New England Telehealth Consortium

September 7, 2012

Brian Thibeau, President
New England Telehealth Consortium

VIA ELECTRONIC FILING

Julie Veach
Chief, Wireline Competition Bureau
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554

Re: Comments in WC Docket No. 02-60
New England Telehealth Consortium

Dear Ms. Veach:

On behalf of the New England Telehealth Consortium, ("NETC"), we appreciate the opportunity to submit these reply comments in response to the recent request for further comments on the Federal Communications Commission's ("FCC" or "Commission") proposal to bring universal service support for broadband to the Rural Health Care ("RHC") program. NETC's comments flow entirely from our experience designing and now implementing our health network which will provide affordable broadband service to more than 450 health care providers ("HCPs") spanning three New England states. Accordingly, before providing our comments, we would like to review the attributes of our network.

NETC Background

NETC is a not-for-profit consortium of healthcare providers in communities across northern New England established to develop and share electronic health information and to improve patient care throughout a shared service area. Within its service area, which encompasses the states of Maine, New Hampshire and Vermont, many health care facilities have never had access to affordable quality broadband, greatly compromising the quality of care for thousands of rural residents. In November 2007, as part of the RHC pilot program, NETC became eligible to receive $24.6 million in universal service support to provide broadband connectivity capable of supporting high bandwidth healthcare applications between NETC participants. NETC completed its network design process in 2010 and, in 2011, began to implement the design through procurements for different elements of the network. Eight different network vendors were competitively selected in the spring of 2011. In the spring of 2012 the RHC administrator approved NETC's applications for funding and issued funding commitments totaling 99% of NETC's pilot program award. NETC is awaiting one further funding commitment which is

expected to be issued in the next few weeks. In the meantime, NETC has commenced implementing its NOC and other network elements and expects to begin connecting HCPs before the end of the year.

Key Features of NETC's Network

NETC designed and is now implementing a services-based network spanning three rugged and largely rural states. The NETC network will provide health care providers, through their membership and participation in the NETC consortium, with operational control over a high quality, high bandwidth broadband network capable of supporting advanced telemedicine and electronic health information. A summary diagram of the NETC network is attached to this letter.

NETC's network is a redundant, private, "hybrid" network featuring a combination of (1) HCP-owned network routers at the core and at the "edge" (*i.e.*, at the customer premises); (2) network connectivity provided as a service both at the core and to the edge; and (3) a neutral (non-carrier controlled) network operations center ("NOC"). NETC's network also features access to Internet2 and provides highly affordable access to the public Internet which is provided by obtaining Internet access as a commodity from an urban location (Boston) which is remote from the NETC network cores in Bangor, Maine and Lebanon, New Hampshire. As noted, eight different vendors have been contracted to provide different elements of the network.

Several factors unique to the NETC service area dictated the approach taken. First, after surveying the marketplace, it was clear no single vendor could provide all the services NETC required to make the network a reality. NETC thus proceeded "*a la carte*", purchasing each network service or component from the most cost-effective provider. Second, given the size and remoteness of the service area, constructing fiber infrastructure to up to 500 sites throughout New England was not feasible. Instead, NETC sought to leverage existing carrier infrastructure. Finally, NETC's size and consortium model enabled it to use competition between providers to dramatically drive down pricing and stimulate facilities investment to bring higher bandwidth and higher service quality to NETC participants.

In the future, NETC's independent NOC and HCP-owned routers will allow NETC to easily interchange vendors providing connectivity and other services, and thereby use competition to continually obtain the lowest market rates possible.

Benefits of the Approach Taken by NETC

After finalizing contracts with vendors, the primary benefits of the NETC model became clear:

- Providing HCPs in New England with affordable access to a private quality of service ("QoS") medical network that does not currently exist;

- Allowing HCP participants to realize substantial cost savings, in many cases providing higher quality, higher bandwidth service at a price less than what HCPs are paying now for inferior service;

- Being able to utilize the most cost effective vendor for each service or element of the network;

- Employing a modular approach which allows vendors to be more easily swapped or added, thereby ensuring the continuing benefits of competition for pricing and service quality.

Other benefits of the NETC network include the ability of the NOC to proactively respond and hold vendors accountable for meeting their service level obligations ("SLAs"). In addition, postalized pricing allowed us to simplify pricing for participants and to provide a "level playing field" for all NETC members, regardless of geographic location. This ensures that our most rural members have access to the same services as all other HCPs in New England, including access to specialists, clinical expertise, and advance medical and data services residing in the area's urban medical centers.

Ultimately, NETC's ability to aggregate the needs of hundreds of HCPs through a consortium model resulted in vendor pricing that was substantially below market and which will result in dramatic cost savings over time. For example:

  - NETC's member cost for T-1 service (1.5 Mb) is $204 per month (which is postalized and therefore available to all NETC members regardless of location) compared to a current market price of $586 per month;[1]

  - NETC's postalized cost for 50 Mb service is $1999 per month compared to a current market price of $5082 per month.

