

- EMHS – HRSA/Office for the Advancement of Telehealth (OAT) –Telehealth Network Grant Program; “Improving Rural Maine’s Critical Access to Emergency & Chronic Disease Care through Telehealth/Monitoring”.
- Regional Medical Center at Lubec, Inc./Maine Telemedicine Service – Telehealth Resource Center Grant Program. Under this OAT project, MTS/RMCL will partner with the University of Vermont School of Medicine and Partners Healthcare’s Center for Connected Health (Boston) to develop a resource center with the goal to facilitate growth of telehealth programs and services in the 9 northeastern states.
- The Aroostook Medical Center; Rural Health Network Development Planning Grant Program for the Aroostook Telehealth Access Project – to analyze the need and develop systems to provide needed telemedicine in this very remote county in Maine.
- North Country Health Consortium (NCHC) of New Hampshire has been completing a Rural Health Network Development Program Grant with a goal to develop provider education and training for North Country Health providers with a particular focus on the use of Telehealth technology to improve access to care for the area population.
- Northern Human Services (a NCHC member) received a Rural Health Outreach grant in 2006 to provide access to child psychiatry through telemedicine in Northern New Hampshire. The project will establish videoconferencing systems in Wolfeboro and Berlin in Year 1, increasing the number of systems to Conway and Colebrook in Year 2 and installing the final system in Littleton in Year 3. The Northern Tele-psychiatry Initiative will be examining options for changes to the New Hampshire Medicaid State plan and third party payers for telemedicine.

In addition, on January 31, 2007 the Maine Public Utilities Commission published a report entitled “Telecommunications Needs Assessment for Federally Qualified Health Centers in Maine”. The findings and recommendations are listed here in summary to indicate the synergy between these recommendations and this proposal and the guidelines presented in this funding mechanism.

- *Telemedicine bandwidth requirements should be considered the benchmark for FQHCs in planning for their telecommunication needs.*
- *Attributes for minimum telecommunication requirements...telemedicine, EMR and EPM should all be considered for the determination of minimum telecommunication requirements.*
- *A coordinated application process will strengthen the ability to obtain funding for Maine FQHCs from the USF Rural Health Care Program.*
- *The FCC pilot project application process will benefit from a consortium of members.*
- *FQHCs could benefit from increased collaboration and communication in managing their information technology.*

## **E. Program Accomplishments**

Specific program accomplishments are listed below to verify the depth and breadth of interest, development and innovation across the NETC region. No one individual organization has sole claim to the spirit that has developed and is developing such a deep array of telecommunications projects in this region. The creation of NETC is not only a result, but the promise of the FCC Pilot initiative. That promise includes sharing of expertise and experience across the range of telecommunications and telehealth innovation that is demonstrated in organizations across the region.

In combination with EMR, telemedicine provides health facilities in rural areas the ability to provide a level of care that is equal to their urban counterparts.

- Maine has one of the largest state-wide telemedicine systems in the nation, comprising all of the largest hospitals and most of the regional and community hospitals, several rural health clinics, mental health agencies, Indian health centers and other social service and state agencies. Two aspects of this state-wide system are of interest: (1) the system is structured largely as an open collaborative alliance of independent health care organizations, and (2) a community health center (Regional Medical Center at Lubec – RMCL) in one of Maine’s most rural and poorest areas has played the leading role in fostering network development through technical and clinical support.

This telemedicine system was able to expand quickly across boundaries to become a statewide system because Maine Telehealth System, the support service of RMCL, is “non-aligned.” It is independent of the major hospitals, and is not subject to the direct competitive interactions among major health care providers. It can thus focus on engendering collaboration. Also, the very openness of the network system developed under this model has allowed several functional sub networks to thrive within the larger network environment. These include mental health and home care agencies linking among multiple service sites, state agencies linking among widely separated sites, and large hospitals linking with subsidiary or affiliate hospitals or clinics. These examples of integration and close coordination with relatively “closed” functional networks illustrates that the consortium model of network organization is not mutually exclusive with other models. This successful model in telemedicine demonstrates the ability of these separate organizations to collaborate successfully in telecommunications. The current project of the New England Telehealth Consortium builds on this experience and expands beyond state lines.

- Within the region covered by NETC an array of telemedicine is being successfully delivered and is growing. Psychiatric consultation and follow-up is delivered daily to rural areas (2000+ visits per year), genetics counseling is available in extremely rural areas of the region, as well as deaf interpretive service, specialty care services for nursing homes, tele-rehabilitation services, tele-pharmacy and tele-trauma, tele-dialysis and dialysis consults. Androscoggin Valley Hospital in New Hampshire has been delivering radiology services via store and forward technology through the assistance of a provider in Asia. This will no longer be necessary with the new

network proposed. The Maine Department of Corrections and the Maine Judicial Branch are developing services to be delivered by telemedicine. Through the Maine Seacoast Mission's 72-foot vessel *Sunbeam*, coastal providers provide telemedicine services for several mid-coast Maine islands. The dockside service aboard the *Sunbeam* allows clients to virtually visit with their primary care providers at clinics on Vinalhaven, North Haven, and Southwest Harbor. Dartmouth/Hitchcock Medical Center is poised to provide telehealth dermatology services to rural areas when the network capacity is available.

- The region is positioned to grow telemedicine services. The Maine State Health Plan called for the State and Maine Health Access Foundation to co-convene the Telehealth Workgroup. Many of NETC's members are participants in this group. This group and its numerous sub-committees have been meeting for over a year and will be submitting a package for legislative action later this year. The State Health Plan charged the group with the following goal and tasks:  
The workgroup's goal will be to develop strategies to help Maine achieve an appropriately-developed, utilized and reimbursed telemedicine infrastructure that serves the best interest of patients. To achieve this goal, the workgroup will work both to determine the correct balance between any new expenses associated with this method of care delivery and the effectiveness of the service, and to investigate ways to address previously identified barriers. Specific tasks include:
  1. Using appropriate working subgroups, development of specific strategies to overcome the barriers to the use of Maine's existing telehealth resources;
  2. Identification of models of best practice of telemedicine currently existing in Maine and recommendation of strategies to replicate those models in other parts of the state;
  3. Identification of necessary safeguards to ensure the safety and quality of telemedicine for those patients relying on it;
  4. Defining the parameters of data that will be collected to track the use of telemedicine for different services in different parts of the state over time; these data will help assess the effectiveness of the interventions cited above.
  5. Development of alternatives for encouraging reimbursement of telehealth services.
- Through the Dartmouth-Hitchcock Medical Center Video Conferencing and Telemedicine Services 11 Vermont sites, 21 New Hampshire sites and 9 Maine locations receive teleconferencing services. Videoconferencing is used for administrative meetings, distance learning and medical (grand rounds) presentations. In addition the following telemedicine projects are in place or being implemented: 1) Renal Dialysis and Child at Risk telemedicine are ongoing and growing; 2) Tele-Psychiatry to 5-10 sites is in progress; and 3) Cath Lab training worldwide is in progress.

