

Management Team

Introduction the Applicant – The Office of Telemedicine, UVA Health System

The Office of Telemedicine at the University of Virginia Health System was established in 1995 to provide remote consultative and distance learning opportunities for patients and health professionals in the Commonwealth and beyond. The telemedicine program at the University was initially developed without external grant funding but rather, as an investment to facilitate achievement of our clinical, educational, research and public service missions. To date we have supported more than 9700 clinical encounters in more than 30 subspecialties of healthcare and tens of thousands of teleradiology services along with thousands of hours of broadcast education. Our network of more than 60 sites includes rural and urban community hospitals, critical access hospitals, a Veterans Hospital, rural clinics, federally qualified health centers, schools, prisons and other academic health centers in Virginia. We also support international consults and programming.

Organization

The Office of Telemedicine is staffed by a part-time medical director, a full-time director, three additional full-time technical personnel, an office manager, and a secretary/coordinator who schedules/coordinates all patient consultations. Patient consultations utilize the health professional faculty all of whom are employees of the University of Virginia Health System. All are committed to participation in the telemedicine program. The Vice President for Health Sciences, the Deans of the Schools of Medicine and Nursing, the clinical department chairs and the administration of the Medical Center are all in full support of our telemedicine initiatives.

We are members of the Virginia Telehealth Network, the Center for Telehealth and E-Health Law and the American Telemedicine Association. We have served as a pilot site for the Southern Governor's Association Biopreparedness exercise.

Clinical Services

The Office of Telemedicine has developed protocols to facilitate the efficient coordination, implementation, and evaluation of all consultative activities. We are prepared for the expected increase in activities should funding of this proposed expansion of telehealth in the Commonwealth be successful. We currently facilitate approximately 120 telemedicine related encounters per month separate from but related to our teleradiology program. We have a new home telehealth program. We have arranged for service-specific "clinics" delivered via videoconferencing technologies to gain efficiencies of scale. Services may be accessed on a 24-hour emergency basis and consultations can be scheduled by accessing

the Telemedicine Office via telephone, through the hospital page operator, through the emergency room MEDCOM communications network, or via electronic mail.

Innovative applications of telemedicine based on clinical need and geographic isolation have included the use of the clinical workstations screening for diabetic retinopathy, remote access to clinical trials, collaborative tumor boards, emergency preparedness training, training for continuing health professional education, for resident training, and for student training. We provide clinical care in more than 32 different specialties and subspecialties both in live formats and in store and forward mode.

Education

Patient education programs are designed, organized, advertised, and evaluated by the relevant clinical "Center" based on needs identified by a variety of sources. Endorsed by a Community Coalition for Health in southwest Virginia, the State Department of Health has received a grant to address high prevalence, complications, and mortality rates of patients with diabetes in this region. As part of the diabetes grant, the University of Virginia Diabetes Community Network Center has been selected by the Department of Health to provide outreach educational services to the citizens of southwest Virginia. We have also developed several educational programs addressing issues of behavioral and developmental pediatrics at the request of Project Head Start teachers, administrators, and social workers in southwest Virginia.

Health professional educational programs are designed, organized, advertised, and evaluated by the Office of Continuing Medical Education based on the identified needs of the community health professionals to include locally requested clinical topics, nationally mandated programs as required by JCAHO and OSHA, and we have broadcast the CDC's programs on bioterrorism and chemical warfare. Participation in such educational opportunities are critical for rural Virginia health professionals who effective January 2000 have been required by the State Board of Medicine to participate in 60 hours of continuing medical education for renewal of their medical licenses. In the absence of community based medical education programs, attainment of this volume of continuing education activities is otherwise impossible for health professionals residing in the targeted communities.

Research

We participate in clinical and educational research using advanced technologies, both within the Medical Center and in the School of Nursing NIH funded Rural Health Care Research Center (RHCR). This Center provides the infrastructure to conduct and disseminate research responsive to the clinical and

information needs of rural populations in the United States. The RHCRC tests innovative clinical and system interventions for the rural health care system and adapts existing interventions for use in rural areas. We are collaborating with the Center to investigate the role of emerging telehealth technologies as a strategy to overcome the scarcity of services and expertise in rural areas.

