

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of

Actions to Accelerate Adoption	)	
and Accessibility of Broadband-Enabled	)	
Health Care Solutions and	)	GN Docket No. 16-46
Advanced Technologies	)	

**COMMENTS OF TELEQUALITY COMMUNICATIONS, INC.**

May 24, 2017

TeleQuality Communications Inc. would like to thank the FCC for this opportunity to share our comments<sup>1</sup> regarding the adoption and accessibility of broadband-enabled health care solutions and advanced technologies.

The challenges faced by rural healthcare providers are significant and numerous. As a telecommunications service provider advocating on behalf of the rural healthcare industry, we also recognize our legislators and regulators are challenged in developing solutions for these healthcare providers.

Our comments are directed toward a broader explanation of what we view as the problems healthcare providers face and how both the telecommunications and healthcare industries are grappling with finding solutions to those problems. Many of these issues affect all healthcare providers across the United States. Our comments however, will focus upon how these issues affect healthcare providers in locations specific to rural America.

As service provider, we have conversations with rural healthcare providers about what can be implemented now with a view toward the future deployment of broadband-enabled health care solutions and advanced technologies. This is our attempt to address the important hurdles they face today, without adding confusion around the urgency of developing a plan for what advanced technologies will require in the future. We communicate a telehealth framework view as a basis of this conversation. The telehealth framework is comprised of 3 components; infrastructure, IT and medical tools and clinicians.

- Infrastructure: The underlying connectivity of fiber, copper, coax and wireless modalities used to connect people to people, or buildings to buildings. These are the links over which voice, data and video are transmitted. This is the “tele” part in “Telehealth!”

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<sup>1</sup> We begin with opening remarks that provide broader context around the issue. Then, we will specifically address some of the enumerated issues set out in the Public Notice. objectives and sub-items

- IT and medical tools: IT tools are; servers, routers, switches, business software, email, internet service, along with medical tools like electronic health records (EHR) software, Bluetooth enabled blood pressure cuffs, heart rate monitors, glucose meters, anything a clinician uses as a part of diagnosis and follow up care. These are devices used by clinicians to translate information which is then transmitted over the infrastructure.
- Clinicians: This is the most important piece of the framework. It's the "health" part in "Telehealth!" This is the skilled workforce that uses IT and medical tools to help perform the daily work of diagnosis and delivering care.

Once the telehealth framework is reviewed and understood by the healthcare providers, solutions are developed to address more approachable and immediate business administration needs. Most of these rural healthcare providers are overwhelmed at even the thought of what can be done with advanced technologies. So, it is important for them to limit their initial telemedicine goals and do it as a 2-step process. Step 1 - Simply start by building a robust broadband infrastructure to help with current business administration needs such as internet, email, EHR support services, etc. Step 2 - Telemedicine services such as tele-dermatology, tele-dentistry, tele-psychiatry, etc. can be implemented over the top of the technology platform, put in place by Step 1.

Starting with broadband is an important first step. However, broadband access throughout rural America is missing, and broadband is not the only hurdle healthcare providers have when adopting new technology into the delivery of care. TeleQuality will specifically comment on the broadband issue as we address sections of the Commission's public notice. But, rural healthcare providers have additional challenges to overcome when implementing these advanced technologies, including Workforce Deficit, Productivity, Reimbursement and Broadband Deployment.

#### Workforce Deficit:

It is widely known the US healthcare industry needs more doctors, nurses and other clinicians to deliver the care our citizens require. There is more to it than just a shortage of physicians and specialists. We point out two significant issues contributing to these workforce problems, recruitment hurdles and lack of skilled IT workforce.

There is an insufficient number of physicians for the populations living in rural areas. Approximately 54 specialists for every 100,000 patients is just not enough.<sup>2</sup> The Health Resources and Services Administration (HRSA) found that a majority of rural counties have 1 practitioner serving 3,500 patients when it is considered adequate care serving 2,000.<sup>3,4</sup>

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<sup>2</sup> Institute of Medicine (US) Roundtable on Environmental Health Sciences, Research, and Medicine; Merchant J, Coussens C, Gilbert D, editors. Rebuilding the Unity of Health and the Environment in Rural America: Workshop Summary. Washington (DC): National Academies Press (US); 2006. 1, Environmental Health in Rural America. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK56977/>

<sup>3</sup> Rosenthal, M. B., Zaslavsky, A., & Newhouse, J. P. (2005). The Geographic Distribution of Physicians Revisited.