- A healthcare system including 5 rural hospitals (3 of them Critical Access Hospitals) has implemented an enterprise electronic medical record and clinical repository across these hospitals. A clinical decision support and rule system is managed in conjunction with the clinical repository, maintaining real time rule management of patient specific clinical data as it is being recorded. A regional network provides access to these records by more than 2,000 physicians, clinic staffs, office practice staff, long term care facility staff, and hospital staff in more than 130 rural Maine communities.
- Not only is the region politically aligned to support telemedicine, the technology for telemedicine is improving and becoming easier to use. This is reducing barriers to physician and patient resistance to its use. Because high definition images are now possible, trauma surgeons and Pediatric intensivists at Eastern Maine Healthcare Systems increased the scope of their trauma consultations to rural emergency rooms. New bridge infrastructure allows each participant to connect using IP, ISDN or SIP simultaneously and to utilize the highest bandwidth and protocol set available. This allows educational services to be available across the region to providers regardless of whether equipment was bought this year or ten years ago.

#### **F. Recent Telemedicine Growth Areas**

Recent telemedicine growth areas in the region include the following:

- PACS – Picture Archiving and Communications System (PACS) provides near-instant access to images and reports from multiple locations. Images are captured electronically at each modality and sent to a digital archive, then distributed electronically and interpreted on a radiologist’s workstation. The PACS archive sends the images and report to a Web server. Patient information is then available to authorized users on any Web enabled PC via the hospitals Intranet or outside the hospital via the Internet. In an all-digital environment, physicians no longer have to wait for images to be filmed or lost studies to be found, because information can be quickly retrieved from the PACS archive. Report turnaround time is reduced and patient care is improved. In our rural region the implementation of PACS has overcome significant workforce constraints and has been shown to reduce costs. In the region 3 large hospital hubs provide PACS archiving services to a growing number of partnering hospitals. Maine Health’s Consolidated Imaging PACS project provides the service to 16 sites with six more sites pending. Eastern Maine Medical Center serves 11 hospitals with their PACS system across a large rural area of Northern, Central and Eastern Maine. Dartmouth-Hitchcock has PACS infrastructure in place and is potentially capable of providing PACS hub services to more healthcare entities in Vermont and New Hampshire.
- Critical Care Monitoring – Maine Health implemented the first installation of remote critical care monitoring in New England in 2005. MaineHealth Vital Network helps doctors and nurses improve care, save lives, and lower costs in intensive care units potentially throughout the state. Currently five sites at Maine Health are monitored, one at Miles Memorial Hospital in Damariscotta and one at St. Mary’s Regional

Medical Center in Lewiston. By the end of 2007, 2 sites at MaineGeneral in Waterville and Augusta, and Waldo County General Hospital in Belfast will be added. Eastern Maine Healthcare Systems (EMHS) is in the process of implementing a system which will allow critical care monitoring by intensivists in Bangor to their affiliated hospitals' ICUs in Aroostook, Kennebec, Hancock, and Somerset Counties. Dartmouth-Hitchcock is studying options for critical care monitoring and will be making decisions needed for implementation in the next year.

Other telehealth growth in the region has been a building block for the most innovative projects discussed above. The projects that follow have allowed healthcare providers to become familiar with the telehealth basics and build the support structures needed to grow and sustain telehealth

- The region is increasingly overcoming the barriers, even for rural small practices, to the adoption of the **Electronic Medical Record (EMR)**. Every large hospital system and every region has adopted strategies to spread this important health quality tool. It is likely that even the smallest and most rural physicians will have the ability to use a system within the next five years. As organizations make the move to this electronic record, the requirements and minimum standards of the information technology environment that supports it increase. Disaster recovery planning and business continuity become important issues as patient information is no longer backed up with a paper chart. Both availability and affordability of high bandwidth are major barriers to advancement.
- The backbone of the telemedicine network for healthcare in the region developed around the need to reduce the travel needed for continuing education opportunities for healthcare providers. Grand Rounds and educational programming in the region is well established and uses the telemedicine networks regularly to allow providers access to educational opportunities.
- Teleconferencing a regular use of the networks in the region. This boosts the productivity of the healthcare workforce in the common situation of great distances to be traveled in the region.
- Maine's Health Alert Network is used to warn over 1000 sites in the state about a variety of disease outbreaks and other health issues.

In summary, the challenges of one of the region's most remote hospitals may help illustrate the importance of the infrastructure promised in this project. Northern Maine Medical Center (NMMC) is located on the Canadian border, in the most northern reaches of Maine. It is a not-for profit health provider, in a region designated as frontier and medically underserved. The anchor of the organization is NMMC, an acute health care facility located in Fort Kent (population 4,233) offering services including general medical, obstetric, orthopedic, emergency, oncology, surgical, urology, intensive care, and adult and pediatric inpatient psychiatric services. Additional facilities in 2 especially rural communities of Madawaska (population 4,534) and

St. Agatha (population 802) provides ambulatory care and other services. To visit each community and return to Fort Kent would take travel time of almost 3 hours – all travel takes place on secondary roads. As a result of geographic isolation, the St. John Valley is quite literally located at the end of the road. As a result, NMMC is heavily reliant on “travelers” in such areas as nursing, radiology, and respiratory therapy. Recruiting healthcare professionals of all skill levels to this region is increasingly more of a challenge and expense. Keeping them is even more challenging.