Public Service

We regularly use our network for public service to include engagement in rural health fairs serving thousands of uninsured Virginians annually, and we staff an ongoing collaboration with “Freedom Calls” so as to connect Virginians deployed with the military to **Iraq** with their loved ones at home.

USAC Support

We serve all eligible partner sites in our network by applying to USAC on their behalf for discounts through the USAC Rural Health Care Program. We were recently successfully audited by USAC without any deficiencies.

Management Consulting Partner, Telehealth Strategies, LLC

The UVA Telemedicine Office will subcontract with Telehealth Strategies (THS) LLC, a Virginia-based, woman and veteran-owned, small business for program management support, and to manage and coordinate the deployment and implementation of the VAST network. THS is uniquely qualified to manage the FCC Rural Healthcare Pilot Program and distinguishes itself in three ways:

- **Reputation**— THS has been a telehealth pioneer working as a valued partner along side large global health care organizations to research, test, develop and implement telehealth systems aimed at improving access and quality of health services to rural remote and underserved areas around the world.
- **Expertise**— THS has uniquely diverse qualifications and subject matter expertise spanning the business and management, policy, technical and clinical arena. THS experts have over **24** years of combined experience working these core areas to facilitate the implementation of distributed health systems in remote and rural healthcare settings.
- **Past-Performance**— THS has a proven track record of successful contract performance supporting telehealth industry leaders.

UVA and THS will serve as the Core Management Team for the Pilot Program.

THS is presently under contract with the Virginia Department of Health to provide rural and telehealth systems analysis and planning support, and to coordinate the newly incorporated Virginia Telehealth Network (VTN). THS dual roles, will serve as the cornerstone for ensuring the joint alignment of the FCC Rural Healthcare Pilot with the on-going efforts of the VTN. It is the desire of UVA and its partners to be able to leverage the FCC Rural Health Care Pilot as a way to propel the Virginia Telehealth Network (VTN). Should Virginia become the recipient of FCC Rural Healthcare Pilot funds, UVA has already received a letter of support from this Administration for the allocation of State resources to undergird the VTN administrative structure with staffing, marketing and program evaluation support. This, in turn, will directly add value to UVA's implementation of the FCC Rural Healthcare Pilot.

The mission of the VTN is to advance the adoption, implementation and integration of information and telecommunication technologies into mainstream health systems statewide to improve access to quality healthcare for all Virginians. The VTN has identified three priority areas:

Information Collaboration

The VTN will build a body of knowledge that encapsulates "best practices" for operating effective and sustainable telehealth services, as well as "best practices" for designing, operating and sustaining remote telehealth sites. This know-how will be assimilated from successes within Virginia's as well as effective programs from throughout the country and internationally. The information will be disseminated through on-site training, web-based training programs and the VTN website. (www.Ehealthvirginia.org)

In emulating these practices, participating health care providers will increase operational efficiencies, reduce associated cost, and improve customer satisfaction, which collectively will improve access to health care through greater utilization of Virginia's telehealth network.

Development of Standards

To truly provide a positive impact on improving healthcare in underserved communities, remote telehealth sites need to provide their communities with access to many different types of medical expertise. Today, Virginia's telehealth service providers are primarily providing medical expertise to support medical specialty consultation. With standards in place, medical expertise to support other types of services can be established. This enables remote telehealth sites to offer more services without the individual telehealth service providers having to "reinvent the wheel" and support every area of medical expertise needed.

In order to facilitate this, the VTN will work to establish standards in three areas:

- ***Business standards*** to ensure common operating agreements to facilitate the sharing of information and services, and to smooth the reimbursement/payment processes
- ***Operational standards*** that enable health care providers to deliver services to patients using standardized template/clinical formats to ensure quality of service and facilitate the evaluation process
- ***Technical standards*** to ensure seamless hardware and software compatibility and connectivity

With underserved sites providing their patients with access to more health care services and the telehealth service providers able to provide their services to a greater number of rural and remote clinics, the sustainability of both is greatly enhanced and network utilization is substantially increased. The development of standards will also help drive other critical initiatives, including implementation of electronic medical records.