A shortage of skilled IT workforce poses the biggest threat to the adoption of advanced telemedicine technologies. There is a consistent demand for IT technicians, but a supply shortage in rural America. Urban healthcare providers do offer support to help shore up the lack of this skill through their affiliation with rural providers. However, these rural healthcare providers must employ a more highly skilled “information technologist” to manage and support these very complex electronic healthcare records systems and other IT and medical tools.

We have found rural healthcare providers are at a significant disadvantage in planning around broadband-enabled health care solutions and advanced technologies. The day-to-day management of basic business administration and general clinical services must take a priority over the implementation of these advanced services. Team this with a lack of available skilled personnel and the broadband issue becomes even tougher to tackle.

Productivity:

As we work with our rural healthcare partners, we are finding the issue of productivity is a major one these administrators are attempting to solve.

Skillset, training, tools, funding, and more are contributors to the problem of moving patients through their facility’s care cycle. No matter if they are a Critical Access Hospital, Community Health Center or a Behavioral Health Facility, we find the process of delivering care is being massively disrupted by these forces.

Because of incentives and regulations supported through the 2009 American Recovery and Reinvestment Act (ARRA), the US Health and Human Services agency is requiring that these entities employ electronic health records in their practices. If they do not meet certain meaningful use requirements, payments for services can be reduced, withheld or the entity could even be fined. Over the past 5 years, the implementation and integration of these systems has resulted in significant disruption to the way administrators and clinicians perform their work.

Training in our medical schools and educational institutions is happening. However, most of the rural healthcare facilities are at a disadvantage in this area. These administrators and IT personnel are trying to catch up with the burgeoning infrastructure and IT tools support requirements of these EHR systems. Like most software in use today, EHR companies are adding more and more important features to their software platforms. And, as it relates to the workflow of the business, with those additional features comes added complexity on managing and supporting those systems.

To deploy these electronic health records systems in a productive manner, healthcare providers must have a robust broadband network. Our customers have exponentially increased the bandwidth to their remote clinics and other facilities. In a market where broadband is not readily available, their costs for this infrastructure are significantly rising.

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Health Services Research, 40(6 Pt 1), 1931–1952. <http://doi.org/10.1111/j.1475-6773.2005.00440.x>

<sup>4</sup> National Health Service Corps (U.S.). (n.d.). 2015 National Health Service Corps Report to Congress. Retrieved May 24, 2017, from <https://www.hrsa.gov/about/organization/bureaus/bhw/reportstocongress.html>

## Reimbursement:

The process of delivering care is influenced by many things. But how our healthcare facilities are paid is one of the more important. It has significant influence on how these facilities manage workflow at their practice.

Technology is an important factor in helping this industry deliver a higher quality of care at a lower cost. However, the headwinds of getting reimbursed for the delivery of care using advanced technologies is a problem. These facilities are financially incented to use enhanced EHR platforms to address several administrative requirements. They should also be financially incented to use advanced technologies to deliver the clinical services as well.

State and federal agencies, along with third party payors must expand and stay current on payment structures for services delivered using telemedicine technologies. These agencies need to be promoters and educators to our healthcare providers. These healthcare providers also need to be protected from the inconsistent changes and instability of these payment programs.

## Broadband Deployment:

The 1980's deregulation of the industry, together with the Telecommunications Act of 1996 fueled unprecedented cost reductions. The cost of communicating dropped to a such a low level, that today we have virtually unlimited access to communicate via voice, video and data at a fraction of the measured costs of the past, or for free.

How did it get there? The deregulation fueled previously-unseen levels of capital investment into an industry that lacked the desire to change. That capital took a bit of time to produce results, but looking back, it wasn't that long. Within a couple of decades, investment into the industry produced the beneficial results most of us enjoy today.

However, those couple of decades didn't produce the same results for the citizens of rural America. It's understandable; private investment must have a competitive, free market foundation from which to build. Frankly, urban areas were more attractive. Also, the ability to compete in these harder to reach rural markets, which still have legacy monopolistic government regulation and support, contributes to the limited interest of competition entering the market.