Other challenges include the lack of economic vitality in the region and an aging population with high levels of chronic disease. NMMC wrote in support of NETC’s project stating that benefits would have far reaching implications enabling NMMC to enhance and in some instances advance its mission. Both internal benefits and external were noted. Increased bandwidth and updated equipment would allow improved communication capabilities between NMMC sites for 1) improved imaging and diagnostic services, 2) teleconferencing and other communication abilities. External benefits are significant and include the ability to serve patients through telemedicine saving patients and their families the considerable expense associated with travel, meals and lodging to Bangor, Portland or Boston. In addition improved training opportunities would be possible without related travel costs. The current video connections are too slow to support adequate use for the purpose of communicating with the deaf and yet it is the only option given that the closest certified translators are three hours away. Also, NMMC has one of four child psychiatric units in the State. Patients admitted to this unit often travel to NMMC from various locations throughout Maine, when bed capacity is limited or nonexistent elsewhere. Adequate video communication infrastructure would allow conferencing with families and case workers.

This snapshot is just one very small area of benefit of the project proposed. Multiply the value for this small remote area of 10,000 people, by the number of regions impacted by inferior telecommunications bandwidth listed in this proposal. This overall region with its demonstrated ability to do so much with limited resources promises to deliver an exceptional potential benefit if adequate resources become available with the help of this program.

### **G. ProInfoNet Management and Technical Expertise**

Owing to the complex and multifaceted nature of building a large, three-state, urban and rural, broadband network for health providers, the New England Telehealth Consortium, acting with due diligence and responsible planning has contracted with ProInfoNet for initial studies, design and implementation of the new network.

ProInfoNet is a twelve year-old, independent telecommunications consulting firm that specializes in needs analysis, systems design, network design, RFP/negotiations, and implementations in all communications related fields. Seeing the powerful opportunity for telehealth advancement in New England, ProInfoNet has donated many hours to initial studies, data collection and preliminary design of the network presented in this application.

The New England Telehealth Consortium has a tremendous confidence in ProInfoNet due to their proven ability to assist the Consortium in rallying health providers across three states into a unified consortium. In addition, through ProInfoNet's efforts a working relationship has been established with a consortium in the lower New England area called Northern Crossroads. This relationship will insure all participating health providers throughout the Northern New England states will be connected by a broadband network and linked to Internet2. ProInfoNet has extensive experience in the telehealth industry, has an impeccable reputation across the region among healthcare providers and possesses a deep understanding of telecommunication challenges in healthcare environments.

For a large health care provider headquartered in Maine, ProInfoNet designed and built a four state, multi-site network providing WAN services and equipment with voice, video, and telehealth applications. ProInfoNet, then designed and implemented a two million call per year patient call center improving the health care provider's efficiencies and reducing their costs.

For hospitals in central and northern Maine, ProInfoNet performed many of these same types of services, each time customizing systems and networks designed to assist clients in fulfilling their mission with an optimum efficiency. ProInfoNet has pioneered VoIP solutions in healthcare and commercial industries. One early VoIP network consisting of thirty-five sites in two states was implemented while national telecommunications conference organizers were still questioning if it was possible.

ProInfoNet's clients are not limited to the northeast, but spread to various corners of the U.S. Their clients include a first respondent hospital to 9-11-01, a Fortune 2 business, an international manufacturing company, municipalities, energy and power companies. ProInfoNet's ability to provide sound solutions for the most challenging communication dilemmas is demonstrated by their longevity in a very competitive industry.

The aforementioned experience has established the New England Telehealth Consortium's confidence in ProInfoNet's ability to guide NETC through this incredibly complex consortium maze of needs, wants, connectivity, gear, upgrades, to ultimately a clean, seamless, broadband network capable of delivering unprecedented telehealth advancements to New England.

## **IX. Provide a project management plan outlining the project's leadership and management structure, as well as its work plan, schedule, and budget**

### **A. Leadership**

ProInfoNet, in conjunction with health care providers throughout Northern New England, formed New England Telehealth Consortium (NETC), a non-profit healthcare consortium. NETC is the successor of the ProInfoNet New England Health Care Network that was established by ProInfoNet prior to the incorporation of NETC. ProInfoNet has been involved in many healthcare networking and telehealth projects in Maine and New Hampshire. ProInfoNet had a vision for healthcare sites in Maine, New Hampshire, and Vermont to build a Telehealth network in our region and utilize the FCC Pilot Program. To realize this vision, ProInfoNet took the initiative to form New England Telehealth Consortium (NETC), a non-profit healthcare consortium, made up exclusively of non-profit healthcare members. Members have included their sites on the application, 87% of which are non-profit sites and 13% are for profit sites. ProInfoNet is not a member of the New England Telehealth Consortium and does not have voting privileges. The current relationship between NETC and ProInfoNet is strictly contractual.

### **B. Management Structure**

A core group of individuals will serve as the initial directors and officers until the first annual meeting of Members, which is anticipated to be held in May 2007. Those individuals, referred to as the "Initial Board and Officers" include:

- Brian Thibeau, President and Director (COO, Penquis CAP)
- Kevin Lewis, Vice President and Director (Executive Director, Maine Primary Care Association)
- Doug Smith, Treasurer and Director (CIO, Martin's Point)

At the first annual meeting of Members, each of the 31 Members shall be entitled to appoint one individual to the Board of Directors of NETC, and the full Board will elect its officers to serve until the next annual meeting. An Executive Committee will be formed to facilitate efficient management of the organization between meetings of the full Board.

Each Member, through its representation on the NETC Board of Directors, will be able to provide input into critical NETC decisions including vendor selection for creation of the network and network implementation priority among the various sites operated by the Members. Each Member's representative on the Board of Directors will have one vote, notwithstanding the number of sites operated by the Member.

The officers of NETC, recognizing the strengths and experience of ProInfoNet in designing and implementing Telehealth networks, contracted with ProInfoNet to assist

NETC in submitting an application to the FCC for the Pilot Program and to project manage the design and implementation of a Private, Broadband Regional Telehealth Network. NETC has established performance guarantees that ProInfoNet must maintain.

To ensure the success of this Telehealth network, NETC will be collaborating with and drawing on the experience of NETC members and ProInfoNet, a professional network design company with over 11 years of experience designing and implementing healthcare networks and healthcare applications. ProInfoNet's project approach combines experienced staff with experienced technology sub-contractors who provide a broad skill set.