By extrapolating the difference between NETC pricing to current market prices for the same or equivalent service for all of the NETC participants for the next 10 years, we calculate savings for our participating HCPs of over $135 million (excluding the savings to HCPs due to the RHC subsidies themselves). We recognize that pricing will not remain static over this time, but this is nonetheless a dramatic illustration of the benefit of consortium applications and the power of a one-time, start-up investment in networks like NETC.

[1] The NETC cost examples reflect the 10-year average monthly cost, exclude the pilot program subsidy, and include a pro-rata share of NETC monthly network common costs (which includes among other things the cost of Internet and Internet2). The market prices are for connectivity only and are based on the 2012 "urban rates" for a T-1 and DS-3 (45 Mb) in Maine, respectively, as published by USAC. *See* http://www.universalservice.org/rhc/tools/UrbanRates/2012/Search.asp (enter Maine and click "search").

NETC's Comments to the Public Notice

Eligible Services

NETC's experience demonstrates the benefits and costs savings of a multi-vendor, modular approach to network deployment. Accordingly, NETC urges the Commission to adopt rules in the proposed Broadband Service Program that will enable the establishment of similar networks around the country, and that would allow NETC to expand and competitively serve more HCPs in the region.[2] So we respectfully request the Commission define eligible services under the new RHC broadband service program broad enough to encompass the NETC network elements:

- Broadband connectivity services – both for direct connections to HCPs and for common pipes (*e.g.*, NETC uses trunks to carry public Internet and Internet 2 traffic to the Boston area);
- Commodity Internet access;
- Internet2 (both the Internet2 subscription and the Internet2 connector fee);
- NOC and implementation services.

Regarding the NOC, NETC agrees with the Oregon Health Network ("OHN") regarding the critical importance and benefits of continuing to support NOC services.[3] NETC also agrees with OHN that allocating NOC costs between members based on usage is impractical and that the incremental cost of ineligible members utilizing the NOC is effectively zero.[4]

The Commission asked whether non-recurring charges for network equipment should be subsidized under the proposed broadband services program. A significant part of the NETC start-up costs reflected investment in equipment, with large routers at the network core, and with edge routers located within the HCPs receiving service. Because this one-time investment is a

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[2] Other commenters expressed support for a flexible approach to funding that will support "hybrid" networks and modular approaches similar to NETC. For example, as Illinois Rural HealthNet ("IRHN") explained:

> The critical factor [for a successful] Broadband Services Program [is] to allow for multiple types of broadband solutions, including hybrid solutions, where multiple technologies and/or media are utilized to create the most cost-efficient solution for each area (with all solutions required to be industry standard, to ensure interoperability).

IRHN Comments at 2 (filed Aug. 15, 2012).

[3] OHN Comments at 15-16 (filed Aug. 20, 2012). As OHN explained:

> [Because] the vast majority of vendors do not provide any proactive monitoring of their circuits, the most viable method for ensuring the usability of the connections is through a dedicated Network Operations Center (NOC) that provides a third-party monitoring capability to find and deal with adverse network conditions in real time and before they have a chance to impact the delivery of patient care. By providing this monitoring and reporting, we are able to increase the usability of the connection and make it easier for sites to meet meaningful use by ensuring that they have confidence in the circuit's performance and availability.

[4] *See* OHN Comments at 11.

critical part of why NETC participants are realizing such cost savings, we believe it is critical that the FCC continue to provide support for equipment purchases as was the case in the pilot program.

Eligibility of Urban HCPs

NETC generally agrees with other commenters that the FCC should continue to allow urban HCPs to obtain RHC support when they are part of a network that supports the needs of rural HCPs. Specifically, NETC agrees with the Utah Telehealth Network ("UTN") that postalized pricing is an important reason to continue to provide incentives for urban HCPs to join RHC networks.[5] Postalized pricing means flat rate pricing for different bandwidths which tends to benefit remote rural locations the most. As UTN suggests, postalization benefits rural HCPs but requires participation by urban HCPs to be successful.[6] Because NETC is successfully utilizing postalized pricing to reduce the costs for its most rural participants, we have similar concerns that failure to provide RHC support for urban HCPs participating in these networks could make it difficult to expand NETC or to establish similar networks elsewhere.

Percent Subsidy

In finalizing rules for a reformed RHC program, it is important to recognize that the FCC's start-up investment in NETC effectively drove down the cost of broadband throughout the region, thereby reducing potential future funding demands on the RHC program. Indeed, the projected monthly recurring costs for broadband service obtained through NETC will remain low beyond the period subsidized by the pilot program. Thus, while most of the $24.9 million in pilot program subsidies will be expended by NETC over the first four years – which annualizes to about $6 million per year – beginning in the fifth year of the network, annualized network costs will be about $2.5 million, reflecting a potential subsidy of around $1.25 million per year (assuming a 50% subsidy and assuming all HCPs remain eligible).[7] This reduction in future program demand was an implicit goal of the pilot program which NETC is well on its way to realizing.