Since the Telecommunications Act of 1996, it has become clear the transition of a regulated and governmental funded industry does work best when guided by light touch regulation. But rural America poses a more difficult problem. The Chairman's effort to move ahead with creative initiatives such as a Connect America Fund (CAF) reverse auction is an important step in helping to address this problem. However, the Commission can take additional "light touch" measures to help the industry move further away from the failed, monopolistic regulations of the past. Meaning, in the short term, there is a need for incentives to kick start this action for all participants. These incentives must have a life plan. There should be no more propping up of an industry that can't seem to adjust to new market conditions because of a lifelong culture of regulated protectionism. This plan should have clear and measured results that are well within the public's financial limitations.

Our healthcare industry would not be what it is today without government funding. Over the years, the industry has had the benefit of collaborators from government, industry, innovators

and entrepreneurs, academia and consumers. Our rural citizens are the benefactors of this system. Critical Access Hospitals are a result of the federal government recognizing that the healthcare needs of rural America must be met through important financial support. This system supports the workforce of rural doctors and other healthcare workers whom we depend upon to care for these communities.

Our telecommunications industry is ready to deploy more broadband in rural America. How can the telecommunications industry with the support of federal policies meet this need?

The Telecommunications ACT of 1996:

“UNIVERSAL SERVICE PRINCIPLES- The Joint Board and the Commission shall base policies for the preservation and advancement of universal service on the following principles: `(1) QUALITY AND RATES- Quality services should be available at just, reasonable, and affordable rates. `(2) ACCESS TO ADVANCED SERVICES- Access to advanced telecommunications and information services should be provided in all regions of the Nation. (3) ACCESS IN RURAL AND HIGH COST AREAS- Consumers 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 interexchange services and advanced telecommunications and information services, that are reasonably comparable to those services provided in urban areas and that are available at rates that are reasonably comparable to rates charged for similar services in urban areas.”<sup>5</sup>

These principles apply today. As a country, we value the need to have people live in the rural areas of our country. We are better off because of it!

We recognize the federal government cannot continue to expand and increase funding without careful, thoughtful and measured planning. As a part of the 2009 ARRA, the federal government provided funding for broadband projects. There is debate around how successful this funding was in helping to solve immediate and long term broadband access problems and it is encouraging to hear Chairman Pai’s thoughts that any infrastructure bill passed by Congress which includes broadband should include the FCC as an important lead in effectively administering those policies.<sup>6</sup>

## Objective I

Promote effective policy and regulatory solutions that encourage broadband adoption and promote health IT.

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<sup>5</sup> 47 U.S.C § 254(b)

<sup>6</sup> Pai, A. (2017, March 15). “BRINGING THE BENEFITS OF THE DIGITAL AGE TO ALL AMERICANS”. Remarks of FCC Chairman Ajit Pai in Carnegie Mellon University's Software Engineering Institute, Pittsburgh, PA. Retrieved May 24, 2017, from <https://www.fcc.gov/document/chairman-pai-bringing-benefits-digital-age-all-americans>.

TeleQuality agrees with Chairman Pai's "Digital Empowerment Agenda," and recent legislation for a public/private partnership to establish "Gigabit Opportunity Zones" is important. These solutions have the promise of a plan that can offer the public answers to long term viability questions.

1. Work with the Department of Health and Human Services on solving the training needs of our healthcare IT workforce. The requirements of electronic health records systems are now here. And because of this very important requirement, our administrators and clinicians must have support to install, maintain and service these systems, which are highly dependent upon broadband services to work! More and more data is being used by these systems in the delivery of local and remote care. The healthcare industry, especially in rural America, is not just struggling with broadband access deficiencies, but also human and skillset resource deficiencies. Our healthcare industry now needs to train "information technologists" that can work with the big data needs that a new class of healthcare administrators requires. No longer should these workers be viewed as technicians just fixing IT and medical tools. Instead, they should be viewed as important contributors to the delivery of care at the same level of the clinicians they support at their facilities.
2. Let's first help healthcare providers in rural America with broadband services that can support their business administration needs. Like all businesses, these healthcare providers must have access to an assortment of tools that require broadband just to meet the important day-to-day functions of a business.

