program would target benefits to low-income consumers.

2. Application Process and Types of Pilot Projects to Be Supported

31. We seek comment on the application process for participants in the pilot program. We expect that an eligible health care provider would need to submit information such as: (1) a description of its proposed pilot project, including how the project will enable care to be delivered directly to patients beyond the walls of physical health care centers; (2) a description of the low-income population that would benefit from the project; (3) a description of how the health care provider will evaluate the results of its proposed pilot project (e.g., improved health outcomes, cost savings, etc.); (4) the name of the broadband service provider(s) with which they would partner; and (5) the supported services that partner would provide. What additional types of information should applicants be required to submit and how much detail should they be required to supply regarding their proposed pilot projects and the supported services for which they are seeking funding? We seek comment on these and any other issues that commenters believe we should consider in developing an application process for the pilot program.

32. We also seek comment on the criteria for selecting the types of connected care pilot projects that should be supported through the pilot program. Should we select pilot projects based on

[61] Between 2012 and 2016, Lifeline disbursements decreased by almost $616 million or roughly 29 percent. *See Federal-State Joint Board on Universal Service*, 2017 Universal Service Monitoring Report, at 24, Table 2.2 (2017) (rel. Apr. 13, 2018), https://www.fcc.gov/general/federal-state-joint-board-monitoring-reports.

whether they address a specific health issue or demographic? For example, should proposed projects focus on opioid addiction, diabetes, stroke, postpartum depression, or post-traumatic stress disorder? Are there specific patient groups among low-income Americans that proposed projects should serve, such as veterans, residents of Tribal lands, pregnant women, the elderly, or disabled Americans?

33. Should we give priority to certain projects over others, and if so, on what basis? For example, should we prioritize applications in which the partnering broadband service provider is willing to contribute the end-user equipment or other components needed to ensure a successful project? Or should we prioritize projects proposing new facilities-based deployments or upgrades to existing facilities, or ensure that at least one pilot project involving new or upgraded deployment is included in the pilot program? Would prioritizing or requiring a facilities-based component promote broadband deployment in unserved and underserved areas? How should we weight the importance of deployment in selecting pilot projects? Many communities still lack high-speed broadband access, especially rural communities. This can hinder these communities from taking advantage of connected care services. How can offering this pilot program promote infrastructure construction and deployment to these communities? To the extent that we prioritize projects with a deployment element, how should we prevent overbuilding of other USF recipients and beneficiaries of broadband deployment assistance financing from the Rural Utilities Service?[62]

3. Eligible Health Care Providers

34. We seek comment on how to determine which health care providers should be permitted to participate in the pilot program. As a threshold criterion for eligibility, we seek comment on limiting the pilot program to health care providers that predominantly serve low-income patients, such as clinics or hospitals serving patients eligible for Medicaid or veterans receiving cost-free medical care based on income. We seek comment on this standard and appropriate proxies for identifying clinics or hospitals serving these specific low-income patient populations. For example, should we limit participation to health care providers serving a certain percentage of Medicaid-eligible patients, and if so, what should that percentage be? Are there other or additional proxies we should use? Alternatively, should we allow a health care provider to participate in the pilot program—regardless of how many low-income patients it serves—so long as it limits participation in its pilot project to low-income patients?

35. Should we consider location as a factor in selecting participating clinics and hospitals? If so, should the pilot program prioritize participating clinics and hospitals in rural areas? Should the pilot program prioritize communities that have lost clinics, local hospitals, or specific services for patients such as obstetric and gynecological physicians or maternity wards? Or should it seek geographic diversity by including clinics in both urban and rural locations? How should "rural" and "urban" be defined for purposes of the pilot program? Should the pilot program include at least one partnership involving clinics or hospitals located on Tribal lands?

36. We seek comment on any additional criteria that participating clinics or hospitals should be required to meet and how we should define that criteria. For example, should we limit the pilot program to clinics and hospitals with established telehealth programs, and if so, how should we define that criterion? Or should we consider factors such as the average income, population density, and/or broadband adoption rate in the area where the clinic or hospital is located? If so, what would be the appropriate geographic level (e.g., municipality, county, etc.) for determining average income, average population density, and/or average broadband adoption rate?

4. Partnering with Facilities-Based Eligible Telecommunications Carriers

37. We seek comment on the eligibility criteria for broadband service providers to participate in the pilot program. Specifically, we seek comment on requiring broadband service providers participating in the pilot program to be facilities-based eligible telecommunications carriers (ETCs)

[62] *See* Lennard G. Kruger, Broadband Loan and Grant Programs in the USDA's Rural Utilities Service, Congressional Research Service Report at 9, 18 (Apr. 20, 2018), https://fas.org/sgp/crs/misc/RL33816.pdf.

designated pursuant to section 214 of the Act[63] in order to participate. We believe that this approach would be consistent with the Lifeline program, which also targets benefits toward low-income consumers and limits service provider participation to ETCs.[64] Further, we believe that participants should be facilities-based ETCs given that one of the goals of the pilot is to increase broadband deployment in unserved and underserved areas. We seek comment on these views. Should we instead permit participation in the pilot program by facilities-based broadband service providers that are not ETCs, and if so, why? Are there other criteria we should consider in determining which broadband service providers should be eligible to participate?

38. We also seek comment on requiring eligible health care providers to partner with at least one facilities-based ETC on their proposed telehealth pilot projects before submitting their applications for funding. We believe that facilities-based ETCs sharing their expertise on the types of broadband offerings needed for the clinic or hospital's proposed pilot project could result in more robust proposals for funding and more efficient use of pilot program resources. We seek comment on this view and on any potential alternatives to this requirement. Additionally, we seek comment on any implementation issues with respect to this requirement. For example, would eligible health care providers need to contract with a partnering broadband service provider before submitting their applications for funding?

5. Eligible Low-Income Subscribers

39. We seek comment on requiring participating health care providers to use the pilot program benefits exclusively for low-income patients. Specifically, we seek comment on limiting the participating health care providers' use of the pilot program funding to Medicaid-eligible patients, as well as veterans who qualify based on income for cost-free health care benefits through the Department of Veterans Affairs (VA).[65] We believe that focusing on Medicaid patients and veterans who qualify for cost-free health care through the VA based on income would ensure that pilot program funds are appropriately targeted to low-income individuals, while also relieving participating hospitals and clinics of the burdens that would otherwise be associated with determining whether individual patients receiving broadband services funded by the pilot program qualify as low-income. We seek comment on this view and on any alternative requirements.