### **C. Work plan**

#### Summary

Upon FCC approval, ProInfoNet, an agent of NETC will: conduct the initial network design study; determine the final network design; write and submit the required RFP(s) for construction of the network; ensure compliance with normal Rural Health Care program procedures; review and analyze proposals received from vendors for construction of the network; assist Members in their determination of which sites within their organization need network connectivity and the order in which implementation would best be accomplished; manage the implementation (infrastructure deployment) of the selected vendors' network; assist NETC advisory boards charged with oversight of the ongoing operation of the network; submit and follow up on materials submitted for FCC reimbursement funding on NETC's behalf; and manage and administer the day to day affairs of NETC including accounting and bookkeeping functions.

#### Objective

Design and build a private regional Telehealth/Telemedicine network that supports high bandwidth, encryption/security, quality of service and connects to Internet2 to access Telehealth/Telemedicine services offered by out of region healthcare facilities.

#### Purpose

The principal purpose of New England Telehealth Consortium is to create a consortium of healthcare providers with the objective of designing and implementing a private broadband regional telehealth network with Internet2 connectivity; to link regional healthcare providers with urban public practices, research institutions, academic institutions, and medical specialists to provide greater efficiency in the sharing of information relevant to healthcare applications; to provide a shared broadband network with healthcare providers thereby increasing and validating telehealth and telemedicine opportunities in the region; to provide healthcare providers in rural areas with greater and easier access to current research, advances in medicine, expert support and

team consults; to allow healthcare providers in the region access to a common network for provision of electronic health records, remote medical diagnostics, telehealth, telemedicine, population health database, remote surgery, teledentistry, telepsychiatry and behavioral health treatment; and for any other purpose determined by the Board of Directors and permitted by applicable law.

### Work Plan

1. Conduct the initial network design studies for the consortium that will: address the needs of its Members and their respective healthcare sites; determine how to deploy an efficient and private broadband regional telehealth network that includes multiple locations and various technologies; determine Internet2 connectivity
  - a. Needs Assessment
  - b. Determine current Telehealth and Telemedicine Applications
  - c. Determine needed Telehealth and Telemedicine Applications
  - d. Determine the current LAN and WAN infrastructure at sites
  - e. Determine needed bandwidth
  - f. Determine security requirements
  - g. Determine redundancy requirements
  - h. Determine Quality of Service requirements
  - i. Determine how to connect sites' existing network to the new consortium network
  - j. Determine Internet2 connectivity requirements for each healthcare site
  - k. Determine Internet2 connectivity for the entire network
    1. Determine Telehealth and Telemedicine applications available on Internet2 that will be used by sites on the network
2. Determine the final network design
  - a. Incorporate the results of the site needs assessment in the WAN design
  - b. Engineer the network structure
  - c. Engineer Internet2 connectivity
  - d. Engineer Layer 1 through 7 requirements
  - e. Determine WAN Service topologies that best fit the consortium needs, is commercially available, and cost effective
  - f. Determine sites that need alternate WAN technologies due to remote location or mobility (i.e. Healthcare trucks and ships)
  - g. Determine and design network equipment requirements



- o. Complete and submit the Connection Certification Form (Form 467) to USAC
  - p. Note: We request that the FCC grant us **an** exception to the normal 467 filing process. We respectfully request that we be allowed to submit one 467 form for each component of the process with an attachment listing all the sites in our consortium.
  - q. USAC reviews the Connection Certification Form (Form 467) and issues a health care provider support schedule.
  - r. Since New England Telehealth Consortium will be incurring the costs to design the network, we request that the FCC allow New England Telehealth Consortium to invoice USAC for network design work.
  - s. After crediting the health care provider (HCP), the service provider invoices USAC to receive support.
4. Manage the Implementation (Infrastructure Deployment) of the Network
- a. Assign Project Managers
  - b. Manage vendor implementation meetings
  - c. Flow Chart implementation schedule
  - d. Assign implementation team members
  - e. Schedule implementation team members
  - f. Finalize WAN services and infrastructure details for each site in network (bandwidth, location, encryption, QoS, addressing schema, I2 integration)
  - g. Schedule and oversee equipment configuration, bum in, and distribution
  - h. Coordinate WAN services, WAN infrastructure, and Internet2 vendors
  - i. Coordinate Telehealth and Telemedicine applications that will be implemented on the network

**D. Schedule**

Task*	First Year Time Line by Quarters				Responsible Organization	Measure of Success
	First	Second	Third	Fourth		
1. Conduct the initial network design studies	X				NETC/ProInfoNet	Design is based on complete needs assessment and input from all sites
2. Determine the Final Network Design		X			NETC/ProInfoNet	Network is designed and engineered for all sites
3. Ensure compliance with USAC program procedures		X			NETC/ProInfoNet	USAC forms are submitted; RFPs distributed; most cost effective bids selected.
4. Manage the Implementation of the Network			X		NETC/ProInfoNet	Network is implemented; Telehealth/Telemedicine applications coordinated.

\*Tasks 1 through 4 correlate with the work plan in section IX C above.

**E. Budget**

	Year One	Year One	Year One	Year Two	Year Two	Year Two
<b>Description of NETC Network Project Tasks</b>	<b>Costs</b>	<b>FCC Subsidy at 85%</b>	<b>Net NETC Costs</b>	<b>Costs</b>	<b>FCC Subsidy at 85%</b>	<b>Net NETC Costs</b>
Estimated WAN Costs (Gross Costs)	\$8,775,480			\$8,336,706		
Estimated Alternative WAN Technology (5% sites)	\$1,061,226			\$6,000		
Estimated Infrastructure Cost	\$3,955,364			\$0		
Estimated Network Design Study	\$999,000			\$0		
Estimated Equipment Install & Implementation	\$1,165,500			\$0		
Estimated WAN Install & Implementation	\$1,060,950			\$0		
Estimated Internet2 Install & Implementation	\$83,250			\$0		
Estimated Internet2 Annual Costs	\$100,000			\$100,000		
Estimated Equipment Maintenance, Support & Helpdesk	\$2,612,252			\$2,612,252		
<b>Total for a 555 Site Network</b>	<b>\$19,813,022</b>			<b>\$11,054,958</b>		
<b>Total of For-Profit Sites</b>	<b>\$1,460,000</b>	<b>\$0</b>	<b>\$1,460,000</b>	<b>\$362,080</b>	<b>\$0</b>	<b>\$362,080</b>
<b>Total of Non-Profit Sites</b>	<b>\$18,353,022</b>	<b>\$15,600,069</b>	<b>\$2,752,953</b>	<b>\$10,692,878</b>	<b>\$9,088,947</b>	<b>\$1,603,932</b>

**X. Indicate how the telemedicine program will be coordinated throughout the state or region**

All NETC members have agreed in writing that an Executive Committee will be formed to facilitate efficient management of the organization between meetings of the full Board. Each Member, through its representation on the NETC Board of Directors, will be able to provide input into critical NETC decisions including vendor selection for creation of the network, network implementation priority among the various sites operated by the Members and Telemedicine programs implemented as a result of this network. Each Member's representative on the Board of Directors will have one vote, notwithstanding the number of sites operated by the Member.

