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September 7, 2018

Secretary Marlene H. Dortch
Federal Communications Commission
Washington, DC 20554
Delivered via the Electronic Comment Filing System <https://www.fcc.gov/ecfs/>

COMMENTS OF EMHS*
Before the Federal Communications Commission
Washington, D.C. 20554

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

*Note: EMHS will become Northern Light Health on October 1, 2018

Dear Secretary Dortch and Members of the Commission:

On behalf of EMHS, our member organizations and partners throughout our health care network, and the populations that we serve in the State of Maine, we deeply appreciate this opportunity to provide a second response to the Notice of Inquiry, WC Docket No. 10-213, Promoting Telehealth for Low Income Consumers. We offer this response jointly in collaboration with the New England Telehealth Consortium (NETC), a network of health care sites representing the New England states whose purpose is working together for better health care in New England through improved telecommunications.

NETC is a consortium applicant in the Healthcare Connect Fund (HCF), with over one thousand currently participating health care sites. NETC was established in 2007 as part of the Rural Health Care pilot program. Leveraging one of the largest awards in that program, NETC designed an efficient state-of-the-art network dedicated to the needs of health care, implemented a network operations center, and leveraged universal service funding and competitive bidding to reach long-term cost-effective contracts with multiple private carriers in the region. The core NETC network

spans three states, Maine, New Hampshire, and Vermont, with redundant network cores and independent links to the Boston area for internet access. NETC's efficient network design and long-term contracts help to deliver secure, competitively-priced, high-availability network services for health care, providing reduced costs and increased availability of affordable bandwidth to health care providers across six states within the New England state region including Massachusetts, Rhode Island, and Connecticut. NETC has realized the FCC's goal of establishing a network-of-networks for our region that links health care sites together. At the same time, NETC members recognize the critical gaps that exist in assuring reliable life-saving telehealth access throughout the last mile of connectivity to patient homes and outside the traditionally networked brick-and-mortar care facilities.

In EMHS' initial communication responding to this inquiry, we shared an overview of the technical complexities embedded within the provision of accessible, affordable, and reliable telehealth services for vulnerable and low-income populations located throughout rural America. We offered our insight regarding the important roles that health care providers can, and also cannot, fill towards ensuring all Americans have opportunities to access telehealth care and services in the rapidly evolving technological environments of our modern era.

In this second response, EMHS offers our expertise as a provider of comprehensive health care services in a rural and aging state in order to build upon the vision being explored by the FCC that would see improved health, and reduced costs, for citizens of all ages via increased access to high-quality digitally connected care throughout our nation. We understand that the right investments in innovation and expansion at this critical juncture in health care and communications will have long-lasting transformational effects that will shape the future of health care delivery in the United States for generations to come.

Maine, the state with the oldest median age in the United States, presents complex, though not unique, obstacles to the provision of affordable, accessible health care services. Barriers in our path of progress towards a robust and effective health care system emerge within two separate yet intrinsically intertwined paths. For patients, advanced age, transportation challenges, geographic distance, social isolation, cost of care, and difficult weather situations all play a role in deterring access to needed health services. On the provider side of the equation, mirroring the demographics of our patients, our state has an aging workforce, and recruitment of new providers is constrained by factors including lower comparative wages, employment opportunities for non-clinical spouses, and remote distances. As a result, rural health systems struggle to attract and retain the quantity of qualified employees required to deliver care when and where it is needed. Implemented well, telehealth approaches can bridge both of these issues to provide viable solutions for rural America.

In Maine, by necessity, our challenges have always inspired creativity and a frugal use of available resources to do the most good, for the most people, at the right time. As we study the future health care landscape in our state, we have identified four areas in which the offerings of the telehealth model, coupled with comprehensive distribution and high-reliability, will be transformative, and will illuminate the capacity for change within reach from this technology. While these are not novel applications of telehealth, their widespread implementation will address core gaps in the delivery of care in rural states. Further innovation in the use of these emergent technologies will develop with experience, as systems and innovators progress away from applying the new technology to

traditional workflow models. With access, and time to trial visionary approaches, we foresee exponential growth in the understanding and subsequent application of tools reflective of telehealth's true breadth of utility and function. Resourced adopters will break new ground in health care applications specifically tailored to meet the needs of rural populations, and will establish new best practices for access, outcomes, cost of delivery, and overall dual end-user satisfaction.