40. Are there additional eligibility criteria that will ensure that program funding is allocated to patients most in need of support to access telehealth services? For example, should we limit participation to qualifying low-income Americans who do not subscribe to broadband service, or only remain intermittently subscribed? Should the pilot program exclude participants who already have broadband or would purchase it in the absence of a subsidy?[66] Alternatively, should the pilot program's benefits flow to low-income households that have already adopted broadband service but need support for

[63] 47 U.S.C. § 214(e).

[64] 47 CFR § 54.201(a)(1).

[65] Department of Veterans Affairs, Health Benefits, Financial Assessment, https://www.va.gov/HEALTHBENEFITS/cost/financial_assessment.asp (last visited July 30, 2018) (describing VA's financial assessment to determine whether a veteran qualifies for health care through the VA without co-pays); Department of Veterans Affairs, Health Benefits, Determine Cost of Care, https://www.va.gov/HEALTHBENEFITS/cost/ (last visited July 30, 2018) (discussing qualifying factors for cost-free health care services through the VA).

[66] *See, e.g.*, John W. Mayo *et al*., *Toward a More Efficient and Effective Lifeline Program*, Georgetown Center for Business and Public Policy Economic Policy Vignette 2015-8-31, at 4 (Aug. 2015), https://cbpp.georgetown.edu/sites/cbpp.georgetown.edu/files/Mayo-Wallsten-Ukhaneva-toward-more-efficient-lifeline-program.pdf.

higher speed connectivity to access bandwidth-intensive telehealth services?[67] Which of these approaches would best promote the goals of the pilot program?

41. We also seek comment on how the pilot program should fund and report on consumers who meet our subscriber eligibility criteria when enrolling in the pilot but subsequently become ineligible for Medicaid or cost-free VA health care benefits or no longer use the participating clinic or hospital's services. How would the Commission know whether a qualifying low-income patient is continuing to use the broadband service for telehealth services or applications? Should the pilot program permit participating health care providers to sign up additional low-income subscribers at any point during the pilot program, or should enrollment of low-income subscribers be cut off at some specific point after the launch of the pilot program?

6. Supported Services

42. *Broadband Service*. We anticipate that the pilot program would provide funding for: (1) broadband connectivity that eligible low-income patients of participating clinics and hospitals would use to receive connected care services (as well as for other uses); and (2) broadband connectivity that the participating clinic or hospital needs to conduct its proposed connected care pilot project. We seek comment on the modalities of broadband service that the pilot program should support. We believe the pilot program should support both fixed and mobile broadband service and we seek comment on this view. We also believe that each participating hospital and clinic, working in partnership with facilities-based ETCs, would determine the modality of service received by the qualifying patients of the participating clinics and hospitals. We seek comment on this view.

43. In the pilot program, we expect participating ETCs to work with the participating clinics or hospitals to ensure the supported broadband is sufficient for the health care uses for which it is intended. Many traditional broadband-enabled telehealth services require high bandwidths and low latency,[68] but this may not be the case for newer, connected care services. Should the Commission adopt minimum service standards for the pilot program? Should those minimum service standards include minimum service speeds? Should the Commission consider service and device needs for synchronous applications (such as live video-conferencing to the patient's home) and asynchronous services (such as store-and-forward data transmittals), or both?

44. Should the pilot program require specific service reliability commitments, to prevent patients of the participating clinics and hospitals from losing access to necessary health care services during the pilot program? If so, what would be an appropriate service reliability commitment? How could we ensure that partnering broadband service providers are meeting their service reliability commitments? Should the pilot program include a mechanism for participating health care providers to report concerns about the broadband service provided through the program, and what should that mechanism be? Should the pilot program also include a mechanism for qualifying patients of participating clinics and hospitals to report broadband service concerns?

45. Further, we seek comment on whether the pilot program should fund connectivity for emergency medical service facilities, such as ambulances. Such facilities are currently ineligible for support in the Rural Health Care Program.[69] However, EMS-based telehealth may help triage patients more quickly and effectively and lead to cost savings for local governments.[70]

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[67] *See* The U.S. Chamber of Commerce, The Impact of Broadband on Telemedicine at 20 (2009), https://telehealth.org/sites/default/files/BroadbandandTelemedicine.pdf.

[68] *Id.*

[69] *See* Universal Service Administrative Company, Rural Health Care, https://www.usac.org/rhcp/participants/eligibilty.aspx (last visited July 10, 2018).

[70] *See, e.g.*, Neil Versel, Houston EMS gets to 'mobile integrated healthcare' with telemedicine triage, MedCityNews (Feb. 22, 2017), https://medcitynews.com/2017/02/houston-ems-telemedicine-triage/ (noting a seven

46. *Equipment*. We next ask whether the pilot program should support equipment necessary for the effective use of the broadband service, and to what extent such support is permitted under our Section 254 authority. Should the pilot program fund routers and servers at the clinic or hospital to assist with the additional telehealth needs? We note that the Healthcare Connect Fund (HCF) provides support for "network equipment necessary to make a broadband service functional in conjunction with providing support for the broadband service" and for consortium applicants, the HCF also provides support for "equipment necessary to manage, control, or maintain a broadband service or a dedicated healthcare broadband network."[71] Should the Connected Care Pilot Program provide similar support? Why or why not?

47. We also seek comment on providing pilot program support for end-user devices. Should the pilot program fund equipment used to provide connected care services, such as remote patient monitoring equipment? What about tablets or smartphones that could be used for the telehealth applications but would also enable access to many other non-telehealth applications? The Lifeline program, which is targeted toward low-income consumers, does not support consumer equipment or devices.[72] Similarly, the HCF does not provide funding for equipment that is not directly associated with making broadband services functional (such as computers, end-user wireless devices, smartphones, tablets, and video/audio/web conferencing equipment or services).[73] Should we allow funding of end-user equipment or devices during this pilot program, and if so, what would be the statutory authority?

48. *Applications*. Should the pilot program fund mobile health applications selected by the participating health care providers for use by their participating patients? While the Lifeline and Rural Health Care programs fund supported services for the respective programs, they do not fund applications that run over supported services.[74] Would the funding of telehealth applications for purposes of this pilot program be consistent with our statutory authority under section 254?

