What's the FCC Got to Do With It?: How the FCC's Repeal of Net Neutrality Affects Telehealth, Contributing to Inequities and Disparities

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I. INTRODUCTION

It is estimated that by the year 2035, the world will have a shortage of 12.9 million health care providers.[1] In the United States by 2032, there will be a shortage of roughly 21,100 to 55,200 physicians needed to provide primary care.[2] Other physician specialties will see a shortage of about 24,800 to 65,800 physicians.[3] In the face of this national and global health care provider shortage, telehealth is becoming increasingly important to ensure individuals have access to care.[4] Telehealth involves "the use of digital information and communication technologies, such as computers and mobile devices, to access health care services remotely."[5] As modern telehealth technology and policy is shaped, the telecommunications field should be monitored closely to determine which regulations and policies will have implications for the field.

Section II of this Note will discuss telehealth and telemedicine's history, why broadband technology is important to the field, and the various technologies telehealth employs. Section II will also discuss the history and background of net neutrality regulations and their subsequent repeal by the FCC. Section III will examine the FCC's *2017 Restoring Internet Freedom Order*[6] and its implications for telehealth. The section will also focus on the ability of telehealth technology innovators and health systems and providers to have their content prioritized.

Section IV will explore possible solutions to mitigate any harm that current telecommunications policies and regulations have on telehealth. Specifically, current FCC programs related to telehealth will be evaluated to determine if these programs provide adequate support to telehealth in light of the net neutrality repeal. Additionally, this Section will propose a health care exception to the FCC rules and the deployment of local or municipal-built networks for telehealth.

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1. World Health Organization, *Global Health Workforce Shortage to Reach 12.9 Million in Coming Decades*, (Nov. 11, 2013), NEWS RELEASES, https://www.who.int/mediacentre/news/releases/2013/health-workforce-shortage/en/ [perma.cc/B32T-CLW8].

2. ASSOCIATION OF AMERICAN MEDICAL COLLEGES, THE COMPLEXITIES OF PHYSICIAN SUPPLY AND DEMAND: PROJECTIONS FROM 2016 TO 2030 41 (Apr. 2019), https://aamc-black.global.ssl.fastly.net/production/media/filer_public/31/13/3113ee5c-a038-4c16-89af-294a69826650/2019_update_-_the_complexities_of_physician_supply_and_demand_-_projections_from_2017-2032.pdf [https://perma.cc/8C7V-5U7H].

3. *Id.*

4. Mackenzie Garrity, *Telehealth: A proactive, value-based solution to the US physician shortage*, BECKER'S HOSPITAL REV., https://www.beckershospitalreview.com/telehealth/telehealth-a-proactive-value-based-solution-to-the-us-physician-shortage.html (May 23, 2019) [https://perma.cc/P6WA-7JZE].

5. *Telehealth: Technology Meets Healthcare*, MAYO CLINIC (Aug. 16, 2017), https://www.mayoclinic.org/healthy-lifestyle/consumer-health/in-depth/telehealth/art-20044878 [perma.cc/G57B-3DZV] [hereinafter *Telehealth*, MAYO CLINIC].

6. Restoring Internet Freedom, *Declaratory Ruling, Report, and Order*, 33 FCC Rcd 311(1) (Jan. 4, 2018) [hereinafter *Restoring Internet Freedom Order*].

II. BACKGROUND

A. History and Development of Telehealth

Some believe that telehealth is a recent development due to technological advances, but if telehealth can be understood as "[t]he delivery of health care services at a distance"[7] then telehealth has existed for centuries. In times where infectious diseases were a leading cause of death in the western world, bells or flags were used to warn individuals and prevent the further spread of disease.[8] Telehealth, as it is understood in a modern sense, is the "use of telecommunications and virtual technology to deliver health care outside of traditional health-care facilities."[9] Thus, telehealth is a broad term that describes a wide variety of health care services that utilize telecommunications technology. Telemedicine is the delivery of clinical medical care by physicians using telecommunications technology,[10] while telehealth services include but are not limited to clinical patient care,[11] and can be delivered by a variety of health care professionals other than physicians.[12] For the purpose of this Note, the terms "telehealth" and "telemedicine" will *not* be used interchangeably. The term telehealth will be used in discussion and analysis of the field's interaction with telecommunications policy, although further discussion of the history of this field will focus on telemedicine.

Modern telemedicine began in the United States in the 1960s.[13] A well-known example of one of the first uses of telemedicine is the Nebraska Psychiatric Institute, established at the University of Nebraska's medical school.[14] Physicians at the institute used a closed circuit television to provide psychiatric consultation services to staff at Norfolk State Hospital.[15] Beginning in the 1970s and lasting for approximately two decades, interest in telemedicine diminished.[16] This was largely due to "high costs of the technology, the poor quality of images, a lack of uptake services, [and] an inability to interface telemedicine with mainstream health care provision."[17]

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7. ADAM WILLIAM DARKINS & MARGARET ANN CARY, TELEMEDICINE AND TELEHEALTH: PRINCIPLES, POLICIES, PERFORMANCE, AND PITFALLS 4 (Bill Tucker & Pamela Lankas eds., 2000).

8. *Id.* at 4-5.

9. World Health Organization, *Telehealth*, HEALTH SECTOR STRATEGIES, http://www.who.int/sustainable-development/health-sector/strategies/telehealth/en/ [perma.cc/GBV6-4JXA] (last visited Dec. 28, 2019).

10. TELEHEALTH, TELEMEDICINE AND TELECARE: WHAT'S WHAT?, https://www.fcc.gov/general/telehealth-telemedicine-and-telecare-whats-what [https://perma.cc/2SCR-AM37] (last visited Nov. 7, 2018).

11. *Id.*

12. *Id.*

13. DARKINS & CARY, *supra* note 7 at 6.

14. RASHID L. BASHSHUR & GARY W. SHANNON, HISTORY OF TELEMEDICINE: EVOLUTION, CONTEXT, AND TRANSFORMATION 158-59 (2009).

15. *Id.* at 162.

16. DARKINS & CARY, *supra* note 7 at 7.

17. *Id.*

Although telemedicine was not being used by the "general health care sector[,]"[18] other sectors continued to use telemedicine, including NASA and the U.S. military.[19]

By the mid-1990s, however, telemedicine was once again viewed as a relevant solution to address health care access and quality issues. [20] Telemedicine also gained the interest of the health care community because of its ability to reduce costs in health care delivery.[21] As telemedicine was further developed, physicians were able to treat a variety of illnesses remotely, such as providing stroke care, [22] radiology services,[23] and treating individuals with HIV/AIDS.[24]

Today, telehealth services have become increasingly important for delivery of healthcare, especially to individuals living in rural communities.[25] Individuals in rural communities face unique challenges compared to their urban and suburban peers; they often have to travel long distances to receive health care services and typically do not have access to sophisticated equipment or medical specialists.[26] Telehealth services have had a notable positive impact on other groups, such as the elderly and disabled.[27] Telehealth is useful for seniors and the disabled because they can receive care in their homes rather than having to seek care from nursing homes or caregivers.[28] Additionally, there are programs, such as the Oregon Center for Aging and Technology, that have "[studied] the use of in-home sensors as a way to track cognitive decline" among the elderly, which could lead to earlier diagnosis of cognitive diseases.[29]

B. *Broadband's Importance to Telehealth Technology*

The positive impact telehealth has is largely a result of the development of broadband technology. Broadband is "high-speed Internet access . . . faster than traditional dial-up access."[30] Although there are conflicting views on what speeds constitute broadband, the FCC's current benchmark for

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18. *Id.*
19. These fields continued to use telemedicine because of the ongoing challenge in providing health care to individuals who were in remote areas or who did not have access to the "usual health care services." *Id.* at 8-9.
20. *Id.* at 13.
21. *See id.*
22. B ASHSHUR & S HANNON, *supra* note 14, at 252.
23. *Id.* at 283.
24. *Id.* at 254.
25. C HARLES M. D AVIDSON & M ICHAEL J. S ANTORELLI, T HE I MPACT OF B ROADBAND ON T ELEMEDICINE, A DVANCED C OMMC 'NS L AW & P OL 'Y I NST. 14 (Apr. 2009), https://telehealth.org/sites/default/files/BroadbandandTelemedicine.pdf [https://perma.cc/DJ9B-9AMD].
26. *Id.*
27. *Id.* at 18-19.
28. *Id.* at 18.
29. *Id.* at 29.
30. *Types   of   Broadband   Connections*   (June   23,   2014), https://www.fcc.gov/general/types-broadband-connections [perma.cc/6H7A-PWLB].