Representation and Facilitation

VTN fairly represents the interests of all health care providers in the commonwealth as it interfaces with various health agencies, commissions, workgroups, special interests and others constituents within the government. It identifies and monitors key regulatory and policy issues important to the adoption and mainstream integration of telehealth and ensures the work of the VTN and its membership is consistent with priorities established by the Virginia Department of Health and the Commonwealth of Virginia.

In its role, the VTN is able to identify common needs, issues and concerns of telehealth networks, and in partnership with appropriate parties, develop strategies for facilitating collective solutions. These solutions could include, but are not limited to, reimbursement, participant compensation/ payments, state and federal regulations, collective buying and negotiation powers, grant writing and other forms of access to government funded health care initiatives such as the Universal Service Fund etc.

Through information collaboration, establishing standards and being a common voice for representation and facilitation, the VTN is focusing on taking advantage of the opportunities and addressing the challenges that will have the biggest impact **on** increasing both the reach of telehealth services available to underserved rural communities in Virginia. **By** strengthening health care systems as well as the very

services they are providing and consuming, network utilization will grow and participation in the FCC's Universal Services Fund will significantly increase.

The Office of Telemedicine and THS, in coordination with VTN, have proudly chosen the following key personnel to manage and coordinate the activities of the FCC Rural Health Care Pilot Program.

Key Personnel

The key personnel who will be directly involved with the successful management and implementation of the FCC Rural Healthcare Pilot Program are seasoned veterans who have served as pioneers in the field of telehealth. Each has similar, but unique attributes, that collectively provide the clinical, technical and business oversight required for the success of this program.

Introducing the VAST Management Team & Special Liaisons

Program Director: Karen Rheuban, M.D.

Technical Director: Eugene Sullivan, M.S.

Program Manager/VTN Liaison: Cynthia Barrigan, RN, MPH, Telehealth Strategies, LLC

Program Evaluation Manager: Jason Lyman, M.S, M.D. and Wendy Cohn, PhD

Special Liaisons:

Virginia Stroke Systems Task Force: Nina Solenski, M.D., VAST Stroke Coordinator

Secretary of Technology/State CIO: Karen Jackson, MBA

Brief biographical sketches are offered below for more information about the management team and its partners.

FCC Rural Healthcare Pilot - Program Director and Principal Investigator

Karen Rheuban, MD, Medical Director, Office of Telemedicine, UVA

Karen S. Rheuban, M.D. currently serves as Professor of Pediatrics, Senior Associate Dean for External Affairs and Continuing Medical Education and founding and current Medical Director of the Office of Telemedicine at the University of Virginia. As a pediatric cardiologist, Dr. Rheuban provides care to patients with congenital and acquired heart disease. Dr. Rheuban is a fellow of the American College of Cardiology and the American Academy of Pediatrics. She has regularly been listed in the "Best Doctors in America" database, and was recently recognized to be profiled in the National Library of Medicine's exhibit "Changing the Face of Medicine: Celebrating America's Women Physicians".

The Office of Telemedicine at the University of Virginia was developed to link remotely located patients and health professionals with the University's clinical consultative, research and educational expertise. UVA now serves as the hub of a 60 site telehealth network in the Commonwealth of Virginia, which includes community hospitals, rural and urban health department clinics, federally qualified health centers, a rural school system and correctional facilities, and partners with other academic health centers and international collaborations through its network. UVA annually supports more than 1200 consultative encounters with remotely located patients in more than **30** subspecialties, and offers additional teleradiology services, and a growing home telehealth initiative. UVA has broadcast thousands of hours of health professional and patient education through its telehealth program.

UVA serves as the Commonwealth of Virginia's Telehealth Resource Center, and has been awarded grants and contracts from the federal government, the Commonwealth, corporations and foundations to support the network.

Dr. Rheuban also oversees the University's Office of Continuing Medical Education. That office develops and sponsors thousands of hours of continuing medical education per year using multiple formats, such as lectures, conferences, **30** affiliated hospitals and through computer-assisted instructional materials and web-based on-line offerings.

She has served as a board member and Treasurer of the American Telemedicine Association and is Vice President Elect for the ATA. She is a board member and Vice Chair of Center for Telehealth and E-Health Law. She is a member of the Virginia Telehealth Network. She has presented Congressional testimony regarding telehealth to the Subcommittee on Health of the Committee on Energy and Commerce, to the Committee on Agriculture and to the Subcommittee on Africa and Global Health of the Committee on Foreign Affairs of the U.S. House of Representatives.