7. Number of Pilot Projects Selected, Support Amount, and Disbursement

49. We seek comment on allowing each participating partnership to apply for a set amount of funding through the pilot program. To this end, how many projects should we select for participation in the pilot program and what should be the total funding cap on each selected project, assuming a total program budget of $100 million? We seek comment in particular on selecting a limited number of projects, such as a maximum of 20 projects. Would this number allow us to adequately explore the use of USF funding to promote connected care services among low-income households and low-income veterans? We also seek comment on whether funding should be established at a set monthly amount per low-income household, similar to the funding method used in the Lifeline program. Alternatively, should we disburse funding in greater amounts than a monthly per-household amount to better incent the development of robust connected care pilot projects? What should be the funding cap on selected projects? Would $5 million be an appropriate cap? We seek comment on whether that amount would sufficiently cover the cost of relevant projects. For example, researchers have found that the average cost

(Continued from previous page)
percent reduction in the number of people transported to an emergency department after an EMS dispatch, as well as annual cost savings for the city of Houston of $928,000, based on emergency department visits avoided).

[71] *Rural Health Care Mechanism*, Report and Order, 27 FCC Rcd 16678, 16751, para. 157 (2012) (*HCF Order*); FCC, Healthcare Connect Fund, Frequently Asked Questions, No. 25-What Types of Equipment are Eligible in Healthcare Connect, https://www.fcc.gov/general/healthcare-connect-fund-frequently-asked-questions#Q25 (last visited June 24, 2018).

[72] *See, e.g.*, *Lifeline and Link Up Reform and Modernization*, Third Report and Order, Further Report and Order, and Order on Reconsideration, 31 FCC Rcd 3962, 4005, para. 125 (2016) (declining to depart from the Commission's longstanding decision not to provide Lifeline support for customer equipment).

[73] *HCF Order*27 FCC Rcd at 16754-55, para. 167 (2012); FCC, Healthcare Connect Fund, Frequently Asked Questions, *supra* note 71.

[74] *See* 47 CFR §§ 54.400(n), 54.403(a)(1), (3), 54.639(a).

of remote patient monitoring (including equipment, servicing, and monitoring) ranges from approximately $275 to $8,000 per patient per year, with those costs falling.[75] Based on these estimates, a remote patient monitoring pilot project with 100 patient participants would cost no more than $2.4 million over three years. Or should we allow funding to be disbursed in even larger amounts, such as a maximum of $20 million per project, to better incent deployment or meaningful upgrades to facilities used to provide the needed broadband service?

50. We also seek comment on the most effective and efficient method for distributing pilot program funding and our statutory authority for doing so. Should we consider existing USF programs as models? In the Lifeline program, for example, qualifying consumers receive discounts on supported services with the USF funding going directly to the eligible telecommunications carriers based on reimbursement claims for service provided to qualifying Lifeline subscribers.[76] In the Rural Health Care Program, qualifying health care providers receive discounts on eligible services and the reimbursement goes to the service provider.[77] In the E-rate program, eligible schools and libraries receive discounts for eligible services,[78] and may choose to either be reimbursed directly by USAC for services paid in full to the service provider, or receive discounted services from the service provider with the service provider receiving the reimbursement.[79] What disbursement model would best suit the goals of the pilot program? Should funds be disbursed directly to the participating health care providers or to the participating broadband service providers? Or should the discounts flow directly to the qualifying patients of participating clinics or hospitals? Does our statutory authority permit us to provide funding to clinics or hospitals? What are the costs and benefits to these various approaches?

8. Duration

51. We seek comment on the duration of the pilot program and whether we should adopt a two- or three-year funding period. Would such a timeframe be sufficient to obtain meaningful data and promote long term adoption of broadband-enabled telehealth services? Is two or three years of funding long enough to observe metrics to evaluate the pilot program's performance? Should we consider a longer funding period, particularly given our objective to encourage network deployment and the amount of time such deployment can take? We expect to include a time period before the pilot program commences to allow for the formation and organization of partnerships and a period for enrollment. Similarly, we expect the program to be followed by an evaluation period. We seek comment on this approach. Would providing a six-month ramp-up period and a six-month wind-down period be sufficient?

9. Compliance with Federal, State, and Local Laws

52. We seek comment on any federal, state, or local regulatory barriers to telemedicine that we should consider in designing the pilot program. For example, state medical licensing boards generally restrict cross-state practice and often prevent telehealth providers from treating patients across state lines.[80] To what extent would such restrictions preclude pilot projects involving an interstate telehealth component? We also seek comment on whether intrastate restrictions on telehealth services may limit certain types of pilot projects. For instance, certain states limit or prohibit Medicaid reimbursement for

[75] Rheuban & Krupinski, *supra* note 13, at 141.

[76] 47 U.S.C. § 214(e), 47 CFR §§ 54.403(a)(1), 54.407(a)

[77] 47 CFR § 54.602.

[78] 47 CFR §§ 54.501-54.505.

[79] Universal Service Administrative Co., Step 5 Invoicing, https://www.usac.org/sl/service-providers/step05/default.aspx (last visited June 25, 2018).

[80] *See* Shirley V. Svorny, *Liberating Telemedicine: Options to Eliminate the State Licensing Roadblock*, Cato Institute Policy Analysis No. 826, at 6 (Nov. 2017), https://object.cato.org/sites/cato.org/files/pubs/pdf/pa-826.pdf.

telemedicine services and others prohibit drug prescriptions in the absence of an in-person exam.[81] Are there additional state law issues that we should consider in developing the pilot program and how should we address them? How should we ensure that participating health care providers comply with applicable federal, state, and local laws? For example, should we require them to certify such compliance?

10. Ensuring the Effective, Fiscally Responsible Use of Pilot Program Funds

53. We are mindful of the need to ensure that pilot program funds are spent wisely and appropriately. How can the Commission ensure that pilot program funding is only used for its intended purposes? Should participating clinics and hospitals and/or ETCs be required to report certain data to this end? For example, should we require participating health care providers and/or ETCs to report aggregated data on whether participating patients are using the supported broadband service to access telehealth applications and services during the pilot program? Do we have the authority to impose such reporting obligations on participating health care providers if they do not receive universal service support directly? Should participating health care providers and/or ETCs be subject to audits at the midpoint or end of the pilot program to ensure the pilot program funds are only being used for their intended purposes?