broadband is 25 Mbps download speed and 3 Mbps upload speed.[31] There are several different types of broadband connections that deliver telecommunication services, such as digital subscriber line (DSL), cable modem, fiber, wireless, and satellite.[32] DSL provides broadband access through copper telephone lines, whereas fiber connections transmit data by "convert[ing] electrical signals to light and send[ing] the light through transparent glass fibers."[33] Wireless broadband connections link customers to providers through mobile or fixed connections, by radio airwaves.[34] Satellite technology is a subset of wireless technology.[35] Both wireless and satellite broadband delivery are used in rural areas where other technologies such as DSL are not available.[36]

Broadband technologies have provided consumers with access to the Internet at higher speeds due to innovation in technologies used to deliver service.[37] Faster Internet service has increased the speed at which health data can be disseminated, thus facilitating the growth of telehealth services.[38] Broadband has also led to growth in telehealth due to the ability to cut costs by eliminating the need for travel and by creating efficiencies from greater access to medical specialists who can quickly detect and treat illnesses.[39]

C. The History of Net Neutrality and the Surrounding Debate

Telehealth's foundation and ultimate success is rooted in broadband technology, therefore telecommunication policies that govern broadband have serious implications for the successful delivery of care through telehealth. Net neutrality has been a hot topic, from its adoption by the FCC in 2015,[40] to its repeal, which took effect in 2018.[41] The concept of net neutrality is commonly understood to be that "owners of the networks that compose and provide access to the Internet should not control how consumers lawfully use that network, and . . . should not be able to discriminate against content provider access to that network."[42] It is helpful to explore the events and actions by the FCC that led to the adoption of net neutrality rules and their subsequent repeal.

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31. *2018 Broadband Deployment Report* (Feb. 2, 2018), https://www.fcc.gov/reports-research/reports/broadband-progress-reports/2018-broadband-deployment-report [https://perma.cc/88TB-V92D].

32. *Types of Broadband Connections*, *supra* note 30.

33. *Id.*

34. *Id.*

35. *Id.*

36. *Id.*

37. DAVIDSON & SANTORELLI, *supra* note 25, at 10.

38. *See id.*

39. *Id.* at 16.

40. Protecting and Promoting Internet Freedom, *Report and Order on Remand, Declaratory Ruling, and Order*, 30 FCC RCD 5601 (Feb. 26, 2015) [hereinafter *Protecting and Promoting Internet Freedom Order*].

41. *See Restoring Internet Freedom Order*, *supra* note 6.

42. CONG. RESEARCH SERV., R40616, *The Net Neutrality Debate: Access to Broadband Networks* 1 (July 19, 2018), https://crsreports.congress.gov/product/pdf/R/R40616 [https://perma.cc/H6NL-XX94] [hereinafter CONG. RESEARCH SERV., July 19, 2018 Report].

In 2005, the Supreme Court sustained an earlier decision by the FCC holding that cable companies who offer Internet access are an information service.[43] In the same year, the FCC classified Internet service provided by telephone companies as an information service.[44] Because the FCC ruled that cable and telephone companies offering Internet access were information services and fell under Title I of the Communications Act,[45] they were not subject to the more stringent standards of Title II, which are applied to common carriers that traditionally provide telecommunication services.[46] In 2010, the FCC issued an order aimed at regulating the practices of Internet service providers ("ISPs").[47] The FCC's *2010 Order* implemented net neutrality rules calling for "transparency, no blocking, no unreasonable discrimination, and reasonable network management."[48] The *2010 Order* also made clear that paid prioritization arrangements would not "satisfy the no unreasonable discrimination standard"[49]

The *2010 Order's* rules on blocking and discrimination were later vacated by the United States Court of Appeals for the District of Columbia Circuit in 2014.[50] Following the D.C. Circuit's decision, the FCC issued a new Open Internet Order in 2015.[51] In the *2015 Order*, broadband Internet access was classified as a telecommunications service.[52] The effect of this classification was to subject ISPs that provide wireless or landline connections to the stricter common carrier regulations under Title II of the Communications Act.[53] The *2015 Order* also established "bright line" rules prohibiting ISPs from blocking[54] or throttling content,[55] and explicitly banned paid prioritization.[56] Just two years after the net neutrality rules were passed,

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43.   *See* Nat'l Cable & Telecomms' Ass'n v. Brand X Internet Servs', 545 U.S. 967, 997 (2005).

44.   CONG. RESEARCH SERV., July 19, 2018 Report, *supra* note 42; Appropriate Framework for Broadband Access to the Internet Over Wireline Facilities, 20 FCC Rcd 14986 (17) (2005).

45.   Restoring   Internet   Freedom,   33   F.C.C.   Rcd   311   (2017), https://www.fcc.gov/document/fcc-releases-restoring-internet-freedom-order; *see also* The Communications Act of 1934, 47 U.S.C. §§ 151-162 (1982).

46.   *Id.* at §§ 201-276.

47.   *See* Preserving the Open Internet, Broadband Industry Practices*, Report and Order*, 25 FCC Rcd 17905 (Dec. 23, 2010) [hereinafter *Preserving the Open Internet Order*].

48.   *Id.* at para. 43.

49.   *Id.* at 137.

50.   Verizon v. FCC, 740 F.3d 623, 656–58 (D.C. Cir. 2014).

51.   CONG. RESEARCH SERV., R40616, The Net Neutrality Debate: Access to Broadband Networks   7-9   (April   15,   2019),   https://crsreports.congress.gov/product/pdf/R/R40616 [https://perma.cc/YK3Z-WCVX] [hereinafter CONG. RESEARCH SERV., April 15, 2019 Report].

52.   *Protecting and Promoting Internet Freedom Order*, *supra* note 40, at para. 363.

53.   CONG. RESEARCH SERV., April 15, 2019, *supra* note 51.

54.   *Id.* at para. 115 (The order prohibits "blocking access to lawful Internet content, applications, services, and non-harmful devices.").

55.   *Id.* at para. 119 (Explaining that ISPs "shall not impair or degrade lawful Internet traffic on the basis of Internet content, application, service or use of a non-harmful device, subject to reasonable network management.").

56.   *Id.* at para. 125. ISPs are banned from "directly or indirectly favor[ing] some traffic over other traffic including through use of traffic shaping, prioritization, resource reservation, or other forms of preferential traffic treatment . . . ." *Id.*

they were repealed by the FCC under the new Chairman Ajit Pai.[57] The FCC behind the *2017 Order* believed that regulation of ISPs under the *2015 Order* had stifled growth and innovation,[58] with Chairman Pai stating that the FCC would take a "light-touch" approach in the future.[59] The repeal of net neutrality has left individuals in the health care industry concerned, with many noting that deregulation of the Internet could have a potential harmful impact on health care and telehealth.[60]

D. Technologies Employed in Telehealth

An understanding of the technologies used in telehealth is important to the discussion of how broadband access impacts these technologies. Cameras and computers allow health care providers to connect to their patients in "real time" through video conferencing,[61] which provides patients with "virtual appointments."[62] Video conferencing also enables health care providers to connect with other health professionals who provide consultation services.[63]

Remote patient monitoring ("RPM") technologies allow health care providers to monitor patients and provide care outside of the clinical setting.[64] RPM includes "wearable devices" that monitor and record an individual's health information.[65] The information gathered about the individual wearing the device is then transmitted to their health care provider.[66] Through RPM, health providers monitor different types of health information and related conditions, including but not limited to blood pressure, blood glucose levels, and heart rate.[67] One example of such technology is the CardioMessenger, which records and transmits patient data to a provider to remotely monitor the patient's heart condition rather than having the patient continually travel to

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57.   *Restoring Internet Freedom Order*, *supra* note 6.