FCC Rural Healthcare Pilot - Technical Director for the UVA Telehealth NOC (Co-Investigator)
Eugene Sullivan, Director, MS, Office of Telemedicine, UVA

Born in 1945 and a native of Bloomfield, New Jersey, Mr. Sullivan is a graduate of Saint Peter's College earning a Bachelor of Science in Business Management. He is also a graduate of the University of Southern California with a Master's Degree in Systems Management. Upon graduation he was commissioned a Second Lieutenant in the United States Army. During his 22-year military career he saw combat in Viet Nam serving as a platoon leader in the 101st Airborne Division. Upon returning from Viet Nam Mr. Sullivan attended flight school and graduated in 1972. He is rated in both rotary and fixed

wing aircraft. His next assignment was to the Defense Intelligence College in Washington, DC. In 1984, then Major Sullivan was selected to serve as a staff officer with US Army Special Operations. In his final assignment he commanded a squadron of elite soldiers of the US Army's Special Operations Command. He retired in 1989 with the rank of Lieutenant Colonel. In April 1993, Mr. Sullivan was appointed to the faculty of University of Virginia, School of Medicine. His first task was to conduct a demonstration of Telemedicine and to proceed with research and development studies. The first demonstration took place in June 1993 using broadband fiber optic lines that linked the University of Virginia hospital with the Walter Reed Army Medical Center and an Army field hospital in Georgia. In 1996 the UVA Health System established the Office of Telemedicine as a clinical department and Mr. Sullivan was appointed its first Director. The Telemedicine program has expanded to over 60 sites throughout the Commonwealth. Remote site locations include rural hospitals, clinics, Department of Corrections prisons, a rural county school and a nursing home. The network stretches from Winchester in the north to Lee County in far southwest Virginia. Additionally, following the passage of the Telecommunications Act of 1996, Mr. Sullivan served as a Consultant to the FCC in the development of the regulations for the Rural Healthcare Support Mechanism and has provided many comments to the Notices of Proposed Rulemaking in regards to the Rural Healthcare Support Mechanism (FCC Docket 02-60). Mr. Sullivan is married to the former Cheryl Day and they have one daughter and two grandchildren.

FCC Rural Healthcare Pilot - Program Manager

Cynthia Barrigan RN, MPH, Founder & President, TeleHealth Strategies, LLC

Cynthia Bamgan has been providing leadership in the private/public and federal health care sectors for more than 15 years. She has dedicated her career to transforming the delivery of healthcare services to underserved and remote populations through the creative design of distributed health systems leveraging advancing information and telecommunications technologies.

As a telehealth pioneer, Ms. Bamgan has been instrumental in the design and development of telehealth systems for the United States military - a world leader and innovator in telemedicine/telehealth. She has led numerous initiatives that developed and integrated best medical practices with innovative technological capabilities which enabled healthcare providers at major medical centers to successfully share their expertise with those in remote and austere environments on a global-basis.

She has worked with all Department of Defense (DOD) services, the Veterans' Administration and Indian Health Services overseeing successful telehealth programs offering a range of health services including: dermatology, psychology, behavioral health, orthopedics, ENT, OB/GYN, dentistry, radiology, pediatrics,

ophthalmology and nursing. Through these efforts she gained extensive experience in virtually every aspect of telehealth life-cycle management including: strategic planning and analysis, development of business cases and cost-benefit analysis, policy development, functional requirements/systems analysis, software development and implementation, testing, user-training and program monitoring and evaluation.

Recently, **Ms. Barrigan** has worked on projects to integrate telehealth requirements/functionality into the military's electronic medical record—AHTLA—and led the joint development of DOD medical bandwidth requirements for theater-Iraq and Afghanistan. Through these and other DOD activities she has developed unique subject matter expertise in the design of telecommunication infrastructure for the efficient transfer of medical data and digital radiology images from austere environments back to mainstream military and veteran health care systems.

Ms. Barrigan is a registered nurse, specializing in emergency and critical care services and a former Captain in the US Army Nurse Corps. She also served as a Congressional staffer covering federal health care, including telehealth/telemedicine and related telecommunications legislation, in the US House of Representatives. Along with the design and implementation of telehealth systems, she has managed several large government contracts responsible for reporting on cost, schedule and performance, some of which were funded by Congressional appropriations.