54. How can the Commission ensure that only eligible low-income patients received the pilot program's benefits? For example, should we require participating health care providers and/or ETCs to certify throughout the pilot program that they are providing supported services to qualified, participating patients? What other measures should the Commission take to maintain control over billing, collection, and disbursement of pilot program funds and to protect against waste, fraud, and abuse?

11. Protecting Patient Information

55. Patient health information is among the most sensitive type of data. We therefore seek comment on how the Commission would obtain data on health outcomes while safeguarding patient information and complying with medical information privacy laws. For example, rules issued under the authority of the Health Insurance Portability and Accountability Act of 1996 (HIPAA) regulate the use and disclosure of "protected health information" by covered entities.[82] How can health care providers gather comprehensive and informative data on patients participating in pilot projects while remaining HIPAA-compliant? Should the Commission adopt requirements to protect sensitive information or limit use of information collected during the pilot program? Are there measures for de-identifying or aggregating patient information that participating health care providers should use? Should patients participating in the program be required to authorize disclosure of their protected health information?

56. How can we ensure that participating health care providers and their partner broadband providers comply with cybersecurity best practices[83] and minimize data breach risks? Are there levels of cybersecurity that participating clinics and hospitals and their partner ETCs should have in place to be eligible for the pilot program?

12. Lessons Learned from Past Pilot Programs

57. We seek comment on specific takeaways from the 2006 Rural Health Care Pilot Program and the 2012 Lifeline Pilot Program that should inform how we structure this pilot program. In the wake of those programs, staff from the Wireline Competition Bureau released reports regarding key lessons

[81] *Id.* at 5.

[82] 45 CFR §§ 164.102-534 (HHS "Privacy Rule").

[83] In the case of electronic protected health information, these best practices would include the security measures required in the HHS "Security Rule." 45 CFR §§ 164.302-318.

learned.[84] Are there particular lessons that are relevant here? Are there aspects of the design of those pilot programs, such as the size, amount, or types of projects funded, eligibility criteria, application process, support amount, disbursement process, or reporting requirements, that we should incorporate or avoid here?

C. Measuring Effectiveness of the Program

58. Past Commission pilot programs were designed to collect detailed data and enable statistically sound analysis of the viability of new funding initiatives to improve access to broadband services. Similarly, here, we expect that the Connected Care Pilot Program would measure the program's effectiveness in improving health outcomes for low-income consumers through increased access to broadband-enabled telehealth services as well as in reaching the other program goals discussed above. We seek comment on this expectation and on how best to measure and track the program's progress and success.

59. We seek comment specifically on the metrics discussed below and on methodologies for gathering reliable and comprehensive data. Were the data-gathering methods employed in past Commission pilot programs successful in obtaining informative data? Why or why not? Further, how can we obtain sufficient information to evaluate the performance of the pilot program while minimizing burdens on participating clinics and hospitals and their partner ETCs?

60. Which pilot program participants (i.e., health care providers and/or ETCs) should be responsible for reporting particular data to the Commission as a condition of participating in the program? Should the entity that is a direct recipient of USF funds through the pilot program ultimately be responsible for the required reporting? How often should required reports be submitted and in what format?

61. *Measuring Patient Health Outcomes and Behavior*. Since the fundamental goal of the pilot program is to improve health outcomes among low-income Americans through the use of expanded access to telehealth services, we seek to measure the effectiveness of the pilot program in promoting better health among qualifying patients. We seek comment on which metrics should be used to measure improvements in the health of qualifying patients. Possible metrics might include: reductions in emergency room or urgent care visits in a particular geographic area or among a certain class of patients; decreases in hospital admissions or re-admissions for a certain group; condition-specific outcomes such as reductions in premature births or acute incidents among sufferers of a chronic illness; and patient satisfaction as to health status. Higher level metrics include mortality rates among patients targeted by the program and measurements on quality-of-life. We seek comment on these and other health outcome metrics.

62. We also seek comment on evaluating patient behavior in response to the pilot projects, including effects on patient use of telehealth resources. How should such behavioral effects be measured? Examples might include compliance with medication instructions; compliance with self-monitoring instructions, such as checking glucose levels at recommended intervals; and attendance records for appointments, both remote and in-person. Participating health care providers could also track changes in their own behavior in response to patients' access to telehealth services, such as reductions in appointment wait times. We seek comment on these and any other relevant behavioral metrics.

63. For metrics on patient health outcomes and behavior, should we require the presence of control groups to compare pilot program beneficiaries to non-beneficiaries? Should the Commission partner with organizations or agencies with health care expertise to identify relevant metrics and/or appropriately analyze the reported data to ensure that the results are meaningful?

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[84] *See generally, Wireline Competition Bureau Evaluation of Rural Health Care Pilot Program Staff Report*, 27 FCC Rcd 9387 (2012); *Wireline Competition Bureau Low-Income Broadband Pilot Program Staff Report,* 30 FCC Rcd 4960 (2015).

64. *Measuring Health Care Savings*. We seek comment on measuring the savings to patients, providers, and the health care system as a result of the pilot program. In a 2012 report on the Rural Health Care Pilot Program, the Wireline Competition Bureau summarized the cost savings that participating health care providers reported as a result of the pilot program funding.[85] For example, the Palmetto State Providers Network in South Carolina reported savings of $18 million in Medicaid costs over 18 months as a result of its tele-psychiatry program, which used a network built with up to $8.3 million in funding from the Rural Health Care Pilot Program.[86] We believe that a similar evaluation of the impact of the Connected Care Pilot Program on health care costs would be useful to measuring its success. We seek comment on this view and on specific metrics that could be used to assess the cost savings resulting from the pilot program. For example, should we collect data on participating health care providers' savings from fewer and/or shorter hospitals stays, reductions in emergency hospital transports, or reductions in costs associated with traveling to patients? Additionally, should we measure health care-related savings for participating low-income patients as a result of the pilot projects, and if so, how? For example, should we collect data on participating patients cost savings from decreases in patient costs for hospitalizations or hospital transports, or savings in time and expenses associated with patient travel to doctors' offices?