Broadband-enabled telemedicine services such as: tele-dermatology, tele-oncology, tele-radiology, tele-dentistry, etc. must be deployed. But before that can happen, among the many other things, training, as mentioned above, is necessary.

While making life easier for those at risk, these telemedicine services will reduce costs and provide important quality of care components to the public. The use of these advanced technologies to help limit the need to transport those that are most vulnerable, like our aged, makes a difference. It's a common story, "we drove 2.5hrs for grandpa's appointment. Which lasted 20 minutes. Then drove another 2.5hrs home!" This is such a physical burden to the elderly, that many choose to forgo the trip. Many procedures and follow up activities do not need to be done in-person. Our healthcare industry, payors, legislators and regulators can work with academia in retraining and developing curriculum changes that can account for this important healthcare workflow problem for healthcare patients.

4. Technical issues when considering broadband adoption and promotion of health IT solutions.

Issues: Access, reliability, privacy, security and speed.

Access: Electronic health records systems are the most prominent contributor to the need for appropriate broadband. Patient records are being reviewed that now carry more data and images than ever before. Past patient history is one thing, but when the record includes MRIs and CAT Scans, the files become very large, multi-gigabyte files!

**Reliability:** More and more healthcare providers are moving to the cloud. This makes sense. Cost for supporting these electronic healthcare records and other administrative systems in house with limited skillset is expensive and cumbersome. However, there is an inherent problem with using rural broadband to access data stored in the cloud. Reliance upon a single broadband link to access this important information requires contingency planning on the part of both the healthcare provider and the service provider. These links are now the lifeline of the business! Access to network redundancy is very important.

**Privacy and Security:** IT healthcare workers need to have the skills and resources to either perform this work or outsource it. Everything from simple email SPAM to ransomware is now a very big management problem. Expertise is needed to protect healthcare information. Cyber security for the vast number of healthcare locations throughout the US is minimal at best.

**Speed:** This is less about the medium and more about the bandwidth. These healthcare locations need big bandwidth and low latency! Operations are impacted significantly because of EHR implementation, maintenance and service. It makes no difference which technology platform is used.

5. **Connectivity Requirements:** Wired or wireless, fixed or mobile, it doesn't matter so much the connectivity, as it does for the bandwidth size and latency.
  - a. Minimum bandwidths are 10Mbps/10Mbps to 50Mbps/50Mbps (must be symmetrical) for small clinics. This increases to 100Mbps to 10Gbps for larger community hospitals and major health facilities. Once the technology platform is in place, the bandwidth needs will be more easily addressed because it becomes more of a nominal upgrade at that point. Due to images, such as MRIs and CT Scans, we have found compression technologies have had minimal success.
  - b. Real-time video does stimulate demand for more and better broadband. This issue is likely to be addressed by the Commission's ability to assist with the funding.
  - c. Rural communities and Tribal lands are lacking the effective and efficient transmission service to provide health technology services. These areas serviced by ILECs either have very expensive service availability via NECA tariffs or no service is available. Our comment overview above has addressed these contributors at length.
  - d. No Comment.
  - e. Retrofitting existing health care facilities can often be difficult, and Critical Access Hospitals are a good example. Many of these locations were built at a time when wireless communications were not available. These are fortified buildings made of materials that interfere with the propagation of wireless signals. However, the need for mobility within these buildings and surrounding campuses is very important. The ability for clinicians and care givers to have access from

the ambulance entrance, emergency room to the waiting room and outside campus area is must. Clearly a best practices profile for ensuring that new health care facilities consider the important aspects of technology delivery is required.

6. Other issues affecting development and adoption of broadband-enabled technology and services in health care.

Service reimbursement: Healthcare providers should be incented and reimbursed for telemedicine procedures and services at the same rate as normal procedures and services. Medicare and Medicaid need to do more than merely keep up. There should be incentives for the deployment and use of technology in the delivery of care.

9. Impediments to making health IT and other broadband health technology services available and ubiquitous in rural and remote areas. Challenges:

Skilled healthcare IT workforce

Training

Broadband Access

It's a jobs issue!

Skilled healthcare IT workforce: The lack of a skilled IT workforce is not limited to the health care industry. These skills are missing throughout rural America. We have health care administrators struggling to address a spectrum of negative business issues. The need to truly have "information technologists" and not "PC technicians" employed in the business has never been more evident.