An active member of the American Telemedicine Association (ATA) since 1996, Ms. Barrigan strives to continuously highlight and report on pivotal issues surrounding the integration of new clinical business practices and systems into mainstream health care delivery. She is also a member of the American Public Health Association and the American Medical Informatics Association.

Ms Barrigan received her Bachelor of Science in Nursing from the University of Florida, and is an honor graduate from the Johns Hopkins School of Public Health with special studies in international health and humanitarian and health information systems.

FCC Rural Healthcare Pilot - Program Evaluation Manager

Jason A. Lyman, M.D., M.S., Assistant Professor, Division of Clinical Informatics and Medical Director, Clinical Data Repository, Department of Health Evaluation Sciences

Dr. Lyman is an Assistant Professor of Clinical Informatics in the Department of Public Health Sciences with expertise in a wide range of medical informatics areas, including data warehousing, physician order entry, the relationship of information technology to patient safety, and evaluation methods for health

information technology. He completed an internship in pediatrics at the University of California at San Francisco and a two-year fellowship in medical informatics at Oregon Health and Science University under the mentorship of **Drs.** William Hersh and Kent Spackman. He is currently Medical Director of the Clinical Data Repository project, teaches informatics and database design in the Department of Public Health Sciences, and is a consultant for multiple informatics research efforts, both within and beyond the University of Virginia. He is particularly interested in the use of health information technology to assess and improve quality of care and patient safety, and is currently leading an institutional effort to develop a computer-based adverse drug event monitor for our hospitalized patients. **Dr.** Lyman has conducted multiple evaluation efforts related to health information technology, providing consulting services to Epocrates, Inc., McGraw Hill, and the British Medical Journal. **Dr.** Lyman will lead the evaluation effort for this project. He will develop the necessary instruments for use in the evaluation, oversee data collection, and conduct the analysis. In addition, he will be responsible for the final preparation of all evaluation reports and documents.

FCC Rural Healthcare Pilot - Program Evaluation Assistant

Wendy **F.** Cohn, **PhD.**, Associate Professor, Department of Public Health Sciences, Director of the UVA Consumer Health Institute

Wendy F. Cohn is an Associate Professor of Public Health Sciences with expertise in the evaluation of health care programs and information technologies. She holds a PhD in Evaluation Research. She has led both development and evaluation projects related to in the area of health information technology. Among these projects is Health Heritage, a Web-based tool for providing patient health risk assessment based on family medical history.

Dr. Cohn has also provided evaluation services for hospitals, health departments, educators and publishers. She is a teaching faculty member in the MS and MPH programs at the University of Virginia. She provides course work and supervision in the area of evaluation in public health, health education and informatics. Dr. Cohn is currently teaching a 3-credit course "Evaluation Methods in Public Health and Health Informatics" in the Master's Program.

Dr. Cohn will assist **Dr.** Lyman in the development of the evaluation plan. Specifically, she will develop the process and/or implementation evaluation components. She will review all data collection instruments; and analysis. Dr. Cohn will also assist in the preparation of reports and presentation of findings.

FCC Rural Healthcare Pilot - Physician Liaison to the Virginia Stroke Systems Task Force**Nina J. Solinski, M.D., Associate Professor of Neurology**

Dr. Solinski is a dual Boarded Stroke Neurologist (General and Vascular Neurology), on staff in the Department of Neurology at University of Virginia. She completed a 3-year clinical and research Cerebrovascular Fellowship training in 1996, and has been a member of the UVA Primary Stroke Center Team since that time. She is currently an Associate Professor in the Department of Neurology with interests in Stroke Clinical Trials (participated, designed or directed > 25 clinical trials to date) and translational research. Stroke research interests include testing and the development of neuroprotective treatment strategies following stroke including drug development, and understanding the neurochemistry of stroke. As an Attending educator she is involved in nursing, resident, and fellow stroke training, as well as peer stroke-related teaching activities (international, national and statewide).