58.   *See* Press Release, Restoring Internet Freedom, FCC, https://www.fcc.gov/restoring-internet-freedom [http://perma.cc/3C5K-BGL7] (last visited Apr. 6, 2019).

59.   Statement of Chairman Ajit Pai, Restoring Internet Freedom Order Taking Effect (May 10, 2018), https://www.

fcc.gov/document/chairman-pai-restoring-internet-freedom-order-taking-effect [http://perma.cc/39AM-QGGM].

60.   *See* Gaynor et al., *Telecommunications Policy May Have Unintended Health Care Consequences*, HEALTH AFFAIRS (May 21, 2017), https://www.healthaffairs.org/do/10.1377/hblog20170531.060342/full/ [http://perma.cc/X67K-C8WG]; Mei Wa Kwong, *FCC's Net Neutrality Change May Have Big Implications for Telehealth*, CHCF BLOG (Dec. 13, 2017), https://www.chcf.org/blog/fccs-net-neutrality-change-may-big-implications-telehealth/ [http://perma.cc/VLH7-8AUA].

61.   Center for Connected Health Policy, *Live video*, ABOUT TELEHEALTH, https://www.cchpca.org/about/about-telehealth/live-video-synchronous [http://perma.cc/6QRT-WSCJ] (last visited Apr. 6, 2019).

62.   *Telehealth*, MAYO CLINIC, *supra* note 5.

63.   Center for Connected Health Policy, *Live video*, *supra* note 61.

64.   *See* Center for Connected Health Policy, *Remote Patient Monitoring (RPM)*, ABOUT TELEHEALTH, https://www.cchpca.org/about/about-telehealth/remote-patient-monitoring-rpm [https://perma.cc/WK2V-3APS] (last visited Oct. 30, 2019).

65.   *Telehealth*, MAYO CLINIC, *supra* note 5.

66.   *See id.*

67.   *Id.*

the provider's office to monitor their condition. [68] RPM can also be accomplished through the use of applications on mobile devices.[69] Patients can enter data into an application that a health care provider then uses to monitor their health. [70] Additionally, health care providers can remotely monitor their patients through sensors in the patient's home that record activity through movement.[71]

Mobile devices, specifically smartphones and tablets, have enabled health care professionals to provide care through applications.[72] Examples include CareAware Connect, which allows for "[m]ultiple teams — from care teams to ancillary staff — [][to] collaborate and communicate for the purpose of improving care coordination."[73] Health care providers using the app can also access patient information.[74] Patients can use health apps to manage their health in a variety of ways, such as "stor[ing] personal health information, record[ing] vital signs, [and] schedul[ing] reminders for taking medicine."[75]

While the technologies previously discussed are not an exhaustive list of the available telehealth technologies, they illustrate the ways technology is used to deliver and manage health care. The ultimate success of these telehealth technologies, however, depends on access to broadband. Without access to broadband, patients and providers will not be able to effectively use the technologies that have been developed. For video conferencing, patients and providers need clear visual and audio capabilities because poor connections affect how they communicate concerns and discuss diagnoses and treatment. Providers also need broadband to receive information from their patient's wearable devices. Applications that support telehealth are reliant on broadband access to function correctly, with access to large amounts of data being especially critical. One industry analyst notes that data caps are problematic because patients could burn through their data limit "with a few doctor consults, sending pictures of a rash, and regular monitoring of a chronic condition."[76] Without reliable and robust access to broadband,

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68. Thomas Beaton, *Top 10 Remote Patient Monitoring Companies for Hospitals*, MHEALTH INTELLIGENCE (July 7, 2017), https://mhealthintelligence.com/news/top-10-remote-patient-monitoring-solutions-for-hospitals [https://perma.cc/54F5-STBA].

69. *See Telehealth*, MAYO CLINIC, *supra* note 5.

70. *Id.*

71. DAVIDSON & SANTORELLI, *supra* note 25, at 15.

72. C. Lee Ventola, *Mobile Devices and Apps for Health Care Professionals: Uses and Benefits*, 39 PHARMACY & THERAPEUTICS 356, 361 (2014).

73. Beaton, *supra* note 69.

74. *Id.*

75. *Telehealth*, MAYO CLINIC, *supra* note 5.

76. Craig Settles, *Telehealth & Broadband: In Sickness and in Health, Part 2* (July 2018) (section 08), http://cjspeaks.com/wp/wp-content/uploads/2018/07/snapshot-7-18.pdf [https://perma.cc/V745-ECTP]. Data caps have been raised as a net neutrality concern, with allegations that some ISPs have violated net neutrality rules when using data cap exemptions. ISPs use data cap exemptions to exempt certain content from being counted against a user's data allowance. ISPs use data cap exemptions for their own content but have also offered paid data cap exemptions to other providers, such as Netflix and HBO, giving these providers an edge. *See* Ray Sylvester, *The Concerned Citizen's Guide to Net Neutrality*, HYPERLINK MAGAZINE (Nov. 16, 2017), https://medium.com/hyperlink-mag/the-concerned-citizens-guide-to-net-neutrality-16901d212b15 [https://perma.cc/ZE3U-W3MJ].

telehealth technologies are rendered useless, and telehealth's goals cannot be achieved.

III.   WHAT NET NEUTRALITY'S REPEAL MEANS FOR TELEHEALTH

A. *How the Repeal will Affect Telehealth Growth and Innovation*

The repeal of the *2015 Order's* net neutrality rules has left stakeholders in the health care industry concerned about the ability of ISPs to prioritize certain health care information or services over others. [77] Telehealth technologies need fast and reliable Internet, and prioritizing content could be one way to ensure health information is being transmitted at fast speeds. As one blog notes, whether ISPs will engage in paid prioritization remains unclear.[78]

Verizon's website tells customers that some plans' content may be prioritized behind others during times of high demand, but does not specify which plans could be affected. [79] Verizon does not have any specific statements regarding paid prioritization arrangements. However, Verizon's website does state that its "network management practices" will be disclosed to plan holders who may be impacted by prioritization mechanisms. [80] Comcast states that it does not block or slow down content but also does not mention if it will engage in paid prioritization.[81] Similarly, Cox is silent on whether the company plans to engage in paid prioritization arrangements, but says it will not block or throttle user content.[82] On the surface, it is reassuring that major ISPs have stated they will not engage in blocking or throttling content, but the creation of fast lanes through paid prioritization has the potential to harm several stakeholders in the telehealth community.

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77.   Gaynor et al., *It's Hard to be Neutral About Network Neutrality for Health,* HEALTH AFFAIRS   (Aug.   18,   2014), https://www.healthaffairs.org/do/10.1377/hblog20140818.040833/full/ [https://perma.cc/6ETN-D8WC].

78.   Phillip Berenbroick, *House Commerce Takes on Paid Prioritization, an Essential Tenet to Open Internet*, PUBLIC KNOWLEDGE (Apr. 12, 2018), https://www.publicknowledge.org/news-blog/blogs/house-commerce-takes-on-paid-prioritization-an-essential-tenet-to-the-open [https://perma.cc/8B2M-6KK3].

79.   VERIZON, *Important Information About Verizon Wireless Broadband Internet Access Services* (Sept. 18, 2018), https://www.verizonwireless.com/support/broadband-services/ [https://perma.cc/XG9C-TG6K].

80.   *Id.*

81.   COMCAST, *Net Neutrality*, https://corporate.comcast.com/openinternet/open-net-neutrality [https://perma.cc/X78D-ESB2] (last visited Dec. 28, 2019).

82.   COX, *Net Neutrality*, https://www.cox.com/residential/support/net-neutrality.html [https://perma.cc/J9ME-FCSK] (last visited Dec. 28, 2019).