Today, modern medicine requires well founded business decisions based upon the details of data. If these administrators cannot access and evaluate this data, they are at a significant disadvantage to solving the daily problems they are battling.

Our local schools and higher education institutions need to be given incentives to develop a workforce to help solve this problem.

Broadband Access: The persistent and unique challenges to making broadband health technology available to under/unserved markets include the Rural ILEC culture, broadband deployment costs, missing transitional regulatory framework and more.

Rural ILEC culture: Where has all the money gone? Not all rural ILECs have been struggling to adapt to the needs of their customers in these hard to reach areas. Some of the most innovative rate-of-return carriers are deploying new technology into their networks with great success. However, many are struggling. Universal Service Funding has generally been viewed and used by these recipients in a way that has made the transition to a lighter touch regulation take longer than needed.

There are success stories in solving the broadband problem in these markets, but it is not easy. There is still an added barrier to competitors entering a market that is significantly



supported by the USF. The business cultural challenges ILECs face continue. We recommend that the Commission take additional steps beyond the CAF II reverse auction effort to stimulate adding competitive forces in solving this broadband access problem.

### Objective III

Strengthen the nation's telehealth infrastructure through the FCC's Rural Health Care Program and other initiatives.

The FCC's Rural Health Care Program has helped to expand broadband services in eligible rural areas. Evaluation and possible adjustments of the Healthcare Connect Fund (HCF) in terms of the programmatic goals of (1) increasing access to broadband for HCPs, particularly those serving rural areas; (2) fostering the development and deployment of broadband health care networks; and (3) maximizing the cost-effectiveness of the program is needed. It is also important to include the Telecommunications Program in this evaluation.

During the earlier years of this program, RHCP distributions lagged expectations. There are many variables that contributed to this problem during that time.

- First, the administrator of the fund was also the promoter of the fund. This led to competing forces within the administrative organization. Bureaucratic missteps of the approval process did not project a supportive partner to healthcare providers interested in participating. The efforts of the administrator to communicate a positive message went generally unheard.
- Second, funding request processing mistakes were made by the administrator. Healthcare providers were experiencing significant problems caused by the administrator throughout this period of time, including the need to resubmit paperwork because of "lost" document faxes. The requirement that the HCP must supply all pertinent backup information needed for funding paperwork, while not having the skills and the resources to access such things as valid urban rate documents for determining funding levels, further contributed to these processing problems.
- Also, participants often received minimal funding amounts compared to the significant administrative hassle, which failed to make it worthwhile for many. Additionally, fear of making mistakes, mainly due to the administrator's effort to appropriately manage program funds, contributed to funding levels that were not as expected.

The main reason for the FCC's implementation of the Rural Health Care Pilot Program (RHCPP) was because funding was not approaching limits. As stated in the FCC RHCPP Order:

"Despite the modifications the Commission has made to the rural health care mechanism, the program continues to be greatly underutilized and is not fully realizing the benefits intended by the statute and our rules. In 1997, we authorized \$400 million dollars per year for funding of this program. Yet, in each of the past 10 years, the program generally has disbursed less than 10 percent of the authorized funds. Although there are a number of factors that may explain the underutilization of this important fund, it has become apparent that health care providers continue to lack access to the broadband facilities

needed to support the types of advanced telehealth applications, like telemedicine, that are so vital to bringing medical expertise and the advantages of modern health care technology to rural areas of the country. In addition, many of these real-time telehealth applications require a dedicated broadband network that is more reliable and secure than the public Internet. Although the Commission has taken a number of steps to spur deployment of the type of broadband facilities that would support advanced medical technologies, to date our rural health care funding mechanism has not adequately provided the type of support needed to encourage development of dedicated broadband networks among health care providers.”

“In particular, the goal of the pilot program will be to provide us with useful information as to the feasibility of revising the Commission’s current RHC rules in a manner that best achieves the objectives set forth by Congress. If successful, increasing broadband connectivity among health care providers at the national, state and local levels would also provide vital links for disaster preparedness and emergency response and would likely facilitate the President’s goal of implementing electronic medical records nationwide.”