In 2005 to present, she served as the Leader of the Virginia Stroke Systems of Care Task Force and has actively led the development of the statewide program since its initiation. Having worked closely with the program she will bring expertise to the regional challenges to health equality that the state faces. She will provide stroke neurologic expertise to the VAST by providing guidance to the selected sites as they develop their institutional programs. Quality assurance and outcome is a central theme of the stroke continuum of care, and she will ensure that national stroke guidelines are followed, and the telehealth services are fully utilized and the outcome is analyzed.

FCC Rural Healthcare Pilot - Liaison to Secretary of Technology and CIO**Karen R. Jackson, MBA, Director of the Commonwealth's Office of Telework Promotion and Broadband Assistance**

In September 2006, Ms. Jackson was appointed to serve as Director of the Commonwealth's Office of Telework Promotion and Broadband Assistance. In this capacity she is responsible for advancing the usage of teleworking and alternative work schedules by both the public and private sector. Additionally, she is charged with developing and deploying programs aimed at solving the connectivity needs of businesses and underserved communities often serving as a catalyst for the formation of innovative partnerships between educational institutions, industry, and the public sector to accelerate the process.

Prior to assuming her current post, Ms. Jackson served as the Vice President of Broadband Programs for the Center for Innovative Technology where she developed and implemented programs to assist communities obtain the broadband telecommunication technologies needed to support economic development, healthcare, and education.

Ms. Jackson has participated in numerous broadband projects and in 2003 was awarded a grant from the Department of Commerce to conduct broadband demand assessments and education in Southside Virginia. In 2005, she is convened the first meeting of the Governor's Broadband Advisory Roundtable to assist in the development of broadband related legislation and policy.

Ms. Jackson holds a bachelor of science in business management from Christopher Newport University and a master of business administration from The College of William and Mary.

Representative Past Performance

The scope and requirements for managing the FCC Rural Healthcare Pilot Program are very similar in nature to contract and grants managed by Key Personnel on previous occasions. The following lists specific examples of past performance:

Dr. Rheuban has served as the principal investigator on multiple successful federal, state and corporate and foundation grants:

Organization: Department of Commerce, NTIA 1997-2002

Role: PI

Type of Award: Grant

Size of Award: \$412,270

Description: Established the **SW Virginia Alliance for Telemedicine**

Launched clinical telemedicine program in southwest Virginia linking hospitals and community health centers with UVA

Contact: Steve Downs, Administrator **NTIA**

Organization: USDA DLT program 1999-2004

Role: PI

Type of Award: Grant

Size of Award: \$232,000

Description: Expanded the **SW Virginia Alliance for Telemedicine**

Expansion of clinical telemedicine program in southwest Virginia linking hospitals and community health centers with UVA

Contact: Roberta Purcell, Asst Administrator, **USDA**

Organization: HRSA Office for the Advancement of Telehealth October 2002-September 2005

Role: PI

Type of Award: Grant

Size of Award: \$289,500

Description: Expanded the SW Virginia Alliance for Telemedicine

Expansion of clinical telemedicine program in southwest Virginia linking hospitals and community health centers with UVA

Contact: Dena Puskin, Director

Organization: Anthem Blue Cross-Blue Shield 2002-2007

Role PI

Type of Award: Grant

Size of Award: \$250,000

Description: Support for clinical services provided to uninsured or underinsured Virginians

Contact: Colin Drozdowski

Organization: NIH

UVA School of Nursing Rural Healthcare Resource Center

PI: Beth Merwin, PhD RN

Role: Dr. Rheuban serves on the Advisory Board

Description: School of Nursing project to enhance evaluation of rural healthcare services

Other UVA large federal projects with link to UVA Telemedicine:

Organization: National Library of Medicine T-15 Training Grant in Medical Informatics "A Systems Engineering Focus on Medical Informatics" 2007-2012

PIs: Stephanie Guerlain, PhD, PI (Systems & Information Engineering, School of Engineering and Applied Sciences)

James H. Harrison, Jr., MD, PhD, co-director (Public Health Sciences, School of Medicine)

Type of Award: Training Grant in Medical Informatics

Role: Office of Telemedicine serves as program resource for training grant.

Cynthia Barrigan has served as a Co-investigator and program manager on several large government contracts.

Organization: US Air Force, 89th AW, Andrews, AFB

Role: Co-investigator & Program Manager (as a civilian contractor)

Period of Performance: July 04-Jan 06

Contract Type: DoD Congressional Appropriation, Cooperative Agreement (public/private partnership.