1. Prioritization for Creators of Telehealth Technologies

Although it is not a foregone conclusion that ISPs will engage in paid prioritization, silence on the part of major ISPs[83] is extremely telling. The *2017 Order* requires ISPs to disclose their paid prioritization practices,[84] but compulsory transparency rules do nothing to *prevent* ISPs from engaging in prioritization, leading to potential adverse effects. In her dissent to the repeal of net neutrality rules, then-FCC Commissioner Mignon Clyburn stated,

> [w]hat we do know, is that broadband providers did not even wait for the ink to dry on this Order before making their moves. One broadband provider, who had in the past promised to not engage in paid prioritization, has now quietly dropped that promise from its list of commitments on its website.[85]

Without a ban on paid prioritization, ISPs are likely exploring ways they can pursue these arrangements, evidenced by the fact that several major ISPs provide no information on their websites discussing their stance on paid prioritization.[86]

The FCC seeks to justify its repeal of net neutrality through the belief that "public attention, not heavy-handed FCC regulation, has been most effective in deterring ISP threats to openness,"[87] but this explanation seems highly unlikely. Approximately one hundred and twenty-nine million people in the United States have only one provider for broadband Internet access, and fifty-two million of those people are receiving service from a provider who has violated network neutrality rules in the past.[88] One hundred and forty-six million people have the option of choosing between two different providers, but forty-eight million of those users still have to choose between two companies that have both violated network neutrality rules.[89] This information is not hidden, but it is not necessarily common knowledge among consumers. Broadband users can be outraged and object to ISP practices, but the reality is that millions of users' options are limited. Many users must choose between receiving service from an ISP that has violated net neutrality rules or forgo the Internet altogether. ISPs facing almost no competition in certain markets will hardly be worried that unhappy customers will take their business elsewhere. The FCC believes that public attention will help control

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83. COMCAST, *supra* note 84; COX, *supra* note 85.
84. *Restoring Internet Freedom Order*, *supra* note 6, at para. 220.
85. *Id.* at Comm'r Clyburn Dissenting Statement.
86. *See* COMCAST, *supra* note 84; COX, *supra* note 85.
87. *Restoring Internet Freedom Order*, *supra* note 6, at para. 241.
88. Lisa Gonzalez, *As the US Senate Considers Net Neutrality Today our Maps Show Millions at Risk*, INSTITUTE FOR LOCAL SELF-RELIANCE (May 16, 2018), https://ilsr.org/as-the-us-senate-considers-ne-neutrality-today-our-maps-show-millions-at-risk/ [https://perma.cc/U7TA-2CM2].
89. *Id.*

ISP behavior [90] but public attention is not an effective deterrent due to limited options for consumers.

Under the new net neutrality rules, ISPs have the incentive to engage in paid prioritization. Application creators, including those in the telehealth industry, may view the repeal of net neutrality rules as a way to advance their interests and promote business by paying for prioritized content. However, prioritization can lead to unfairness between competitors. Those with deeper pockets will be able to prioritize their content, regardless of the quality of their services as compared to their competitors. The ability for some telehealth technology creators to prioritize their services and content makes it more difficult for their competition to generate business around their product or service.

ISP engagement in paid prioritization may be "cloaked under nondisclosure agreements and wrapped up in mandatory arbitration clauses so that it will be a breach of contract to disclose these publicly or take the provider to court over any wrongdoing." [91] Thus, while the creator of a telehealth technology with a prioritization arrangement has full knowledge of how the arrangement affects their content, their competitors may not be able to effectively compete; they, in fact, may not realize the edge their competitor has. In other cases, a competitor may not be able to afford paid prioritization[92] even if they are aware they need prioritization to effectively compete. One start-up CEO comments that,

> [t]he rollback of net neutrality rules could have a negative impact on newer streaming services. If ISPs are allowed to charge more for certain content providers and paid-prioritization deals become common, this could present significant challenges. As a newer company in the streaming space, I could be at a disadvantage.[93]

Telehealth needs constant innovation to grow and provide quality service to users, and innovation is driven by healthy competition. In a sense, paid prioritization is a threat to innovation because it could be a barrier to new companies developing technology to support telehealth that often serve as market disrupters.[94] Without innovation in the market, many people, not just business owners themselves, will suffer.

One health blog notes that if ISPs prioritize some content and offer its provider better service, then users may grow to prefer that content because it

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90. *Restoring Internet Freedom Order*, *supra* note 6, at para. 241.

91. *Id.* at para. 363 (Comm'r Clyburn Dissenting Statement).

92. *See* Agam Shah, *Getting the Internet Out of Neutral*, 140 MECHANICAL ENGINEERING 21, 22 (last visited May 27, 2020), http://www.msaidi.ir/asme/201807.pdf [https://perma.cc/HPN2-P28B].

93. James K. Willcox, *How You'll Know Net Neutrality is Really Gone*, Consumer Reports (June 11, 2018), https://www.consumerreports.org/net-neutrality/end-of-net-neutrality-what-to-watch-for/ [https://perma.cc/MB5B-TX57] (quoting Colin Petrie-Norris, the CEO for advertising-based streaming start-up Xumo).

94 *See* Joshua Gans, *The Other Disruption*, Disruptive Innovation, Harvard Business Review, https://hbr.org/2016/03/the-other-disruption (March 2016) [https://perma.cc/BRV7-NDBS]

is prioritized rather than the content's actual "features and attributes."[95] Allowing prioritization of health care services or products to influence user choice is problematic because patients may not be using a service that provides them with the best quality, and instead may choose the service based on the reliability of the connection.[96] As each patient has unique health concerns and needs, it is essential they use telehealth services that provide the greatest health benefits. Prioritization for Large Health Care Providers, Hospital Systems, and Clinics Leaves Small and Rural Providers Disadvantaged

The ability for large health care systems and providers to use paid prioritization for their telehealth programs is also problematic due to the implications for rural or small health care providers. Rural health care providers, in particular, face many obstacles when implementing telehealth programs.

a. The Costs of Building Broadband in Rural Areas

One significant issue rural providers face is that they often do not have the necessary communications infrastructure to support a telehealth program.[97] Rural areas are behind in communications infrastructure compared to urban areas for a variety of reasons. One contributing factor is that ISPs are more likely to build new communication lines in urban areas that have "high population density."[98] ISPs look to urban areas to build communication lines because it is more cost effective; they balance the "cost of every mile laid against the expected profits from those lines."[99] There are "around 2,000 people per square mile in urban areas versus 10 in some rural areas."[100] Simply put, ISPs lack the incentive to build communications infrastructure in rural communities. Terrain is also cited as a reason why rural communities struggle with broadband deployment. For example, mountains and densely forested areas make it more expensive to build communications infrastructure.[101]

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95. Gaynor et al., *It's Hard to be Neutral About Network Neutrality for Health,* HEALTH AFFAIRS (Aug. 18, 2014), https://www.healthaffairs.org/do/10.1377/hblog20140818.040833/full/ [https://perma.cc/6ETN-D8WC].

96. *Id.*

97. *See* Dena S. Puskin, *Telecommunications in Rural America: Opportunities and Challenges for the Health Care System*, 670 ANNALS OF THE NEW YORK ACADEMY OF SCIENCES 67, 68 (1992).

98. Brian Whitacre, *Technology is Improving, So why is Rural Broadband Access Still a Problem?*, US NEWS: CIVIC (June 9, 2016), https://www.usnews.com/news/articles/2016-06-09/technology-is-improving-so-why-is-rural-broadband-access-still-a-problem [https://perma.cc/J8GR-2C8X].

99. *Id.*

100. *Id.*

101. CONG. RESEARCH SERV., RL30719, Broadband Internet Access and the Digital Divide: Federal Assistance Programs 7 (January 9, 2019), https://crsreports.congress.gov/product/pdf/RL/RL30719 [https://perma.cc/PT77-4RYJ].

A further impediment to rural providers is that rural communities may not have access to broadband at the minimum speeds set by the FCC, which requires download speeds of 25 Mbps and upload speeds of 3 Mbps.[102] Over 24% percent of Americans in rural areas do not have access to broadband speeds on par with the FCC's benchmarks.[103] Access to robust broadband services is essential to the efficient operation of telehealth programs, and thus a provider's inability to access fast broadband speeds impedes the use telehealth technologies.