“Because of the enormous benefits of telemedicine applications that ride over broadband facilities, it is essential that the Commission take additional steps to facilitate broadband deployment to health care providers. Before taking further action to revise or expand the current RHC program, however, we believe it is prudent to engage in a trial program that will provide us with a more complete and practical understanding of how to ensure the best use of these available funds. Results from such a pilot program will inform our examination of how we can more effectively use available funding to bring the benefits of broadband connectivity to health care providers and patients in those areas of the country most in need. Upon completion of the pilot program, we will issue a report detailing the results of the program and the status of the health care mechanism generally, and recommend any changes that are needed to improve the programs. In addition, we intend to incorporate the information we gather as part of this pilot program in the record of any subsequent proceeding.”<sup>7</sup>

The FCC did use this pilot to learn more about how the program could be changed to meet distribution expectations. Enabling the formation of statewide and regional consortia, expanding funding to include urban entities, as well as funding eligible CPE resulted in the formation of the HCF.

Of course, simply "spending all the money" was never the true goal of the program. As time passed and other variables changed, the program's funding support level quickly went from "greatly underutilized" to clearly insufficient. Eligible, rural HCPs are now more aware of the program, and are increasingly making use of the necessary support it provides to keep up with rapidly growing bandwidth needs in markets where such bandwidth is still very costly. This is a good thing, but it creates a new problem for the RHC program. As before, the FCC is at an inflection point where it must reassess this program's current operation as compared to its original goals, albeit for the opposite reason as when the RHCPP was created. The FCC may now be forced to make some hard choices to ensure those goals are not left unmet.

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<sup>7</sup> See *Rural Health Care Support Mechanism*, WC Docket No. 02-60, Order, 21 FCC Rcd 11111 (2006).

17. The FCC can work with the Department of Health and Human Services and insurance providers to ensure that telehealth services are reimbursed similarly as equivalent in-person services.

Also, assisting HCPs with IT certification, by partnering with telehealth product manufacturers and services, would help to shore-up the IT workforce deficit issues previously discussed.

18. There are a few updates to the regulatory framework for the RHCP that are needed to keep pace with supporting broadband in rural and underserved areas. The Telecommunications Act of 1996 is specific in providing guidance to the Commission for administering this program. The goal is to support the high cost of the rural telecommunications services so healthcare providers pay the same rate as their urban counterparts.

It is important to point out that there are multiple influencers to funding levels reaching the \$400 million limit in FY2016. The most impact has come from the significant bandwidth increases needed to run electronic health records systems. This impact is reflected in that the number of funding requests from HCPs has not increased as dramatically as the amount of funding requested. HCPs are asking for more funding to shore up the increased bandwidth requirements. Until broadband availability in rural America reaches a more ubiquitous level, hopefully in the next 3-5 years, support for the cost for broadband buildout must continue and likely needs to grow.

Another influencer attributed to reaching this limit is a result of work done by USAC, Congress, and the Commission over the past few years. Promotion, funding administration efficiency, and adding new eligible entities (urban sites, skilled nursing facilities, etc.) have all resulted in exponentially more and larger funding requests.

One major regulatory policy idea that can be incorporated into the RHCP is to have a mechanism to accommodate a longer-term view of broadband build out. The HCF is an important part of this effort. However, there are funding limitations on broadband buildout projects within the HCF framework. There is room to incorporate incentives for sharing infrastructure funding between the Connect America Fund, Schools and Libraries Division and the RHCP. The principle of "universal service" is, by its very name, universal. Despite that, the Universal Service Fund has become subject to a "silo effect" in which a common pool of funds is broken up and segregated into different "pots," each containing different rules, policies, and procedures for participation by both applicants and service providers. By blending these silos and allowing the funding recipients and service providers to partner in ways that can more efficiently use the common pool of funds, the FCC can better achieve the goal and purpose of "universal service" and accommodate the needs of the rural communities those principles were designed to support. Further, incentives from the FCC to states in providing matching funds for this effort would certainly increase state advocacy of, and participation in, the effort.

Based upon the history of the USF, we recognize contributions to the fund cannot reach beyond sustainable levels. So, in accordance with the discussion above, we recommend the Commission look to the other programs in the fund to help shore up the funding needs of the RHCP, while sustaining the overarching goal of providing affordable, universal

service to areas of need. Over the past 2 funding years, the E-rate program has expanded to much higher funding limits. Yet those limits are not being reached. Unused funding could be allocated from E-rate to the RHCP.