Therefore, under the proposed FCC "Connected Care Pilot Program" we see the following areas of potential transformative innovation:

1) Telemedicine Networks of Health Care Specialists

In the current health care model, health care specialists are not evenly distributed throughout the patient population's geography, and they are frequently concentrated in more urban settings. Telehealth technologies remove the distance barriers between patients and providers, and form a foundational component to a significant redesign of the existing care model. As opposed to struggling to join the patient and provider in one location, telehealth offers the opportunity to swiftly transport the treatment plan, and all relevant information, between both parties, frequently, efficiently, and effectively. Subsequently, specialists working within a robust telehealth network are able to care for a full panel of patients heralding from remote locales. Additionally health care systems serving remote states and regions may be more easily able to recruit needed specialists to complete their full and comprehensive offering of health care services.

As far as we have come in telehealth, we are just scratching the surface of the capacity of this model. And already there are known gaps that should be addressed to assist providers in examining patients from a distance. For example, the sense of touch is currently absent from a general telehealth exam. In the future, haptic technologies, integrating tactile sensation within the telehealth communication tools, may allow physicians to "feel" at a distance. To enable this technology significant upgrades in the bandwidth currently available in the state of Maine would be needed.

2) Remote Monitoring

Remote patient monitoring has long been known to be an area of great potential for increased quality and efficiencies, and decreased cost in health care. We see two areas of initial implementation that would have immediate beneficial impact.

a) Inpatient Monitoring

In high-needs areas of care such as the Emergency Department (ED) or the Intensive Care Unit (ICU), remote patient monitoring could be used to support in-house staff in the provision of around-the-clock care and patient surveillance. As an example: in many hospitals throughout the nation, both rural and urban, behavioral health patients that arrive in the emergency department in crisis may present the need for hospitals to provide ongoing security and monitoring to prevent harm to themselves, or others. With supportive real-time monitoring and direct connectivity to staff, these security services could be engaged only when needed, thereby conserving available resources for use efficiently, and in a minimally invasive manner. Similarly, ICU patients at multiple hospitals could be monitored remotely from a single location using real-time

surveillance, coupled with redundancies to prevent error. While these examples are neither groundbreaking nor novel, and they may be standard practices in locations where there is reliable internet capability, universal adoption throughout states such as Maine would represent a significant advance in rural health care delivery.

b) In-home Monitoring (i.e. in a home or nursing home)

Patients in rural communities with health issues that require ongoing monitoring, such as high-risk pregnancies, medically fragile individuals, chronic conditions, post-operative recovery, or patients in palliative care and others, could benefit greatly from reliable, accessible, in-home monitoring. Often in rural communities not only are there significant shortages in providers, but home health care practitioners must also travel great distances between patients. With broadly available access to reliable home monitoring, practitioners would be able to assist more patients, as well as mitigate issues in a more timely and accurate manner in accordance with patient need and severity of condition. In-home monitoring can provide peace of mind for patients and their family members, as well as an enhanced quality of life and normalcy. Additionally, using the wealth of developing and available predictive analytics, coupled with consistent monitoring, health care providers and patients should be able to identify problems before they reach acuity and deploy community paramedics to intervene. Again, both patients and communities will benefit from the deployment of the limited available resources utilized to the most effective and efficient means.

3) Mobile Diagnostics

Rural Americans experience significantly higher rates of chronic disease, as well as increased death rates from heart disease, cancer, unintentional injury, stroke, and chronic respiratory disease. They also face barriers of transportation to primary care and preventative services including diagnostics and early disease detection. Mobile diagnostics, with reliable access to remote real-time monitoring, can provide critical information to patients regarding their own care. Concurrently, mobile diagnostics can provide vital information for providers and/or emergency responders who are faced with making life and death decisions within a very short window of time. For these paramedics and their patients, swift and reliable connectivity to specialists able to immediately access, read, and assess the clinical data available can be invaluable. As an example, in clinical situations like stroke, wherein the interventions that occur within the “golden hour” have long-term ramifications, the ability to connect to a remote neuroradiologist able to assess the symptoms and cause of the stroke, and provide real-time intervention support, can drastically change the immediate treatment and long-term outcome for that patient.