The Board of Directors, by a resolution adopted by a majority of the full Board of Directors, may designate such additional committees as the Board may from time to time

deem appropriate or necessary. These committees will design and implement Telemedicine applications across the region.

The officers of NETC, recognizing the strengths and experience of ProInfoNet in designing and implementing Telehealth networks, contracted with ProInfoNet to assist NETC in submitting an application to the FCC for the Pilot Program and to project manage the design and implementation of a Private, Broadband Regional Telehealth Network. NETC has established performance guarantees that ProInfoNet must maintain. Please see management agreement in Appendix C.

## **XI. Indicate to what extent the network can be self-sustaining once established.**

The New England Telehealth Consortium (NETC) will ensure the sustainability of the network by ensuring the future of the Consortium itself. The NETC will design a sustainability plan based on the goals, objectives and tasks described earlier in this proposal; additionally, key strategies for planning the success of the Consortium will be developed within months of receiving notice of the FCC grant award. The Consortium will do this by creating a common vision, mission and strategic plan for growth that is agreed, understood and supported by consortium members, the organizational staff of members and the public.

There will be a plan in place to:

- Build capacity among members by using existing resources already developed by members to the fullest potential. These resources include but are not limited to shared telehealth and telemedicine services, research, clinical expertise, and educational opportunities
- Share and expand those resources among partners through collaborative efforts
- Expand opportunities to non-members
- Develop a financial plan for the NETC that exists separately from the FCC grant funding and ensures the ability to fund currently planned activities as well as growth into future years.
- Obtain diversified funding to ensure the future of the Consortium and promote growth. Possible funding resources that will be explored include developing a dues structure, charging non-members for services, charging members fees for special services, and seeking other grant opportunities.
- Measuring and evaluating activities with the intention of continuous improvement and growth.
- Building a constituency of supporters throughout the three states including healthcare professionals, elected officials, business leaders, religious leaders, neighborhood and civic leaders, local foundation leaders, educational leaders and others.

## **Appendices Section**

## Appendix A Articles of Incorporations

### EXHIBIT A TO RESTATED ARTICLES OF INCORPORATION OF NEW ENGLAND TELEHEALTH CONSORTIUM

1. The name of the Corporation is New England Telehealth Consortium.
2. The Corporation has been organized pursuant to the Maine Nonprofit Corporation Act as a mutual benefit corporation for all permitted purposes under Title 13-B of the Maine Revised Statutes including the following purposes:
  - To organize a consortium of healthcare providers which satisfies the requirements of the FCC Rural Health Care Pilot Program that will fund a significant portion of the network design study and implementation of a private broadband regional telehealth network with Internet2 connectivity
  - To link regional healthcare providers with urban public practices, research institutions, academic institutions, and medical specialists to provide greater efficiency in the sharing of information relevant to healthcare applications
  - To provide a shared broadband network with healthcare providers thereby increasing and validating telehealth and telemedicine opportunities in the region
  - To provide healthcare providers in rural areas with greater and easier access to current research, advances in medicine, expert support and team consults
  - To allow healthcare providers in the region access to a common network for provision of electronic health records, remote medical diagnostics, telehealth, telemedicine, population health database, remote surgery, teledentistry, telepsychiatry and behavioral health treatment.
3. The name and address of the Registered Agent is as follows:

George F. Eaton  
84 Harlow St.  
P.O. Box 1401  
Bangor, ME 04402-1401
4. The minimum number of directors shall be three (3) and the maximum number of directors shall be thirty (30)
5. The Corporation shall have one (1) class of Members.
  - Each Member shall be a non-profit or government health care provider with one or more healthcare sites within or without the State of Maine.
  - New Members shall be admitted from time to time upon application to and approval of the Board of Directors.
  - Each Member shall be entitled to designate one individual to serve as its representative on the Board of Directors of the Corporation. Each Member shall be entitled to one (1) vote on any matter for which a vote of the Members is required.
  - Each Member shall be required to pay dues in such amounts as determined by the Board of Directors from time to time.

6. No part of the net earnings of the Corporation shall inure to the benefit of any director or officer of the Corporation, or any private individual (except that reasonable compensation may be paid for services rendered to or for the Corporation in carrying out one or more of its purposes), and no director, or officer of the Corporation, or any private individual, shall be entitled to share in the distribution of any of the corporate assets on dissolution of the Corporation.

7. Upon dissolution or winding up of the affairs of the corporation, whether voluntary or involuntary, the assets of the corporation then remaining , after all debts have been satisfied, shall be distributed, transferred, conveyed, delivered, and paid over, to the Members in proportion to the relative number of sites that each Member has subjected to the activities of the corporation in the corporation's most recent fiscal year.

## Appendix B – ByLaws of the Consortium

# BYLAWS OF NEW ENGLAND TELEHEALTH CONSORTIUM

### ARTICLE 1 - ORGANIZATION

Section 1.1 Name. The name of the corporation is NEW ENGLAND TELEHEALTH CONSORTIUM.

Section 1.2 Purpose. The principal purpose of the corporation is to create a consortium of healthcare providers for the purpose of designing and implementing a private broadband regional telehealth network with Internet2 connectivity; to link regional healthcare providers with urban public practices, research institutions, academic institutions, and medical specialists to provide greater efficiency in the sharing of information relevant to healthcare applications; to provide a shared broadband network with healthcare providers thereby increasing and validating telehealth and telemedicine opportunities in the region; to provide healthcare providers in rural areas with greater and easier access to current research, advances in medicine, expert support and team consults; to allow healthcare providers in the region access to a common network for provision of electronic health records, remote medical diagnostics, telehealth, telemedicine, population health database, remote surgery, teledentistry, telepsychiatry and behavioral health treatment; and for any other purpose determined by the Board of Directors and permitted by applicable law.