Size of Award: \$1M

Description: Responsible for cost, schedule, performance, operational oversight and technology deployment for a 2-part research initiative focused on developing advanced medical capabilities for the US military. Project 1 successfully designed, deployed and tested an emergency medical system (24 x 7 emergency medical support using telemedicine systems, flight attendant training, and medical kits) in a live environment over a period of one year aboard 20 AF aircraft undertaking over 700 missions. Project 2 developed a GPS-enabled, Web-based information system to identify and map medical assets/capabilities in Indonesia, Thailand and the Philippines for use by remote special operators.

Contact: Lt Col James Whitlock, Office of the Air Force Surgeon General

Email: james.whitlock@pentagon.af.mil

Organization: US Army Medical Research & Materiel Command, Fort Detrick, MD

Subordinate: Telemedicine & Advanced Technology Research Center (TATRC)

Role: Portfolio Manager of Operational Telemedicine Programs for Deployed Forces

Period of Performance: 2006-2007

Contract Size: Oversee a portfolio of contracts totaling over \$1M.

Description: Responsible for cost, schedule and performance as assistant to the COR

Name of POC: COL Ron Poropatich, MC, US Army

Email: Poropatich@tatrc.org

Project Planning

An initial project plan has been developed to guide the anticipated steps of the Pilot program. A detailed Plan will be developed upon notification of selection and definitive guidance and details from the FCC. In the meantime, assumptions have been made relative to how the Pilot will be conducted and serve as the basis for our project plan tasks.

FCC Pilot Project Plan		Schedule (months)					
#	Phase 1- Initiation	1	2	3	4	5-8	9-12
1	Management Team/Stakeholder Kick-off Meeting	X					
2	Conduct Site Surveys to revalidate approach	X					
3	Develop Statement of Work/RFP	X					
4	FCC Form 465 Upload (28 day waiting period)	X					
5	Review Contractor Proposals		X				
6	Select Contractor (s)		X				
7	Establish a Single Point of Contact at each Provider Site for Coordination	X					
	Phase 2- Planning						
8	Kick-off Meeting w/ Telehealth NOC & Contractors to establish business processes			X			
9	Formal FCC Pilot Kick-off (Healthcare Provider Reps & Technical Reps)			X			
10	Prepare detailed Project Plan	X		X			
11	Conduct Network Design Meetings to provide guidance and clarifications			X			
12	Establish a series of plans (implementation, procurement, QA etc).			X			
13	Review implementation, test and QA plans				X		
14	Faciliate site service agreements with VITA for connecting to the state-MPLS						
15	Develop Monitoring & Evaluation plan (M&E)			X			
	Phase 3- Installation & Testing						
16	Conduct Phased Implementations					X	
17	Conduct site visits					X	
18	Implement M&E Plans					X	
19	Request project plans be routinely updated					X	
	Phase 4: Implementation						X
20	Schedule "Go-live" - Telehealth NOC/ Northrop Grumman Provide Support						X
21	QA network performance						X
22	Continue M&E						X
23	Collect Performance Evaluation Data						X
24	Survey Customers for Satisfaction						X

Table 2 - Project Plan

Summary

The University of Virginia Office of Telemedicine, along with its chosen partners, is dedicated to the successful deployment of broadband infrastructure and the development of a state-wide telehealth network. A qualified management team has been chosen and a management plan and quality controls are in place. UVA believes it is well-positioned and prepared to conduct a successful Pilot Program. UVA will adhere to the guidelines for competitive bids for telecommunications services, and network design.

7.0 Cost Proposal

7.0 COST PROPOSAL

Virginia has secured matching funds, dollar for dollar, as evidence of the strongest possible commitment of the Commonwealth to this initiative.

Following is the budget detail and justification for the Virginia Acute Stroke Telehealth (VAST) Network being proposed for the Federal Communications Commission (FCC) for the Rural Health Care Pilot Program. We request \$1.71 million from the FCC, and offer \$1.66 million in matching funds, as strong evidence of the Commonwealth's commitment to this project. (\$1,158,000 of that amount is recurring costs in Year 1). We anticipate equal success in garnering funds for Year 2.