65. *Measuring Enhancement to Existing Telehealth Initiatives.* We seek comment on tracking the pilot program's success in enhancing existing telehealth initiatives. How should we measure the pilot program's progress in complementing the Commission's Rural Health Care Program and other telehealth initiatives? Are there efficient methods to measure the pilot program's impact on other federal telehealth programs or any state initiatives? How can we verify that the pilot program is not duplicating other government programs?

66. *Measuring Broadband Deployment*. We seek comment on measuring the pilot program's effects in promoting deployment of broadband in unserved and underserved areas. How would we quantify the program's performance in spurring broadband deployment in areas where pilot projects are located?

67. *Measuring Broadband Adoption.* We seek comment on measuring broadband adoption rates among low-income patients of clinics and hospitals participating in the pilot program. How would we quantify the program's success in convincing non-adopters to adopt broadband? Should we narrowly focus on adoption, or rather on the benefits adoption brings, such as improved scholastic performance of children of subsidized adopters, changes in employment status, or earnings, or even just a higher quality of life due to access to entertainment over broadband? Should the pilot program ask whether qualifying patients of the participating clinics and hospitals are using broadband for non-health purposes?

IV. PROCEDURAL MATTERS

68. *Ex Parte Presentations*.—The proceeding this Notice of Inquiry initiates shall be treated as a "permit-but-disclose" proceeding in accordance with the Commission's *ex parte* rules.[87] Persons making *ex parte* presentations must file a copy of any written presentation or a memorandum summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine period applies). Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentation must (1) list all persons attending or otherwise participating in the meeting at which the *ex parte* presentation was made, and (2) summarize all data presented and arguments made during the presentation. Memoranda must contain a summary of the substance of the *ex parte* presentation and not merely a listing of the subjects discussed. More than a one or two sentence description of the views and arguments presented is generally required. If the

[85] *Wireline Competition Bureau Evaluation of Rural Health Care Pilot Program Staff Report*, 27 FCC Rcd 9387, 9389, 9431-33, Executive Summary and paras. 72-73, (2012).

[86] *Id*.

[87] 47 CFR §§ 1.1200 *et seq*.

presentation consisted in whole or in part of the presentation of data or arguments already reflected in the presenter's written comments, memoranda or other filings in the proceeding, the presenter may provide citations to such data or arguments in his or her prior comments, memoranda, or other filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the memorandum. Documents shown or given to Commission staff during *ex parte* meetings are deemed to be written *ex parte* presentations and must be filed consistent with Section 1.1206(b) of the Rules.[88] In proceedings governed by Section 1.49(f) or for which the Commission has made available a method of electronic filing, written *ex parte* presentations and memoranda summarizing oral *ex parte* presentations, and all attachments thereto, must be filed through the electronic comment filing system available for that proceeding, and must be filed in their native format (*e.g.*, .doc, .xml, .ppt, searchable.pdf).[89] Participants in this proceeding should familiarize themselves with the Commission's *ex parte* rules.

69. *Comment Filing Procedures*.—Pursuant to Sections 1.415 and 1.419 of the Commission's rules,[90] interested parties may file comments and reply comments on or before the dates indicated on the first page of this document. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS).[91]

- Electronic Filers: Comments may be filed electronically using the Internet by accessing the ECFS: http://apps.fcc.gov/ecfs/

- Paper Filers: Parties who choose to file by paper must file an original and one copy of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number.

- Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

- All hand-delivered or messenger-delivered paper filings for the Commission's Secretary must be delivered to FCC Headquarters at 445 12th St., SW, Room TW-A325, Washington, DC 20554. The filing hours are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes and boxes must be disposed of before entering the building.

- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9050 Junction Drive, Annapolis Junction, MD 20701.

- U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12th Street, SW, Washington, DC 20554.

70. People with Disabilities: To request materials in accessible formats for people with disabilities (braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer & Governmental Affairs Bureau at 202-418-0530 (voice), 202-418-0432 (tty).

71. Availability of Documents. Comments and reply comments will be publicly available online via ECFS.[92] These documents will also be available for public inspection during regular business

[88] 47 CFR § 1.1206(b).

[89] 47 CFR § 1.49(f).

[90] *See* 47 CFR §§ 1.415, 1419.

[91] *See* Federal Communications Commission, Electronic Filing of Documents in Rulemaking Proceedings, 63 Fed. Reg. 24121 (May 1, 1998). Consistent with current practice, if we adopt the Section 73.215 proposal, we intend to rely on licensing records available in CDBS to determine the amount of time a "sub-maximum" station has been operating below class maximums.

[92] Documents will generally be available electronically in ASCII, Microsoft Word, and/or Adobe Acrobat.

hours in the FCC Reference Information Center, which is located in Room CY-A257 at FCC Headquarters, 445 12th Street, SW, Washington, DC 20554. The Reference Information Center is open to the public Monday through Thursday from 8:00 a.m. to 4:30 p.m. and Friday from 8:00 a.m. to 11:30 a.m.

72. Additional Information. For additional information on this proceeding, contact Rashann.Duvall@fcc.gov, (202) 418-1438, or Arielle. Roth@fcc.gov, (202) 418-2859.

V. ORDERING CLAUSES

73. Accordingly, IT IS ORDERED, pursuant to the authority contained in Sections 1, 4(i), 4(j), 254 and 403 of the Communications Act of 1934, as amended, 47 U.S.C §§ 151, 154(i), 154(j), 254 and 403, that this Notice of Inquiry IS ADOPTED.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

STATEMENT OF
CHAIRMAN AJIT PAI

Re: *Promoting Telehealth for Low-Income Consumers*, WC Docket No. 18-213.

In a 1962 episode of the futuristic animated series, *The Jetsons*, Elroy complains to his mother, Jane, that he's come down with "Venus Virus" and can't go to school. A skeptical Jane summons the family physician through the push of a button; within seconds, Dr. Racey appears on a videophone to examine Elroy, saving the family a trip to his office.[1] As it turns out, Elroy was simply looking for an excuse to skip his "Space Calculus" exam.

Over fifty years later, this scene no longer seems like fantasy. Indeed, the FCC Chairman back when that *Jetsons* episode aired, Newton Minow, has made waves in recent years explaining how telehealth, of all the broadband-based applications, can make the biggest and most positive difference in American society. He and I recently collaborated to discuss these advances in communications technology.[2] We talked about the children in Scottsville, Kentucky, a town I visited this year, where the nearest pediatrician is almost 30 miles away. Thanks to a high-speed broadband connection, doctors from Vanderbilt University Children's Hospital can now examine Scottsville students on a video screen and give them an immediate diagnosis.