Section 1.3 Place of Business. The corporation shall have its principal place of business in Bangor, Maine. Unless otherwise designated by the Board of Directors, the mailing address for the corporation **shall** be: 145 Exchange St. Suite 4, Bangor, ME 04401. The corporation may have such other offices, within the State of Maine, as the Board of Directors may determine from time to time.

Section 1.4 Registered Office. The registered office of the corporation required by the Maine Nonprofit Corporation Act to be maintained in the State of Maine shall be the business address of the Registered Agent of the corporation.

Section 1.5 Fiscal Year. The fiscal year of the corporation **shall** be the calendar year unless otherwise determined by the Board of Directors.

### ARTICLE 2 - MEMBERS

Section 2.1 Classes of Membership. The corporation shall have one (1) class of Members.

Section 2.2 Manner of Election or Appointment. Each Member shall be a non-profit or governmental health care provider with one or more healthcare sites within or without the State of Maine. New Members shall be admitted from time to time upon application to and approval of the Board of Directors. Each Member shall be required to pay dues or assessments in such amounts as determined by the Board of Directors from time to time.

**Section 2.3 Voting Rights.** Each Member **shall** have (1) vote on matters for which Members are entitled to vote. Members shall be entitled to vote on the following matters:

- (a) Election of Directors to fill the seats of those Directors whose term is due to expire at each annual meeting of Members;
- (b) Removal of Directors pursuant to Section 704 of the Maine Nonprofit Corporation Act;
- (c) Amendment, restatement, or modification of the Articles of Incorporation or Bylaws of the corporation, except that any amendments required to conform the Articles of Incorporation or these Bylaws with applicable law may be authorized exclusively by the Board;
- (d) Any other matter that the Directors, in their sole discretion, elect to submit for approval by vote of the Members.

Except for the election of Directors which shall be governed by Section 4.4, voting at meetings of Members may be by voice, by show of hands, or, at the discretion of the person presiding at the meeting, may be by written ballot. Cumulative voting shall not be permitted. The act of a majority of Members present in person or by proxy and voting at any meeting at which a quorum is present shall be considered an act of the Members, unless otherwise provided in these Bylaws.

**Section 2.4 Record Date: Rights of Members.** The Board of Directors may establish a record date in order to determine the Members entitled to notice of any meeting of the Members. In the absence of action to establish such a date, the postmark date on the notice of the meeting shall be deemed the record date. The right of a Member to vote and all of the Member's rights shall cease upon the termination of his or her Membership.

**Section 2.5 Dues.** Each Member shall pay dues and assessments in such amounts and at such times as the Directors may determine.

**Section 2.6 Resienation.** Any Member may resign by filing a written resignation with the Secretary. After network implementation, a member who resigns with a connection to the NETC network to one or more of their sites, the following will occur: the connection(s) of such Member to the NETC network will be terminated and such Member will be responsible for any and all of NETC's liability to third parties attributable to the network termination of the resigning Member.

### **ARTICLE 3 - MEETINGS OF THE MEMBERS**

**Section 3.1 Annual Meetings.** The annual meeting of the Members of the corporation shall be held on or before July 1<sup>st</sup> of each calendar year at a time and place determined by the Board of Directors, for the purpose of electing Directors to fill vacancies resulting from those Directors whose terms have expired, and transacting such other business as may properly come before the meeting. If the election of Directors is not held on *the* day designated for the annual meeting, or at any adjournment thereof, the Board of Directors will cause the election to be held at a special meeting of the Members as soon thereafter as convenient. At the annual meeting, the committees and officers shall submit such written annual reports as may be required by the Board of Directors.

**Section 3.2 Special Meetings.** Special meetings of the Members may be called at any time by the President or Vice President or by two Directors, and must be called by the President or Secretary on written request of not less than 10% of the Members entitled to vote. At special meetings, no business shall be transacted other than the business indicated in the notice of the meeting.

Section **3.3** Place of Meeting. The Board of Directors may designate any place in the State of Maine, as the place for any annual meeting or any special meeting called by the Directors.

Section **3.4** Notice of Members Meetings. Written notice stating the place, day, and hour of meetings and, in the case of a special meeting of Members, the purpose or purposes for which the meeting is called, shall be delivered to each Member, either personally or by mail, including electronic mail, not less than thirty (30) nor more than fifty (50) days before the date of the annual meeting and not less than ten (10) nor more than fifty (50) days prior to any special meeting. If mailed, such notice shall be deemed to be delivered when deposited in the United States mail, with postage prepaid, and addressed to the Member at the address as it appears on the records of the corporation.

Section **3.5** Quorum. Forty percent (**40%**) of the Members present in person or by proxy shall constitute a quorum at any meeting of the Members of the corporation. The act of a majority of the Members present in person or by proxy at any meeting at which there is a quorum shall be the act of the full Membership except as otherwise specifically provided by law or by these Bylaws.

Section **3.6** Proxies. At any meeting of Members, a Member entitled to vote may vote by proxy executed in writing by the Member or by his or her duly authorized attorney-in-fact. No proxy will be valid after eleven months from the date of its execution. Proxies for election of Directors may be sent to Members via facsimile or electronic mail. However, completed proxies must be returned to the corporation by the U.S. Postal Service or similar carrier. Completed proxies returned to the corporation by facsimile or electronic mail will not be counted.

#### **ARTICLE 4 - BOARD OF DIRECTORS**

Section **4.1** General Powers. The activities of the corporation shall be managed and controlled by a Board of Directors. All the corporate powers, except as otherwise provided in these Bylaws and in the laws of the State of Maine, shall be vested in and exercised by the Board of Directors.

Section **4.2** Qualifications. Each Director shall be an authorized representative of a Member of the corporation. All individuals nominated to serve as Director shall be individuals who possess the skills, knowledge and authority necessary to represent the interests of the Member represented by such Director with respect to the activities and operations of the corporation. No more than **49%** of the Directors shall be financially interested persons, as that term is defined in the Maine Nonprofit Corporation Act.