Accordingly, even if the Commission were to continue the pilot program subsidy level of 85% (as many commenters have urged), NETC's ongoing annualized costs will be a fraction of the annualized costs during its start-up period.

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[5] *See* UTN Comments a 2, 3 (filed Aug. 24, 2012).

[6] *See id.* at 2 (noting including urban HCPs has made participating by rural HCPs more affordable).

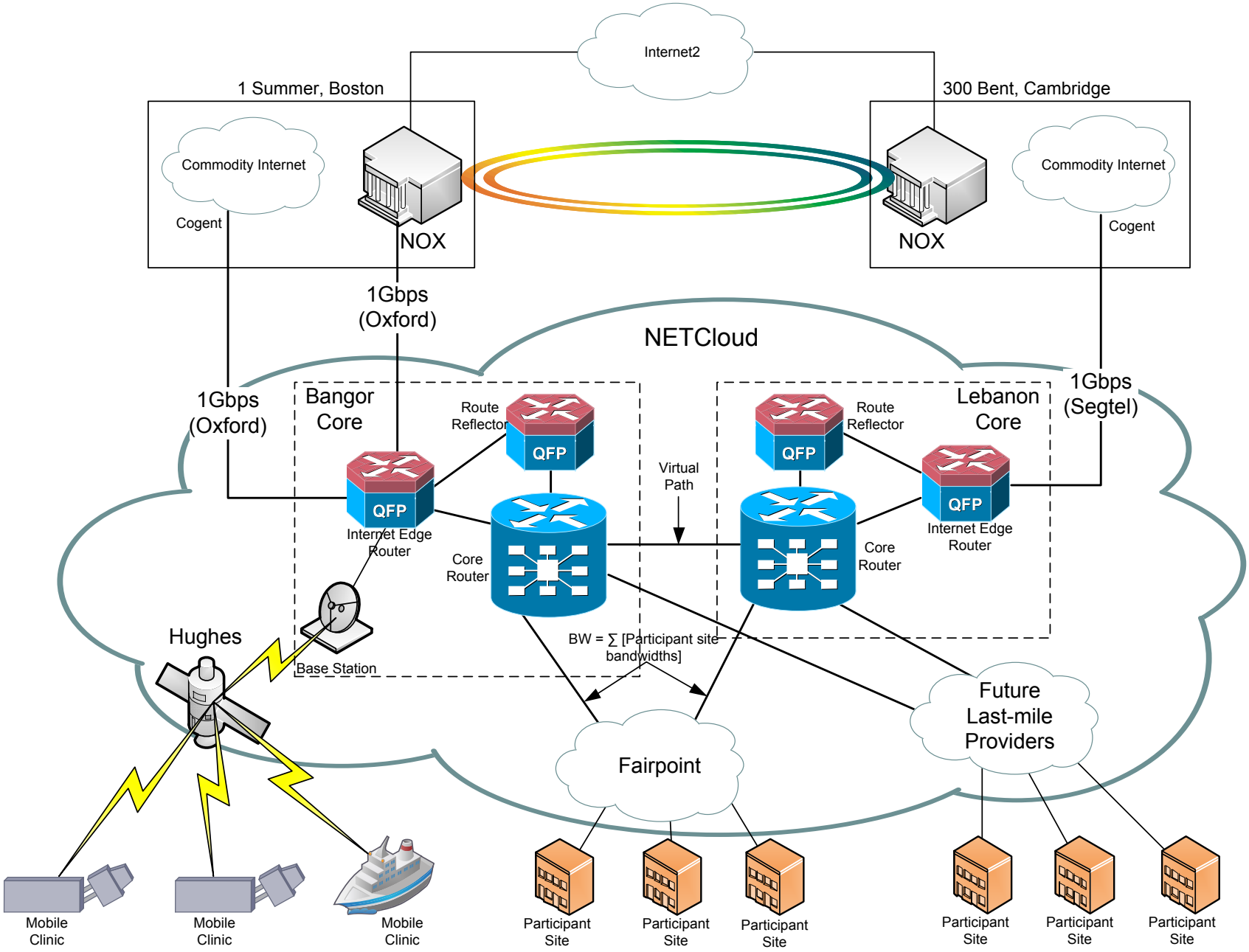
[7] NETC's network sustainability model is not dependent on future RHC subsidies. Nevertheless, NETC participants may be eligible for subsidies under the new RHC program beginning in the fifth year of the network.

Conclusion

We urge the Commission to adopt rules that continue to recognize the wide range of needs and successful approaches taken by pilot projects. On behalf of its participating HCPs, NETC very much appreciates the efforts the Commission and staff are undertaking in reforming the RHC program. We appreciate the opportunity to address these issues and look forward to answering any questions staff may have about these comments.

Sincerely,

Brian Thibeau
President
New England Telehealth Consortium

Cc Linda Oliver, Esq.

NETC Network "NETCloud"