Higher costs in building infrastructure in these communities translates to higher costs to the consumers, creating yet another obstacle rural health care providers face. In many instances, rural providers cannot afford to build the necessary infrastructure, such as backhaul connections[104] that provide broadband, without funding or support.[105] Without the infrastructure to provide reliable access to broadband, paid prioritization agreements would be impossible for rural health care providers to utilize or would be at such a high cost that it would be impractical.

b. *Large Providers Do Not Face the Same Financial Hurdles as Rural and Small Providers*

Health providers, such as solo practitioners or small physician groups, may experience many of the same disadvantages as their rural peers with respect to telehealth. Rural and small providers, particularly those who provide care to underserved communities, do not have the same financial resources that larger providers do. Additionally, it is unclear if the "economic benefit . . . [justifies] the equipment and communications investment costs incurred to install and maintain selected telemedicine purposes."[106] This would be especially true if paid prioritization arrangements became another cost that would be necessary to operate a successful telehealth program.

On the other hand, large health providers can pay to have content prioritized. Larger health systems also have the infrastructure to support the high capacity needs of telehealth. Infrastructure coupled with paid

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102. *2018 Broadband Deployment Report*, FCC (Feb. 2, 2018), https://www.fcc.gov/reports-research/reports/broadband-progress-reports/2018-broadband-deployment-report [https://perma.cc/V7VX-VMDE].

103. Cong. Research Serv., RL30719, Broadband Internet Access and the Digital Divide: Federal Assistance Programs 6-7 (January 9, 2019), https://crsreports.congress.gov/product/pdf/RL/RL30719. The report also noted that "32% of Americans in Tribal lands lack coverage fixed terrestrial 25 Mbps/3 Mbps broadband." *Id.*

104. *Id.* at 7.

105. Additionally, individuals who want to build municipal broadband networks face other hurdles aside from cost. For a discussion on obstacles faced s*ee* Jon Brodkin, *One Big Reason We Lack Internet Competition: Starting an ISP is Really Hard*, Arstechnica (Apr. 6, 2014) https://arstechnica.com/information-technology/2014/04/one-big-reason-we-lack-internet-competition-starting-an-isp-is-really-hard/ [https://perma.cc/L8AJ-CB8H].

106. Cynthia LeRouge & Monica J. Garfield, *Crossing the Telemedicine Chasm: Have the U.S. Barriers to Widespread Adoption of Telemedicine Been Significantly Reduced?*, 10 Int'l J. Envtl. Res. & Pub. Health 6472, 6477 (2013).

prioritization arrangements provides large health systems with the tools they need to ensure success for their programs and grow their programs into powerhouses.[107] Consequently, a large provider with a strong telehealth program will be able to exert power and influence within the telehealth community in ways a small or rural provider could not.

Larger providers who have well-developed telehealth programs are better positioned to identify the needs of their systems and adequately address them. They could address obstacles either internally or externally if they are presented with barriers to the growth of their programs. When interacting with external forces, such as lawmakers, large health care providers are in a better position to advocate for their own needs or interests, which may not necessarily benefit the needs of the telehealth community as a whole. We already recognize the ability of powerful corporations to successfully lobby for their interests and exert significant political influence.[108] The health care industry is no exception, spending millions of dollars each year on lobbying. [109] Health professionals spent over seventy-three million on lobbying in 2019.[110] This does not include the millions of dollars spent by other actors in the health care community, such as the insurance and pharmaceutical industries.[111]

For instance, imagine a situation where large providers heavily favor the continued ability to enter into paid prioritization arrangements. Smaller providers may advocate for an exception banning prioritization arrangements for telehealth. However, large providers have the financial resources to effectively lobby to prevent a possible exemption from being applied. They would likely do so, as allowing for paid prioritization would be beneficial to

107. *See Health Systems Remain Slow to Adopt Telehealth Tools*, TELEHEALTH NEWS (Sept. 30, 2019), https://mhealthintelligence.com/news/health-systems-remain-slow-to-adopt-telehealth-tools [https://perma.cc/4BTE-QXFV].

108. *See* Olivia Solon & Sabrina Siddiqui, *Forget Wall Street- Silicon Valley is the New Political Power in Washington,* THE GUARDIAN (Sept. 3, 2017), https://www.theguardian.com/technology/2017/sep/03/silicon-valley-politics-lobbying-washington [https://perma.cc/P2WE-D8JC]; Lee Drutman, *How Corporate Lobbyists Conquered American Democracy*, THE ATLANTIC (Apr. 20, 2015), https://www.theatlantic.com/business/archive/2015/04/how-corporate-lobbyists-conquered-american-democracy/390822/ [https://perma.cc/85YD-P4BU].

109. In 2017 the health care industry spent the most out of any industry on lobbying spending $555 million**.** *See* Eric Oliver*, Healthcare-Related Lobbying Hits $555M in 2017 — 6 Statistics on Lobbying in Healthcare*, BECKER'S ASC REVIEW (Jan. 31, 2018), https://www.beckersasc.com/asc-coding-billing-and-collections/healthcare-related-lobbying-hits-555m-in-2017-6-statistics-on-lobbying-in-healthcare.html [https://perma.cc/6FVW-FSX5]; *see also* Tony Abraham, *Hospital lobbying in 2018 — by the numbers*, Healthcare Divided (Feb. 19, 2019), https://www.healthcaredive.com/news/hospital-lobbying-in-2018-by-the-numbers/548262/ [https://perma.cc/85DR-PN6Q].

110. *See Industry Profile Summary: Health Professionals*, CENTER FOR RESPONSIVE POLITICS (2019), https://www.opensecrets.org/federal-lobbying/industries/summary?cycle=2019&id=H01 [https://perma.cc/TGF6-QTKN].

111. Susan Scutti, *Big Pharma Spends Record Millions on Lobbying Amid Pressure to Lower Drug Prices*, CNN (Jan. 24, 2019), https://www.cnn.com/2019/01/23/health/phrma-lobbying-costs-bn/index.html [https://perma.cc/TP3D-N7BA]; America's Health Insurance Plans, Center for Responsive Politics (2019), https://www.opensecrets.org/federal-lobbying/clients/summary?cycle=2019&id=D000021819 [https://perma.cc/4QHD-PBJH].

their programs. The ability of large provider systems to prioritize their content would give them several advantages. One industry observer remarks that,

> [a]s telehealth provides greater access to care in more geographical markets, some physicians may feel financially threatened because patients will be able to access care from other sources, such as distant large health systems with sophisticated telehealth portals. And as medical care becomes more commoditized and more widely available, new financial risks to providers and organizations may emerge, including price competition from providers in other parts of the country or even other countries.[112]

The ability to access a greater number of patients by "poaching" them from other providers would translate into increased revenues for these large providers. Additionally, attracting more customers to a telehealth program will help large providers get the experience and insight they need to strengthen and fine-tune their programs. This will continue to feed the cycle of large systems being able to offer "superior" programs, leading more patients to seek medical care from these providers. Rural and small providers already struggle to initiate and develop telehealth programs. The continued influence and control large health systems and providers have, coupled with increasing numbers of patients seeking care from larger providers will likely serve to push other providers out of the telehealth market.

c.   Paid Prioritization and Health Care Consolidation

Issues with paid prioritization are further compounded by the trend towards consolidation in the health care industry.[113] Consolidation has meant that larger hospitals and health systems wield increasing amounts of power as markets become less competitive.[114] Consolidation is problematic for rural communities. With roughly thirty hospitals closing a year, rural patients are left with fewer options for their care. [115] When hospitals close, rural patients are sometimes directed towards other health care options such as Teladoc or the CVS Minute Clinic.[116] Health care mergers and acquisitions can place

112. Lee H. Schwamm, *Telehealth: Seven Strategies to Successfully Implement Disruptive Technology and Transform Health Care*, 33 HEALTH AFFAIRS 200, 202 (Feb. 2014), https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2013.1021 [https://perma.cc/U689-RCV7].

113. Herschman et al., *INSIGHT: The Health Care M & A Meter- Hot 2018 to Be Followed by Hotter 2019* BLOOMBERG LAW NEWS (Feb. 8, 2019), https://news.bloomberglaw.com/health-law-and-business/insight-the-health-care-m-a-meter-hot-2018-to-be-followed-by-hotter-2019 [https://perma.cc/CP9M-HPJL].