Section **4.3** Number. The number of Directors constituting the Board of Directors shall be equal to the number of Members.

Section **4.4** Election: Term of Office. Each Member shall be entitled to elect one (1) individual to serve as a Director of the Corporation. Each Member may elect its Director in person or by proxy at the Annual Meeting of Members. Each Director shall serve for a term of one year, or until his or her successor has been elected and installed. Each new director shall assume his or her board position immediately upon adjournment of the annual meeting in which he or she was elected.

Section **4.5** Vacancies. Any vacancy occurring on the Board of Directors shall be filled by the Member entitled to appoint such Director and such individual shall serve until the next annual meeting of the corporation.

Section **4.6** Annual Meeting of Directors. Immediately after each annual meeting of the Members, the newly elected Directors shall hold a Board meeting to elect the officers,

and transact such other corporate business as may properly come before the meeting. If a quorum of the Directors is present, no prior notice of such meeting shall be required. The place and time of the annual meeting may, however, be fixed by written consent of all the Directors.

**Section 4.7 Regular Meetings.** The Board of Directors shall meet at least four **(4)** times per year.

**Section 4.8 Special Meetings.** Special meetings of the Board of Directors may be called by the President or Vice President and must be called by either of them on the written request of any two Directors.

**Section 4.9 Notice of Meetings.** Notice of any special meetings shall be given by mailing written notice, including electronic mail, at least three (3) days before the meeting or by telephone at least one (1) day before the meeting. Notice of a meeting need not be given to any Director who signs a waiver of notice either before or after the meeting. Neither the business to be transacted nor the purpose of any regular or special meeting of the Board of Directors need be specified in the notice or waiver of notice of the meeting. Attendance of a Director at a meeting shall constitute waiver of notice of such meeting, unless the Director attends the meeting for the express purpose of objecting to the transaction of any business on the ground that the meeting is not lawfully called or convened.

**Section 4.10 Chair.** At all meetings of the Board of Directors, the President or Vice President, or in their absence, a Chair chosen by the Directors present, shall preside.

**Section 4.11 Quorum.** A majority of the Directors then in *office* shall constitute a quorum for the transaction of business at any meeting of the Board of Directors, and the act of a majority of the Directors present at any meeting at which there is a quorum shall be the act of the Board of Directors, except as may be otherwise specifically provided by statute or by these Bylaws.

**Section 4.12 Unanimous Action of Directors Without a Meeting.** Any action which may be taken at a meeting of the Directors or by a committee of the Directors may be taken without a meeting if all of the Directors or all of the Members of the committee, as the case may be, sign written consents setting forth the action taken or to be taken, at any time before or after the intended effective date of such action. Such consents shall be filed with the minutes of Directors' meetings and shall have the same effect as a unanimous vote.

**Section 4.13 Attendance at Meetings.** Directors may participate in Director meetings via conference call or similar mechanism by which each Director can hear and be heard by all those present. Regular attendance at Director's meetings in person or by conference call is expected of all Directors.

**Section 4.14 Removal.** A Director may be removed from office for any reason by the vote of the Member entitled to elect such Director; or otherwise by the affirmative vote of two-thirds of all the Directors at any regular or special meeting called for that purpose, for nonfeasance, malfeasance, or misfeasance, for conduct detrimental to the interests of the Corporation, for lack of sympathy with its objectives, or for refusal to render reasonable assistance in carrying out its purposes. Any Director proposed to be removed shall be entitled to at least five **(5)** days notice in writing by mail of the meeting of the Board of Directors at which ~~such~~ removal is to be voted **upon** and shall be entitled to appear before and be heard by the Board of Directors at such meeting.

## **ARTICLE 5 – COMMITTEES**

Section **5.1** Executive Committee. The Board of Directors, by a resolution adopted by a majority of the full Board of Directors, shall designate from among the Directors an Executive Committee consisting of the President, Vice President, Secretary, and Treasurer, and up to two (2) additional board members, and may delegate to such Committee all the authority of the Board of Directors except that no such Executive Committee shall have or exercise the authority of the Board of Directors to amend the Articles of Incorporation or the Bylaws of the corporation; recommend to the Members voluntary dissolution of the corporation; adopt a plan of merger or consolidation; or recommend to Members the sale or other disposition of all or substantially all of the property and assets of the corporation. Not more than 49% of the Executive Committee shall be financially interested persons. The Executive Committee shall exercise such power and authority to perform such duties and responsibilities in the management of the business and affairs of the corporation as may be delegated to it from time to time by the Board, subject to any limitations imposed by the Board or by law; provided however, that the delegation of such authority shall not operate to relieve the Board or any individual Director of any responsibility imposed by the Articles of Incorporation, these Bylaws, or by law.

Section **5.2** Finance Committee. The Board of Directors, by a resolution adopted by a majority of the full Board of Directors, may designate from among the Directors a Finance Committee, chaired by the Treasurer, and consisting of two or more Directors, none of whom shall be financially interested persons. The Finance Committee shall have the following powers and authority: (i) employing independent public accountants to audit or review the books of account, accounting procedures, and financial statements of the corporation and to perform such other duties from time to time as the Finance Committee may prescribe, (ii) receiving the reports and comments of the corporation's internal auditors and of the independent public accountants employed by the committee and to take **such** action with respect thereto as may seem appropriate, and (iii) reviewing the accounting principles employed in financial reporting.

Section **5.3** Other Committees. The Board of Directors, by a resolution adopted by a majority of the full Board of Directors, may designate such additional committees as the Board may from time to time deem appropriate or necessary.

Section **5.4** Committee Members. Members of any committee of the corporation shall serve at the pleasure of the Board of Directors and each committee may, subject to the approval of the Board of Directors or the provisions of these Bylaws, choose its own chairperson and prescribe rules and regulations for the call and conduct of committee meetings. Committees shall maintain minutes of their meetings and other records appropriate to their purposes and shall make regular reports to the Directors and Members as and when requested by the President or the Board of Directors.