And telehealth services today go beyond visits from the virtual doctor, as the former Chairman and I observed. Patients can use remote monitoring and mobile health applications through connected devices to track their health and receive care wherever they are. A hospital in rural Virginia uses technology to remotely monitor patients who've left the hospital, dramatically reducing sepsis. The Cleveland Clinic deploys a mobile stroke unit with advanced wireless capability in order to assess and stabilize a patient 38 minutes more quickly than before (vital, since a stroke victim loses 2 million brain cells a minute). And as highlighted in a November 2017 White House report, telemedicine can connect opioid patients to caregivers when there is no other option, with wearable biosensors detecting real-time drug use and alerting a family member or first responder to intervene.[3]

Broadband-enabled telehealth services like these can significantly improve Americans' health and reduce costs for patients and health care providers alike. But many low-income consumers, especially those in rural areas, lack access to affordable broadband and may not be able to realize these benefits. That's why we're launching an initiative to figure out how the FCC can support the delivery of connected care services to low-income Americans. Specifically, we're exploring a program to promote the use of broadband-enabled telehealth services among low-income families and veterans, with a focus on services delivered directly to patients beyond the doors of brick-and-mortar health care facilities. We're asking for public input on the goals of, and statutory authority for, this "Connected Care" pilot program as well as how best to design the pilot program.

I'd like to thank Commissioner Carr for his leadership on this *Notice of Inquiry*, and I look forward to working with my colleagues to bridge this critical gap in the digital divide. And thank you to the dedicated Commission staff who worked on this item: Kate Dumouchel, Rashann Duvall, James Eisner, Jodie Griffin, Trent Harkrader, Kris Monteith, Ryan Palmer, Eric Ralph, Arielle Roth, Craig Stroup, Tracy Waldon, and Rodger Woock of the Wireline Competition Bureau; and Malena Barzilai, Ashley Boizelle, Richard Mallen, and Linda Oliver of the Office of General Counsel. A healthier

[1] *The Jetsons: Uniblab* (Hanna-Barbera Productions Nov. 25, 1962), *available at* https://www.dailymotion.com/video/x2y7qxj at 3:22-5:15.

[2] Newton N. Minow and Ajit Pai, "In rural America, digital divide slows a vital path for telemedicine," *Boston Globe* (May 21, 2018), *available at* https://www.bostonglobe.com/opinion/2018/05/20/rural-america-digital-divide-slows-vital-path-for-telemedicine/t8n4ncsfFcUASdf7XLH38J/story.html.

[3] The President's Commission on Combating Drug Addiction and the Opioid Crisis, at 88 (Nov. 1, 2017), *available at* https://www.whitehouse.gov/sites/whitehouse.gov/files/images/Final_Report_Draft_11-1-2017.pdf.

America is a better America, and you're helping to make this possible.

STATEMENT OF
COMMISSIONER MICHAEL O'RIELLY

Re: *Promoting Telehealth for Low-Income Consumers*, WC Docket No. 18-213.

From the outset, I want to commend my colleague, Commissioner Carr, for picking up and running with a critical matter after the departure of Commissioner Clyburn, who championed this issue during her tenure. Having spent a portion of my past career focused on health care, and specifically on health care technology, I am very aware of just how incredibly complex and intertwined the overarching problems can be. From licensing and funding, to jurisdictional lines and overall inertia, improving America's health care system is not for the faint of heart and isn't something where you can just dabble. I know Commissioner Carr realizes how all-encompassing health care technology policy can be and is up to the task.

Similarly, working within the bounds of the FCC's universal service programs can be equally complex, especially since they were made explicit by Congress. These programs have served to help connect consumers and communities that would not otherwise have access to modern communications networks. Accordingly, it is not surprising to see a desire to expand their scope to other aspects of our increasingly connected lives. At the same time, there are certain statutory, fiscal, and practical limits on this agency's mission that keep us from engaging in certain areas, no matter how compelling a particular idea may be.

My goal is to ensure that any new program is: legally sound; coordinated both within the universal service fund (USF) and with other agency programs to avoid duplication; cost-effective for consumers and businesses that would fund it; and accountable to the agency and the American public. This Notice of Inquiry does raise some concerns along those lines, which I will touch on briefly.

- First, I have been skeptical of the agency's authority to conduct pilot programs, particularly those that involve beneficiaries, services, and equipment not already authorized by law. At a minimum, I suspect we may need to pare back the scope of any such pilot project as this. Devices and ambulances, just to name two, seem far out of bounds.
- Second, we must avoid duplicating other USF spending, such as funding connectivity in a community that may already be subsidized or targeted through the high-cost program.
- Third, any new program should complement – not replicate – the multitude of other, existing federal telehealth initiatives. The item is short on outlining and explaining what programs already exists. But, if healthcare agencies have expertise in patient monitoring and fund equipment or apps, we shouldn't do the same. Instead, we must consider ways to sufficiently target our dollars to specific needs, like connectivity, and leverage our respective authority, capability, and funding.
- Fourth, our telemedicine programs can significantly reduce expenses for other healthcare programs and entities, but the Commission is not able to recognize any of these savings. For example, it is well known that patient monitoring can help avoid emergency room visits and hospital re-admissions. We need to take a deep dive to understand the size of these savings and must conduct extensive coordination with other programs so those savings can be reinvested in our programs to minimize the impact on telephone ratepayers. USF must not be used as the tax collector for telemedicine. This is of particular interest to me and I intend to engage personally on this aspect.
- Fifth, and relatedly, having just substantially increased the Rural Health Care Program cap, we must carefully consider the impact of additional spending on the consumers and businesses who would pay extra on their phone bills to support it. I have called for an overall cap on USF to ensure we discuss the benefits and tradeoffs whenever spending changes are contemplated. This must be part of our future actions.

- Finally, as with any USF program, I want to ensure that it is targeted to unserved – not underserved – areas; that the selection mechanism is efficient and technology neutral, like via reverse auctions rather than beauty contests; and that appropriate safeguards are put in place to deter waste, fraud, and abuse.