114. *Id.*

115. Cristin Flanagan, *U.S. Hospitals Shut See Down at 30-a-Year Pace With No End In Sight*, BLOOMBERG BUSINESS (Aug. 21, 2018), https://www.bloomberg.com/news/articles/2018-08-21/hospitals-are-getting-eaten-away-by-market-trends-analysts-say [https://perma.cc/QL3W-QPU].

116. *Id.*

rural patients at a disadvantage as they are given options that do not always offer care that is personalized or sensitive to their needs.[117]

Paid prioritization arrangements will allow large chains to continue to build their programs, and when these large chains realize efficiencies through their telehealth programs, they will continue to push patients to use these systems. A large system may seek to acquire rural hospitals and, rather than keep those facilities open, may close them and offer rural residents care through telehealth technologies. There are already instances where large chains have acquired rural health care providers, such as Apollo Global acquiring LifePoint Health, a chain of rural hospitals.[118] While telehealth has an enormous opportunity to transform care for rural communities, delegating rural patients to receive health care only through telehealth can be damaging.[119] These patients need and deserve to have their care actively managed by a physician with whom they can build a relationship,[120] and to have accessible facilities to manage their care in conjunction with telehealth. As the telehealth field continues to grow it is important that all voices, not just the most powerful, shape the field.

d. *Prioritization Allows for Increased Investment in Larger Health and Hospital Systems*

Large providers also have the power to attract companies and individuals who create telehealth technologies. Companies that market telehealth products may already be reluctant to work with a provider that does not have a network to accommodate transmitting large amounts of data.[121] Also, innovators may be attracted to larger providers because they have more developed programs in place to implement and experiment with new technology. If a large hospital or health system pays for a "fast lane" for their content, they are better able to attract innovators and investors, feeding further investment into their programs. Development of programs in rural

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117. Although retail clinics can offer adequate care in certain situations, they may not be an appropriate source for patients to receive all of their care. For discussions on potential disadvantages of retail health clinics see John K. Iglehart, *The Expansion of Retail Clinics — Corporate Titans vs. Organized Medicine*, 373 N. ENGL. J. MED. 301, 302 (July 23, 2015); *Retail Health Clinics: The Pros and Cons*, HARVARD HEALTH BLOG (Jan. 15, 2016), https://www.health.harvard.edu/blog/retail-health-clinics-the-pros-and-cons-201601158979 [https://perma.cc/K8V9-KAJ8].

118. Flanagan, *supra* note 115.

119. *See* EDWARD ALAN MILLER, TELEMEDICINE AND THE PROVIDER-PATIENT RELATIONSHIP: WHAT WE KNOW SO FAR, NUFFIELD COUNCIL'S WORKING PARTY ON MEDICAL PROFILING AND ONLINE MEDICINE: THE ETHICS OF 'PERSONALISED' MEDICINE IN A CONSUMER AGE 1, 4-6 (2010).

120. Reed Abelson & Julie Creswell, *The Disappearing Doctor: How Mega Mergers Are Changing Health Care*, N.Y. TIMES (Apr. 7, 2018), https://www.nytimes.com/2018/04/07/health/health-care-mergers-doctors.html [https://perma.cc/7EVZ-AN7Q].

121. Settles, *supra* note 77, at 11 (quoting a telehealth company CEO who discussed her frustration over working with facilities that did not have strong and reliable connections).

communities and among small providers, on the other hand, may be underserved or ignored.

Some advocates champion the ability of health systems to grow their telehealth programs through paid prioritization.[122] The issue is not that health systems will be able to further develop their programs—innovation and growth in telehealth is beneficial. However, allowing paid prioritization has the ability to influence health disparities for rural patients and other underserved populations. If paid prioritization becomes a necessary condition to operate a telehealth program it will preclude some providers from implementing them. Arguably, rural communities are most in need of robust telehealth programs because of access to care issues,[123] and the fact that provider shortages affect rural communities the most.[124] Allowing for paid prioritization arrangements can undermine efforts to use telehealth to combat health care issues.

2.   Antitrust Law May Be Insufficient to Remedy the Harm to Competition and Innovation Caused By Paid Prioritization Arrangements

With the potential for paid prioritization arrangements to negatively affect competition, it is important to take note of which laws could successfully combat harmful effects. A decrease in competition due to prioritization arrangements could raise antitrust concerns, and some believe antitrust enforcement mechanisms would remedy these issues.[125] However, there is a debate over whether antitrust could police potential situations arising due to the repeal. Former FTC Commissioner, Maureen Ohlhausen, argues,

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122. Ajit Pai, Chairman, FCC, Remarks at Project GOAL's Conference on Aging and Technology: Creating Opportunities to Age Well with Innovation (Nov. 30, 2017); Hal Singer, *Three Ways the FCC's Open Internet Order Will Harm Innovation*, PROGRESSIVE POLICY INSTITUTE 1, 4-5 (May 2015).

123. *See* N. Douthit, et al., *Exposing Some Important Barriers to Health Care Access in the Rural USA*, 129 PUBLIC HEALTH 611, 614 (2015).

124. *See* BUREAU OF HEALTH WORKFORCE, HEALTH RESOURCES AND SERVICE ADMINISTRATION, DESIGNATED HEALTH PROFESSIONAL SHORTAGE AREAS STATISTICS (Sept. 30, 2019).

125. *See* Maureen K. Ohlhausen, *Antitrust Over Net Neutrality: Why We Should Take Competition in Broadband Seriously*, 15 COLO. TECH. L.J. 119, 133-38 (2017).

[w]ere an ISP to degrade one form of desired content in favor of another without providing a concomitant benefit . . . other ISPs would have powerful incentives to satisfy unmet consumer demand. And if competition were insufficient to prevent or to neutralize unwanted discrimination that harms consumers, then antitrust liability would be around the corner.[126]

In contrast, economist Hal Singer argues that it would be difficult to frame issues with paid prioritization as an antitrust injury even if the preferential treatment offered by an ISP to a telemedicine service provider was not extended to rivals.[127] Singer notes that,

[b]y offering preference to a single telemedicine supplier, while carrying the packets of rival suppliers, the ISP at most has diverted eyeballs from rival telemedicine sites to the preferred site, ensuring no output effect. . . . And the ISP would hardly be able to raise prices for Internet access to its customers as a result of giving preference to one telemedicine provider.[128]

Ohlhausen's argument relies on the hypothetical situation where an ISP "degrading" content is corrected by market forces.[129] But as Singer notes, situations where a creator's content is being prioritized over another's does not necessarily lead an ISP to degrade content. Rather, it could have the effect of guiding users to one telehealth technology creator rather than its competitor.[130]

Ohlhausen acknowledges that "start-ups and other less-well-financed competitors may not be able to afford to pay as much as dominant incumbents" affecting competition, but writes this off as a fact present in offline and online industries and notes there is a "fiction that today's Internet is currently a world of equals."[131] Although correct in her assessment, it could be damaging to accept Ohlhausen's view that industries are unfair, *particularly* in the context of telehealth. It may be too much to hope for a world where every individual's needs are adequately met, but in the context of health care, where there are already glaring disparities, there must be individuals and enforcement mechanisms to ensure disparities do not flourish. Provided there are competition issues for prioritization arrangements, it is

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126. *Id.* at 119-120.
127. Hal J. Singer, *Paid Prioritization and Zero Rating: Why Antitrust Cannot Reach the Part of Net Neutrality Everyone Is Concerned About*, THE ANTITRUST SOURCE 1, 2 (Aug. 2017) https://www.americanbar.org/content
      /dam/aba/publishing/antitrust_source/aug17_singer_8_2f.authcheckdam.pdf
[https://perma.cc/CJM7-DG34] [hereinafter Singer, *Paid Prioritization and Zero Rating*].
128. *Id.* at 5.
129. *See* Ohlhausen, *supra* note 125, at 119-120.
130. Singer, *Paid Prioritization and Zero Rating*, *supra* note 127, at 2.
131. Ohlhausen, *supra* note 125, at 138.

unclear if antitrust enforcement mechanisms would effectively police situations proposed in this Note.