## ARTICLE 6 – OFFICERS

Section **6.1** Officers. The officers of the corporation shall consist of a President, Vice President, Treasurer, Secretary, and such other officers and assistant officers **as** the Board of Directors shall deem desirable. No two offices may be held by the same person. In addition to the duties and powers specifically set forth in these Bylaws, each officer shall have such duties and power as the Board of Directors may from time to time prescribe.

Section **6.2** Election and Term of Office. The officers shall be elected annually by the Board of Directors, at a meeting of the Board of Directors held immediately following the annual meeting of the Members. If the Board is unable to hold a meeting immediately following the annual meeting of the Members for any reason, such election shall be held as soon thereafter as convenient and each officer then holding an elective office shall continue to hold said office or offices until his or her successor shall have been duly elected.

Section **6.3** Qualifications. Officers may, but shall not be required to, be elected from among the Directors of the corporation.

Section **6.4** Vacancies. A vacancy in any office caused by death, resignation, removal, disqualification, or otherwise, shall be filled by the Board of Directors for the unexpired portion of the term.

Section **6.5** President. The President shall be the general executive head of the corporation and shall, in general, subject to the direction of the Board of Directors, supervise and control all of the business and affairs of the corporation, and shall preside at all meetings of the Members and Directors.

Section **6.6** Vice President. At the request of the President, or in the event of the absence or disability of the President, the Vice President shall perform the duties and possess and exercise the powers of the President, and **shall** perform such other duties as may be assigned by the Board of Directors.

Section **6.7** Treasurer. The Treasurer, subject to the direction of the Board of Directors, shall have general charge of the financial affairs of the corporation. The Treasurer shall have custody of all funds of the corporation, subject to such regulations as may be imposed by the Board of Directors. The Treasurer may be required to give bond for the faithful performance of his or her duties, in such sum and with such sureties as the Board of Directors may require. The Treasurer shall deposit all moneys of the corporation in such depositories as may be designated by the Board of Directors. The Treasurer shall keep or cause to be kept full and accurate accounts of the receipts and disbursements of the corporation in suitable books of the corporation and shall exhibit such books upon request of any officer, Director, or Member, for any proper purpose at any reasonable time.

Section **6.8** Secretary. The Secretary shall have charge of such books, documents, and papers as the Board of Directors may determine and shall have the custody of the corporate seal. The Secretary shall attend and keep or cause to be kept the minutes of all the meetings of the Board of Directors and Members of the corporation. The Secretary shall keep or cause to be kept a record of the names and addresses of the Members of the corporation and the Board of Directors. The Secretary may certify all votes, resolutions, and actions of the Board of Directors and of its committees.

#### **ARTICLE 7 - COMPENSATION**

Section **7.1** Directors, officers, and Members shall not receive any stated compensation for their services as such, but the Board of Directors shall have power in its discretion to contract for and to pay to Directors, officers, or Members rendering unusual or exceptional services to the corporation special compensation appropriate to the value of such services.

#### **ARTICLE 8 - INDEMNIFICATION**

Section **8.1** Indemnity. The corporation **shall**, to the extent legally permissible, indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that that person is or was a Director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a Director, officer, trustee, partner, fiduciary, employee or agent of another corporation, partnership, joint venture, trust, or other enterprise, against expenses, including attorneys fees, judgments, fines and amounts paid in settlement actually and reasonably incurred by that person in connection with such action, suit or proceeding; provided that no indemnification shall be provided for any person with respect to any matter as to which that

person has been finally adjudicated not to have acted in good faith in the reasonable belief that that person's action was in the best interests of the corporation or, with respect to any criminal action or proceeding, to have had reasonable cause to believe that that person's conduct was unlawful. The termination of any action, suit or proceeding by judgment, order or conviction adverse to such person, or by settlement or plea of nolo contendere or its equivalent, shall not of itself create a presumption that such person did not act in good faith in the reasonable belief that such person's action was in the best interests of the corporation and, with respect to any criminal action or proceeding, had reasonable cause to believe that such person's conduct was unlawful.

Section **8.2** Indemnity Against Expenses. To the extent that a Director, officer, employee or agent of the corporation has been successful on the merits or otherwise in defense of any such action, suit or proceeding, or in the defense of any claim, issue or matter therein, that Director, officer, employee or agent shall be indemnified against expenses, including attorneys fees, actually and reasonably incurred by that Director, officer, employee or agent in connection therewith.

Section **8.3** Determination. Any indemnification shall be made by the corporation only as authorized in the specific case upon a determination that indemnification of the Director, officer, employee or agent is proper under the circumstances and in the best interest of the corporation. That determination shall be made by the Board of Directors by majority vote of a quorum consisting of Directors who are not parties to that action, suit or proceeding, or if such a quorum is not obtainable, or even if obtainable, if a quorum of disinterested Directors so directs, by independent legal counsel in a written opinion.

Section **8.4** Payment of Expenses. Expenses incurred in defending a civil, criminal, administrative or investigative action, suit or proceeding may be authorized and paid by the corporation in advance of the final disposition of that action, suit or proceeding upon a determination made in accordance with the procedure established in the foregoing section that, based on the facts then known to those making the determination and without further investigation, the person seeking indemnification satisfied the standard of conduct provided herein, upon receipt by the corporation of a written undertaking by or on behalf of the officer, Director, employee or agent to repay such amount unless it shall ultimately be determined that the person is entitled to be indemnified by the corporation as authorized in this Article.

Section **8.5** Insurance. By action of the Board of Directors, notwithstanding any interest of the Directors in the action, the corporation may purchase and maintain insurance, in such amounts as the Board of Directors deems appropriate, on behalf of any person who is or was a Director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a Director, officer, employee or agent of another organization, against any liability asserted against such person and incurred by such person in any such capacity or arising out of his status as such, whether or not the corporation would have the power or would be required to indemnify such person against such liability under the provisions of this Article or of the laws of the State of Maine.

## **ARTICLE 9 - CONTRACTS, CHECKS, DEPOSITS, GIFTS**

Section **9.1** Contracts. The Board of Directors, except as otherwise provided in these Bylaws, may authorize any officer or agent to enter into any contract or execute and deliver any instrument in the name of and on behalf of the corporation, and such authority may be general or confined to a specific instance; and unless so authorized by the Board of Directors, no officer, agent, or employee shall have any power or authority to bind the corporation by any contract or engagement, or to pledge its credit, or render it liable pecuniarily for any purpose or to any amount.