For our purposes today, the NOI is a very wide-ranging presentation of many issues that need to be considered and is sufficiently broad to be worth my support. I thank Commissioner Carr for getting us to this point, but we both recognize much work lies ahead. I commit to rolling up my sleeves to address these matters and others, consistent with my principles, before any Notice of Proposed Rulemaking is considered.

STATEMENT OF
COMMISSIONER BRENDAN CARR

Re: *Promoting Telehealth for Low-Income Consumers*, WC Docket No. 18-213.

James served in the Navy for 24 years. He worked in aviation, including on C130s transporting troops and cargo all over the world. While on an operation in 2013, James suffered a spinal cord injury. As a service-disabled veteran, James is now under the active care of the VA. This used to mean a two-hour drive from his home in California to the nearest VA facility multiple times a month. With his injury, those long drives were never easy. And weather conditions often made the trip impossible. But James is now one of the many veterans who are part of the VA's innovative connected care program. The program allows him to stay home and visit virtually with a range of VA specialists over a secure video connection, which he can set up on his tablet or smartphone.

We had the chance to talk earlier this week over that video connection. In addition to video visits and other remote care, James gets a text message every morning reminding him to check his blood pressure, which is then recorded in an app. The first few times he measured his blood pressure, the nurse from his VA care team used the video connection to ensure he had the cuff on right and took the measurement accurately. Now, his doctors at the VA can remotely track his blood pressure numbers and intervene if they are out of range. This has cut in half his need to make the long trip to the VA. He now enjoys the chance to travel the country in his RV while using his tablet to stay in touch with his primary care physician and the specialists at the VA. He said "This is huge. I can only imagine the potential of this."

James' story is part of a new trend in telehealth—a trend towards connected care everywhere. The delivery of high-tech, high-quality health care is no longer limited to the confines of connected, brick-and-mortar facilities. Remote technologies—whether enabled by a smartphone, tablet, or other device—are bringing high-quality, affordable care to communities across the country.

Take the Mississippi Delta, which is ground zero for the country's diabetes epidemic. It sees diabetes at rates that are about twice the national average. Ruleville, Mississippi (pop. 3,234) is no exception to this trend. It's where I met Ms. Annie, a patient at the North Sunflower Medical Center. Ms. Annie noticed the first signs of her diabetes when she woke up one morning with blurred vision. After seeing little progress managing her diabetes with traditional care options, Ms. Annie signed up for a remote patient monitoring pilot program. She walked me through the iPad & Bluetooth-enabled blood glucose monitors that patients use in their homes to track and control their own care on a daily basis. The tablet chimes every morning as a reminder. Ms. Annie then pricks her finger and her A1C level is displayed on screen.

The app suggests appropriate actions—from a particular food or exercise, to watching a relevant video. If she forgets to enter her numbers that day, she'll get a phone call from a nurse. With this technology, Ms. Annie's A1C levels have gone down and she says she's never felt better.

Remote patient monitoring technologies can take many forms. They can monitor blood pressure, pulse, temperature, fetal heartbeats, oxygen levels, weight, and blood glucose levels not to mention the psychology, dermatology, and other clinical services that can be provided to remote locations over a video connection. In fact, these technologies are now being used to treat up to 60 different conditions, including opioid dependency. And they can help bridge the growing doctor divide that plagues many rural communities today.

But challenges remain. For instance, the VA often has funding to purchase the tablets necessary for remote patient monitoring, but there are limits on its ability to fund the broadband connection. So that might be one area where the FCC's Connected Care Pilot Program could help get more projects up and running.

Limited broadband deployments in rural areas present another challenge. James, the Navy vet, said that he installed a consumer signal booster in his home so that he could get an LTE signal strong

enough for his virtual visits. So promoting new deployments might be another benefit of our Pilot Program.

There are also many Americans for whom the cost of a high-speed connection is out of reach. By targeting this Pilot to low-income patients, we can ensure that every community benefits from remote patient monitoring technologies.

To be sure, the Pilot Program won't solve every challenge—there are licensing and reimbursement issues that are beyond our expertise. But we are coordinating with the VA, the Center for Medicare and Medicaid Services, and private providers. The FCC has long played a role in supporting broadband deployments to brick-and-mortar healthcare facilities. So I think we should explore whether we can support this new trend in telehealth as well.

The relatively limited trials to date are showing significant cost savings:

- A remote patient monitoring program run by the Veterans Health Administration cost $1,600 per patient compared to about $13,000 for more traditional forms of care.
- Another telehealth project found that every $1 spent on remote monitoring resulted in a $3.30 return in savings.
- The Mississippi Delta trial showed that if just 20% of the state's diabetes program enrolled, Medicaid savings in the state would be $189 million per year.

And these connected care technologies are improving health outcomes.

- A study of 20 remote patient monitoring trials found a 20% reduction in mortality and a 15% reduction in hospitalizations related to heart failure.
- The Veterans Health Administration's remote patient monitoring program resulted in a 25% reduction in days of inpatient care and a 19% reduction in hospital admission.
- Another remote patient monitoring initiative showed a 46% reduction in ER visits, a 53% reduction in hospital admissions, and a 25% shorter length of in-patient stay.

Given the significant cost savings and improved patient outcomes associated with connected care, we should align public policy in support of this movement in telehealth. So I am glad that Chairman Pai asked me to lead this new telehealth initiative. He has been a strong supporter of this effort from the get-go. And I want to thank my colleagues, Commissioner O'Rielly and Commissioner Rosenworcel, as well as the members of Congress who have all offered ideas and support for the FCC's new initiative. I look forward to continuing the discussion with all stakeholders as we work to stand up this program.

Finally, I want to thank the Wireline Competition Bureau for their work, especially Rashann Duvall, Kate Dumouchel, Trent Harkrader, and Arielle Roth, as well as the Office of General Counsel for its significant contributions. I also want to recognize Jamie Susskind in my office who put a lot of thought and effort into developing this program and Nirali Patel in the Chairman's Office who played a lead role in preparing the Notice that we're voting on today. It has my support.

STATEMENT OF
COMMISSIONER JESSICA ROSENWORCEL

Re: *Promoting Telehealth for Low-Income Consumers*, WC Docket No. 18-213.

According to the American Hospital Association, 60 million Americans—one-fifth of the population—live in rural communities. But crisscross the country and you will learn that many of those millions in remote areas lack access to the most essential healthcare.