IV.   SOLUTIONS TO PREVENT THE STIFLING OF TELEHEALTH GROWTH AND INNOVATION

Health care plays an important role in our society and the advancement of telehealth can create efficiencies and address access to care issues. With the potential for the net neutrality repeal to negatively affect telehealth systems, solutions to combat the effects should be explored and discussed. The following section examines the FCC's current programs that support telehealth and possible solutions to mitigate any harmful effects the repeal of net neutrality has on telehealth.

A.   Are Current FCC Programs Enough?

The FCC's commitment to supporting telehealth is commendable, but current programs may not be enough to offset the potential harms to telehealth in light of the repeal of net neutrality rules. The FCC's Rural Health Care Program ("RHCP") is comprised of two programs: the Health Care Connect Fund and the Telecommunications Program.[132]

The Health Care Connect Fund ("HCCF") provides funding opportunities for "high-capacity broadband connectivity to rural, as well as non-rural health care providers."[133] Non-rural providers can only participate if they are part of a consortium that consists of more than fifty percent of rural health providers.[134] A non-rural health care provider who wants to participate in the HCCF must also be a health care provider listed under the program.[135] Such providers are limited to "public or not-for-profit hospitals, rural health clinics, community health centers, health centers serving migrants, community mental health centers, local health departments or agencies, and post-secondary educational institutions/teaching hospitals/medical schools."[136] Individual providers or provider consortia in the program may receive a sixty-five percent discount on eligible equipment or services.[137] Non-rural providers who are eligible to participate in the program, however, will have funding capped.[138] Eligible expenses under the program are

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132. Summary of the Rural Health Care Program, FCC https://www.fcc.gov/general/rural-health-care-program [https://perma.cc/NG8B-TV98].
133. Rural Health Care Support Mechanism, Report and Order, FCC 12-150, para. 12-14 (Dec. 21, 2012).
134. *Id.*
135. *Id.*
136. Summary of the Rural Health Care Program, FCC (May 29, 2020), https://www.fcc.gov/general/rural-health-care-program [https://perma.cc/NG8B-TV98].
137. *Funding Broadband-Enabled Health Care*, CONNECT2HEALTHFCC, https://www.fcc.gov/general/funding-broadband-enabled-health-care [https://perma.cc/GS47-JCZV] (last visited Jan. 21, 2019).
138. *Id.*

"broadband services, network equipment, and HCP-constructed and owned network facilities for consortium applicants."[139]

The Telecommunications Program provides that rural health care providers will not pay more for telecommunications services as compared to their urban peers.[140] Under the program rural providers pay for services that are "no higher than the highest tariffed or publicly available commercial rate for a similar service in the closest city in the state with a population of 50,000 or more people, taking distance charges into account."[141]

Although the FCC's programs for telehealth has supported rural providers, they are not sufficient to offset the effects of the repeal previously discussed. The programs aid rural health care providers, but the effects of the repeal could have implications for non-rural providers as well. The FCC's programs simply provide financial support so rural providers will have the necessary infrastructure and connectivity to support telehealth programs. Rural telehealth programs, however, are still likely to be behind in the development of their programs compared to large health care providers. The HCCF only provides a sixty-five percent discount on eligible products and services;[142] and the Telecommunications Program does not provide direct funding but rather controls the costs to rural providers.[143] These funding opportunities help with the associated costs of getting a telehealth program up and running but do not provide for one hundred percent of the costs.

Funding for infrastructure and equipment alone may not be enough for rural health care providers to successfully implement their telehealth programs. Paid prioritization arrangements may not be within the budgets of rural health care providers, even those who receive FCC funding. Non-rural health care providers, such as solo practitioners or small physician groups, will also face financial constraints and FCC programs provide limited funding or no funding at all.

B. State Health Regulation vs. Telecommunication Regulation

The FCC expressed its intent to preempt state laws relating to net neutrality in its *2017 Restoring Internet Freedom Order*,[144] rationalizing that "Internet access service should be governed principally by a uniform set of federal regulations."[145] The FCC advanced two arguments supporting its decision to preempt state law; the "impossibility exemption" allows FCC preemption of state laws when (1) "it is impossible or impractical to regulate the intrastate aspects of a service without affecting interstate communications" and (2) when "the [FCC] determines that such regulation

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139. Rural Health Care Support Mechanism, Report and Order, FCC 12-150, para. 12 (Dec. 21, 2012) https://www.fcc.gov/document/fcc-releases-healthcare-connect-order.

140. *Id.*

141. *Id.*

142. *Summary of the Rural Health Care Program*, *supra* note 136.

143. *Id.*

144. *Restoring Internet Freedom Order, supra* note 6, at para. 194-204.

145. *Id.* at para. 194.

would interfere with federal regulatory objectives."[146] The FCC reasons that action taken by individual states not only disrupts federal efforts to have uniform regulation but also "undermine[s] Congress's goal of ensuring that the Internet remain free from 'Federal *or State* regulation.'"[147] The FCC also justified preemption of state legislation of net neutrality due to "longstanding federal policy of nonregulation for information services," of which Congress has implicitly approved.[148]

Despite the FCC's declaration that federal regulation of broadband Internet service preempts state action, several states have taken steps to implement their own net neutrality laws and have expressed concern over the repeal. The National Conference of State Legislatures has reported that "[t]hirty-four states and the District of Columbia introduced 120 bills and resolutions regarding net neutrality in the 2018 legislative session."[149]

States fighting to regulate net neutrality could frame their arguments as regulation of health, rather than a telecommunications regulation. States have the authority to regulate health through their police powers, enabling them to "protect the health, safety, and morals of the community."[150] States can exercise their police power by "[enacting] quarantine laws and health laws of every description . . . that relate to matters completely within its territory."[151] States could argue that regulation of net neutrality *specifically* for telehealth is in place to protect the health of their citizens and is thus a valid exercise of their police powers. As discussed above, paid prioritization could have harmful effects on providers which translate into adverse effects on citizens' health, especially in rural communities. Although beyond the scope of this Note, there is an interesting avenue for states to explore in their defense to enacting net neutrality laws. A successful regulation of net neutrality would need to be tailored narrowly, with only an exception for telehealth or other fields relating to health and safety.

C.   A Health Care Exception?

One possible solution is to create a health care exception to FCC rules that would ensure the growth of telehealth does not erode. The FCC seems to be of the view that the repeal will be beneficial to health care. Chairman Pai has made statements regarding the repeal of the net neutrality rules and how

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146. *Id.* at para. 198.

147. Brief of Respondent at 27, Mozilla v. FCC, 18-1051 (D.C. Cir. Oct. 11, 2018).

148. *Restoring Internet Freedom Order*, *supra* note 6, at para. 202; *see also* n. 749.

149. Heather Morton, *Net Neutrality Legislation in States*, NATIONAL CONFERENCE OF STATE LEGISLATURES (Jan. 23, 2019), http://www.ncsl.org /research/telecommunications-and-information-technology/net-neutrality-legislation-in-states.aspx   [https://perma.cc/9GTK-PY7U].

150. ELEANOR D. KINNEY, ADMINISTRATIVE LAW OF HEALTH CARE IN A NUTSHELL 14-15 (2017). The States' power to regulate health was recognized in the Supreme Court case *Gibbons v. Ogden*, 22 U.S. 1, 203 (1824) (holding that the states have the power to regulate health laws).