4) Rural Technology Supporting Workforce Development

In a topic closely aligned with telehealth access, it is important to touch upon the issue of digital access to education and ongoing training for our health care workforce. Maine is experiencing a significant and expanding statewide nursing shortage. On average, our nursing workforce is older than other nursing workforces nationally, and our existing nurses are retiring at a rapid pace. Known recruitment challenges taken into consideration, Maine’s workforce shortage is projected to grow to over three thousand vacancies for needed registered nurses by the year 2025 if the state is

not able to swiftly expand capacity in its nursing education programs. A scarcity of nursing faculty presents a singularly compounding challenge as 24% of available nursing faculty are over the age of 60, and they will soon retire. In order to successfully offset this troubling trajectory, Maine's nursing programs must graduate an additional 400 new license-eligible students per year.

It is true that throughout the nation, and in Maine, nursing education programs have developed advanced online learning programs for didactic courses. Unfortunately, too many rural homes in Maine lack the broadband capacity that allows students to adequately utilize the available technology. Consequently, online learning as a means of advancing nursing education statewide in Maine falls far short of its true capacity. Success in achieving the goals of increased broadband deployment and increased adoption of broadband within households, as is currently under review within this FCC request for information, will help to provide answers to this problem, and the solution is squarely aligned with the FCC's stated goals of *"improving health outcomes through broadband access."*

Technology and telemedicine have assumed an increasingly important role in health care delivery, particularly in rural and remote areas of the country. As noted, for Americans living in rural and isolated regions such as New England, doctor shortages and hospital closures are endemic, and obtaining access to high-quality health care is a persistent challenge. Access to broadband greatly changes that equation by enabling a wide range of telemedicine services, from specialists providing consultations via video conferencing to radiologists remotely reading X-rays via high-speed connectivity. Since the inception of NETC, the focus has been to support New England states to give better access to the highest quality health care. Within NETC we strive to ensure that health care providers participating in the Commission's Rural Health Care (RHC) Program can continue providing these essential telemedicine services to their communities. Simultaneously, we recognize the dire urgency of the gaps in existing capacity to reach last-mile consumers. NETC is pleased to collaborate with EMHS in providing this commentary regarding the proposed Promoting Telehealth for Low Income Consumers pilot project. We foresee that a potential collaborative model would be to expand NETC's network infrastructure to low income consumers thereby allowing EMHS to leverage their current connectivity within the NETC network to provide a network platform to more directly deliver telemedicine services.


We know that with wider distribution of telehealth resources, and increased reliability as created by redundancy, we can develop new processes that are transformative in improving access to life-dependent interventions for the individuals who need those services. We also recognize that these interventions will take a dedicated investment in the infrastructure to bring these innovative ideas to life. We agree that the suggested USAC set-aside of \$100 million may be adequate to secure a robust analysis of this approach. At the same time, we are concerned that a maximum cap of \$5 million in universal service funding for each individually awarded pilot program will constrain the breadth of services and innovation possible to pursue, and will in turn restrict the desired results and associated understanding. We urge the commission to consider a higher threshold of funding for these projects in order to support the innovation and clarity of design that the overall project, and our nation's citizens, truly deserve.

In the long term, we understand that what is most needed will be to close the gap in the last mile of broadband and digital infrastructure across our state, and throughout all of America's remote and

rural regions. This will require a dedicated plan of investment in the rapidly changing technologies of the future, long-term vision, and significant funding. Yet, such an investment will transform the very foundation of health care in the United States, and will provide the critical infrastructure for positive growth in other sectors, including education and professional training. When we do so, we will continue to fulfill our mandate to build a strong America, and we lay the groundwork for our nation's future prosperity with a healthy and well-prepared workforce, and a citizenry of all ages able to face the challenges and aspirations, both known and unforeseen, of the next centuries.

In closing, while we may not immediately solve, or even identify, all of our nation's rural health care challenges within this initial pilot program, we do have the urgency to act swiftly in pursuit of viable far-reaching and long-lasting solutions. We strongly commend the Federal Communications Commission for their forward thinking approach.

Respectfully submitted,



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