Take pregnancy. For any woman who is pregnant, having a hospital delivery room nearby means knowing that when the baby arrives medical assistance will be at hand. But for too many women in rural America this comfort is no longer available—and it is putting too many births at risk.

The facts are stark. More than 179 counties across the country have lost obstetric care in hospitals during the past decade and a half. As a result, 54 percent of rural counties no longer have a hospital with a maternity ward.

As a mom myself, I can attest that giving birth is hard work. But it gets more difficult if every meeting with a healthcare professional to monitor everything from blood pressure to blood sugar is far from home. Routine appointments with health care providers can be all but impossible when they require a full day of travel, time off from work, foregone wages, and special arrangements for childcare. And yet failure to monitor the small things during pregnancy can have big consequences. They can lead to serious problems in childbirth—and in the United States the maternal mortality rate is going up. In fact, this country is the only industrial nation that has seen an increased rate of maternal deaths in the last several years. The loss of obstetric services in rural areas may be a driving force behind this statistic. That's because the most common causes of serious pregnancy-related complications are avoidable with regular monitoring and medical care.

What is happening with pregnant women in rural communities is a piece of a larger story. In remote areas, the cost of offering service is high relative to the revenues sparsely-populated areas generate. That difficult math creates vulnerabilities for rural Americans as hospitals close, facilities shutter, and doctors and nursing shortages grow more acute. These problems impact not only obstetric services but also diabetes and cancer treatment. They pose challenges for stroke patients. They create hurdles for those with mental health difficulties and dependency on opioids. In fact, any condition that benefits from regular monitoring becomes a special challenge when reliable care is neither nearby nor easy to access.

Of course, these difficulties are by no means limited to the most remote areas. They are present in low-income communities everywhere. That's not only a fact I know from the sources cited in today's inquiry. It's one I know from childhood. You could say it's in my blood. That's because my father served in the Air Force as a physician. After he left the service for civilian life, he practiced medicine. For three decades, he ran a low-income city clinic for hypertension and kidney failure. Growing up, dinner table conversations were about chronic disease, dialysis, and the challenges of securing reliable care for those least likely to afford it.

Of course, not one of us is a doctor on this dais. Not one of us is a nurse. Nor are we health care authorities. But we sit here today because more than two decades ago Congress charged the Federal Communications Commission with making telecommunications available to health providers in rural areas. In the intervening years, this agency has developed two programs.

The first program, known as the Telecommunications Program is laid out in detail in the Telecommunications Act. Section 254(h)(1) directs the agency to support public or non-profit health care providers in rural areas by offering funding for telecommunications services, to the extent that rates are higher than those charged for similar services in urban areas.

The second program, known as the Healthcare Connect Fund, is of more recent vintage. Pursuant to Section 254(h)(2), it offers support for high-capacity broadband through state and regional health care

provider networks. To be eligible for support, more than half of the sites served need to be in rural areas. This second program got its start as a pilot program.

Today we propose a new pilot program. There is a lot of good that can come of this—if we do this right. At the outset, it is terrific that the agency is looking at health programs in a modern way. It is important to build a record that reflects how connected care is changing and how remote patient monitoring technologies are evolving. I firmly believe the FCC can play a role expanding how communications is used in treatment to improve health care outcomes. I particularly appreciate that my colleagues were willing to add multiple questions about the state of obstetric care in rural communities to this inquiry. I thank them for that.

But let me now add a note of caution. We need to be honest about the legal ground on which this proposal rests. For starters, it does not neatly fit in the statutory scheme of the programs we have for health purposes under Section 254. Those programs are designed to serve "health care providers" in "rural areas." This inquiry speaks more broadly and contemplates subsidizing service to patients in their home in areas that may or may not be rural. The statutory authority available for doing *this* is the Lifeline program.

The Lifeline program is older than our health care programs. In fact, it began nearly three decades ago. When it was established communicating required a telephone with a cord and jack in the wall. Back then, it helped support the cost of voice calling in low-income households. Today, it continues to help those in need by supporting low-cost access to communications. However, the program has been changed in one significant way—it has been modernized to support wireless service.

Nationwide, millions of American rely on the Lifeline program for communications service. But last year this agency announced plans to gut the service in a way that could impact 70 percent of current users. To the extent there are problems with companies abusing this program or enrolling those who are ineligible, we should fix them. But I believe there are ways to do this without harming those who need and rely on Lifeline. Instead, however, this agency has destabilized this program with its proposal—with a cruel disregard for the people across the country who may be harmed by our actions.

Let's review who they are.

We can start with the roughly 20,000 women, men, and children across the country who call a domestic violence hotline every day. Seventy-seven percent of domestic violence prevention programs distribute phones to help those who truly need a lifeline for safety.

We can note that more than 500,000 Americans who live in Puerto Rico rely on the Lifeline program for basic communications. In the aftermath of Hurricane Maria, they used this program to reach out for emergency assistance, call their loved ones, seek health care, and coordinate recovery. Nearly a year later, one in five residents continue to count on this program for basic communications.

We can note that there are 650,000 homeless young people who identify as lesbian, gay, bisexual, or transgender. They are at special risk of bullying, discrimination, and assault. As research from the University of Southern California demonstrates, access to communications—including through Lifeline—helps homeless youth in impossibly tough circumstances find support networks, reach potential employers, and access health care.

We can point out that more than 1.3 million veterans who have honored us with their service now rely on the Lifeline program in their civilian life. Moreover, we have encouraged their participation by expanding the program to cover those who participate in the Veterans Pension as part of an effort to help former service members and their families in need.

One more data point—there are nearly 2.2 million senior citizens who rely on Lifeline for communications service. Age, of course, brings new health care challenges. But it is going to be hard to improve access to telemedicine when we simultaneously are pursing policies that strand senior citizens without basic communications service.

So before this agency decides to give out $100 million in grants for a new health care pilot program it has to answer for its actions. It has to recognize that it has destabilized communications services that millions of Americans rely on today. It cannot borrow from the authority of the Lifeline program for a new project without first reconciling the damage it has proposed to do to those who already depend on it.

To be clear, that does not undermine the good we propose here. The possibilities of improving care for rural Americans, low-income Americans, and let me end where I started—pregnant Americans—are real. But we have a lot to do before we make that happen—and I hope my colleagues will commit to rolling up their sleeves and working with me to do it.