151. Jacobson v. Massachusetts, 197 U.S. 11, 25 (1905).

it will promote telehealth services.[152] During a conference on aging and technology sponsored by Project GOAL, the Chairman remarked,

> [i]n two weeks, we'll vote on a plan to restore Internet freedom and bring back the same legal framework that was governing the Internet three years ago today . . . . This will result in increased investment in infrastructure and more digital opportunity for seniors, especially in rural and low-income urban areas. One aspect of this proposal I think is worth highlighting here is the flexibility it would give for prioritizing services that could make meaningful differences in the delivery of healthcare. By ending the outright ban on paid prioritization, we hope to make it easier for consumers to benefit from services that need prioritization— such as latency-sensitive telemedicine. Now, we can't predict exactly which innovations entrepreneurs will come up with. But by replacing an outright ban with a robust transparency requirement and FTC-led consumer protection, we will enable these services to come into being and help seniors.[153]

However, this view overlooks the fact that paid prioritization is only available for those who can *afford* to pay. Rural health providers and other small providers serving low-income communities do not have the financial resources to pay for prioritization. As one health care blog notes, "telehealth services could have secured an exemption under the old rules without implementing paid prioritization across the market."[154] The exemption of telehealth services under the old rules would have been put into effect provided that telehealth services were classified as "non-BIAS services."[155] Non-BIAS (broadband Internet access services) are classified by the FCC as having services that

> are not used to reach large parts of the Internet . . . [and] are not a generic platform–but rather a specific 'application level' service . . . us[ing] some form of network management to isolate the capacity used by these services from that used by broadband Internet access.[156]

In fact, the FCC, in their *2015 Order*, mentioned that telemedicine could be classified as a non-BIAS.[157] If current FCC leadership had serious concerns about how net neutrality rules would affect innovation in the

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152. Ajit Pai, Chairman, FCC, *Remarks at Project GOAL's Conference on Aging and Technology: Creating Opportunities to Age Well with Innovation* (Nov. 30, 2017).

153. *Id.*

154. Kristi Kung, *Life in the Slow Lane? What Net Neutrality Repeal May Mean for Telehealth Services*, SHEPPARD MULLIN HEALTH CARE LAW BLOG (Jan 25, 2018,) https://www.sheppardhealthlaw.com/2018/01/articles/healthcare-information-technology/net-neutrality-teleheallth/ [https://perma.cc/9BY3-CHP8].

155. *Protecting and Promoting Internet Freedom Order*, *supra* note 40, at para. 207.

156. *Id.* at para. 209.

157. *Id.* at n. 315.

telehealth industry, they should have recognized that under the *2015 Order* telehealth could receive an exception. Chairman Pai's statements distort the reality concerning how paid prioritization arrangements interact with telehealth, both in the past and present.

Because paid prioritization presents a disadvantage for some health care providers, one possible solution is for the FCC to create a health care exception that would ban paid prioritization for telehealth services and products. An exception would be beneficial because it could ensure the harmful effects of prioritization would not impact telehealth content creators, small and rural providers, or consumers. The FCC should explore implementing an exception, especially due to the American Medical Informatics Association's letter asserting its belief that "access to broadband is, or will soon become, a social determinate of health."[158] There would likely be many advocates from the health community urging the FCC to take this approach because since the FCC announced its intention to repeal net neutrality, stakeholders in the health care community have advocated for a health care exception.[159]

D. *Municipality/Community Built Networks*

Another possible solution to diminish or prevent harm to telehealth is to build community broadband networks that are dedicated specifically to telehealth. Dedicated networks have already been used in other industries. For instance, FirstNet is a dedicated wireless network created by AT&T for police and firefighters to address problems with communication among first responders.[160] The concept of FirstNet could provide insight into how to create telehealth specific networks and implement them successfully.

A wireless network specifically for telehealth would enable telehealth users to have reliable connectivity and prevent the need for prioritization arrangements. Health care providers would not need to compete with every other service using the Internet, and thus may not need a prioritization to ensure their data is sent and received quickly. Networks built specifically for telehealth would also allow owners to ensure the network is customized for the sensitive needs of telehealth and could increase access to those who want to provide telehealth services.

Alternatively, telehealth providers could tap into community broadband networks that have already been built to provide telehealth services. Using

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158. Letter from American Medical Informatics Association to Ajit Pai, Chairman, FCC (May 24, 2017).

159. Ebunola Aniyikaiye, *A Case for an Exception to the FCC Rule: Vulnerable Populations and Telemedicine*, EPSTEIN BECKER GREEN HEALTH LAW ADVISOR (Dec. 19, 2017), https://www.healthlawadvisor.com/2017/12/19/a-case-for-an-exception-to-the-fcc-rule-vulnerable-populations-and-telemedicine/ [https://perma.cc/M6T4-VK35]; Kung, *supra* note 154.

160. Tom Jackman, *FirstNet Launches, Giving Police and Firefighters a Dedicated Wireless Network and Infinite Possibilities*, WASH. POST (June 25, 2018), https://www.washingtonpost.com/news/true-crime/wp/2018/06/25/firstnet-launches-giving-police-and-firefighters-a-dedicated-wireless-network-and-infinite-possibilities/ [https://perma.cc/37CB-ZMJS].

existing networks would allow providers to lower costs, as they would not need to build a network from scratch. It could also provide providers with the assurance that they are dealing with a network that is well established, which would decrease the difficulties that arise when a network is in its early stages and could impact the provision of telehealth services.

Whether telehealth providers use locally built networks that are specifically for telehealth or not, these broadband networks may better provide for telehealth needs rather than large ISPs. In fact, community-owned networks are becoming increasingly popular because consumers are "frustrat[ed] with sub-par broadband speeds, high prices, and poor customer service."[161] A 2018 Harvard study evaluating community-owned fiber optic networks found that community networks offered lower prices compared to ISPs and also provided more transparency in terms of costs.[162] Lower costs for broadband services would be especially critical for rural and small health care providers.

Building community-owned networks would be no simple feat, as there are multiple actors involved and issues with funding.[163] Additionally, telehealth providers could face opposition from major ISPs.[164] As such, state or FCC support would be vital in the construction of community or telehealth specific networks. States could provide funding or offer other aid to facilitate the process of building a network to help providers get municipal networks up and running. The FCC could also help by expanding their current programs or creating new programs that offer more funding to rural providers and being more inclusive of small providers. Although the FCC has the Health Care Connect Fund that provides funding for HCP-constructed and owned networks, funding is limited and is only provided for eligible health care providers,[165] which precludes many non-rural providers who would benefit from supportive funding. Although telehealth providers will likely face obstacles in building these networks,[166] the resulting benefits would foster growth in telehealth.

V. CONCLUSION

The FCC believes that paid prioritization arrangements will "[close] the digital divide,"[167] reasoning that the ban on paid prioritization leads to "forcing the poor to support high-bandwidth subscription services skewed

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161. Karl Bode, *More Than 750 American Communities Have Built Their Own Internet Networks*, MOTHERBOARD (Jan. 23, 2018), https://motherboard.vice.com/en_us/article/a3np4a/new-municipal-broadband-map [https://perma.cc/7AXX-JQAX].

162. Talbot et al., *Community Owned Fiber Networks: Value Leaders in America*, BERKMAN KLEIN CENTER FOR INTERNET & SOCIETY RESEARCH (Jan. 2018), http://nrs.harvard.edu/urn-3:HUL.InstRepos:34623859 [https://perma.cc/D2AS-AWF6].

163. *See* Brodkin, *supra* note 105.

164. *Id.*

165. *Summary of Rural Health Care Program*, *supra* note 136.

166. *See* Brodkin, *supra* note 105.

167. *Restoring Internet Freedom Order*, *supra* note 6, at para. 260.

towards the wealthier."[168] But the FCC overlooks the more subtle ways paid prioritization arrangements could lead to disparities in health care. The FCC's Restoring Internet Freedom Order may be beneficial for certain stakeholders in the telehealth field, but this benefit would not extend to all.

Allowing telehealth technology innovators to enter into paid prioritization arrangements with ISPs may threaten growth in telehealth due to lack of healthy competition. If paid prioritization becomes a prerequisite to successfully operating a telehealth business, it could preclude innovators from starting companies or developing new technologies for fear they will not be able to compete effectively. Paid prioritization arrangements could threaten the development of telehealth programs for rural communities and small health care providers. Providers who are not capable of paying for prioritization may not be able to operate an effective telehealth program, because without an arrangement, they may lack the necessary capabilities to support their telehealth activities. In sum, the effect of the repeal of net neutrality could prevent opportunities for new telehealth products and companies as well as harm rural communities and providers who cannot afford these arrangements, which further supports health disparities.

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168. *Id.* at para. 260 (quoting the Cisco Comments at 11-12).