Funds from the Connect America Fund can also be directed to the RHCP. There are carriers that have chosen to not receive this funding. The Commission has shown a willingness to help shore up rural broadband by using these funds. On January 27, 2017, New York's broadband initiative was the recipient of \$170 million of CAF. As stated earlier, if integrated into the right policy framework, these funds may become even more efficiently deployed when combined with the other programs of the USF.

21. There are challenges for HCPs in extremely high cost areas of the US. The Commission should be aware these HCPs are required to be creative when designing and obtaining broadband network services. But it is still very expensive. These HCPs cannot perform healthcare services without adequate broadband service. Congress used explicit language in the Telecommunications Act of 1996 to suggest that funding be based upon the difference of the high rural rate and the much lower urban rate.<sup>8</sup>

The challenge for the Commission is to address how these high cost areas, which are currently receiving funding using the RHCP Telecommunications Program, can migrate to a funding formula that is more affordable, more sustainable given the current regulatory environment, and simpler. Alaska and rural areas in the lower 48 states will not be able to support the electronic healthcare records systems without broadband services which are often still too costly at a 65% contribution from the HCF. The Commission mustn't forget the critical difference between simply having service and having adequate service. The mere fact that an HCP is receiving some support for service does not necessarily imply that HCP is able to afford adequate service. In many cases, these entities are forced to select slower speeds and less reliable service options due to budgetary constraints caused by the combination of high cost rural service and insufficient USF support levels. Stated in words, the difference may seem trivial and semantic. In reality, the difference can be as critical as that between life and death.

This is a difficult problem for the Commission. But we do believe there is enough funding within the USF programs to support RHCP participants at appropriate, affordable levels. This level of funding will not continue into perpetuity! With appropriate support, the next 3-5 years will result in significant increases in broadband availability, even in these hard to reach areas.

#### OBJECTIVE IV

Raise consumer awareness about the value proposition of broadband in the healthcare sector and its potential for addressing health care disparities.

24. We would highlight the Schools, Libraries, and Healthcare Broadband Coalition (SHLB) as an important resource to rural communities looking to solve their broadband needs.

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<sup>8</sup> 47 U.S.C § 254(b)(3)

25. Security, reliability and privacy concerns influence the adoption of broadband-enabled health care service greatly.

HIPAA compliance and cyber security are very important in influencing the use of broadband. This is true of rural America in general, but our rural healthcare providers are at an even greater risk of security breaches. The many influencers to the broadband dilemma discussed in our comments contribute to this security risk. The most notable is the lack of sufficient IT skillset. Rural HCPs are doing the best they can with the limited resources they have, but stories of security breaches are an increasingly-common headline in recent times.

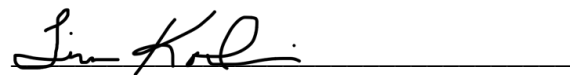
Patient records are more valuable on the black market than personal credit card data.<sup>9</sup> Thieves are working overtime to find holes in these rural healthcare providers' networks and take advantage. As a service provider, we work to uncover these holes and help them to better mitigate future breaches of security. But, it requires important on-going management to stay ahead of this problem and rural healthcare providers are struggling to manage the day-to-day, let alone these advanced security systems. Training and support is greatly needed in this area.

Thank you for the opportunity to share our comments regarding this very important issue. Today is an exciting time for our telecommunications and healthcare industries. Our country is truly on the cusp of something great. The ability to deliver a higher quality of care at a lower cost is coming. Technology is playing an important role in meeting this goal.

Our rural healthcare providers are working hard every day to manage difficult problems. Implementation of advanced technologies will enable them to focus more upon the delivery of care and less on the burdens of the day-to-day administration of the business.

We look forward to supporting the Commission in its effort to reach the goals defined in the principles of universal service.

Best regards,



Tim Koxlien

Chief Executive Officer

TeleQuality Communications, Inc.

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<sup>9</sup> Move Over Credit Cards – Stolen Medical Records Are Selling for Record Pricings on the Dark Web. (2016, May 19). Retrieved from <https://clearwatercompliance.com/blog/move-credit-cards-stolen-medical-records-selling-record-prices-dark-web/>