Our management and technical approach to the FCC Health Care Pilot Program is unique. Therefore, we will explain the nature of those costs.

Proposed Management Costs

Our VAST network will leverage the existing management and technical infrastructure of the Office of Telemedicine, and other highly qualified individuals to ensure the success of the Pilot. It should be noted that our overall management and technical approach are inter-related. Under our proposed network roll-out, the Telemedicine Office will in fact be the deployment agent and the owner-operator of the VAST Telehealth NOC as described in Section 4. Therefore, management personnel have been included in this cost proposal as it relates to overseeing and managing the procurement of equipment, deploying, supporting and maintaining the infrastructure of the VAST network (except for Northrop Grumman sites which will be managed slightly differently). Travel costs have been included for UVA network engineers to travel to provider sites to conduct installation and maintenance.

Matching Funds

The **Virginia Department of Housing and Community Development (DHCD)** is committed to creating safe, affordable, and prosperous communities to live, work and do business in Virginia. DHCD partners with Virginia's communities to develop their economic potential, regulates Virginia's building and fire codes, provides training and certification for building officials, and invests more than \$100 million each year into housing and community development projects throughout the state - the majority of which are designed to help low-to-moderate income citizens. Amongst the many projects funded by DHCD include partnerships with communities to build medical clinics, telemedicine programs and

broadband deployment. DHCD will provide matching funds toward the deployment of fiberoptic infrastructure to the communities of the Eastern Shore of Virginia of **up to \$1.4 million.**

Aside from the Commonwealth investments in Network Virginia and COVANET, the **Virginia Tobacco and Community Revitalization Commission** is the largest single source of funding for telecommunication projects in the Commonwealth. Recognizing that robust infrastructure and affordable connectivity is paramount to economic development the Commission has concentrated their funding on the construction and lighting of open access fiber networks throughout the Southside and Southwest Virginia Tobacco Counties. To date, the Tobacco Commission has provided more than \$65 million dollars in funding and has partnered with localities and providers throughout the region to bring the dream of economic panty to fruition. Partners to date include: Cumherland Plateau and LENOWISCO Planning Districts, Bristol Virginia Utilities, Mid-Atlantic Broadband Cooperative, Citizen’s Telephone, and Scott County Telephone to deploy fiber from Lee County (far Southwest Virginia) to Emporia . Acknowledging the role that access to quality healthcare plays in the viability and sustainability of rural communities, the Commission has chosen to be a partner in VAST, providing **up to \$750,000** in matching funds to be used for their eligible communities.

Counties and Cities Eligible for Virginia Tobacco and Community Revitalization Commission

Amelia	Franklin
Appomattox	Greensville
Bedford	Halifax
City of Bedford*	Henry
Brunswick	Lunenburg
Buckingham	City of Martinsville*
Campbell	Mecklenhurg
Charlotte	Nottoway
Cumherland	Patrick
City of Danville	Pittsylvania
Dinwiddie	Prince Edward
City of Emporia*	Sussex

*Cities are eligible for all Commission funding sources **except** Southside Economic Development.

Southwest Localities

Economic Development monies are available to all southwest counties, cities or towns located within the region without regard to specific tobacco-related criteria

Bland	Norton City
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Bristol City	Russell
Buchanan	Scott
Carroll	Smyth
Dickenson	Tazewell
Floyd	Washington
Galax City	Wise
Grayson	Wythe
Lee	All Towns

Table 3 - Counties and Cities Eligible for Virginia Tobacco and Community Revitalization Commission

Following is the budget detail and justification for **the** Virginia Acute Stroke Telehealth (VAST) Network being proposed for **the** Federal Communications Commission (FCC) for the Rural Health Care Pilot Program.

FCC Rural Health Care Pilot Program Budget

Facility	Bandwidth	FCC Request	Dept of Housing and Community Development	Virginia Tobacco Commission	Total Project
Southside Community Hospital (Centra Health)	existing 100M	40,000			40,000
Bath County Community Hospital (Critical Access Hospital)	install MPLS	46,000			46,000
Carilion Stonewall Jackson Hospital (Critical Access Hospital)	DS1	7,000			7,000
Page Memorial Hospital (Critical Access Hospital)	DS1	10,000			10,000
Rockingham Memorial Hospital	DS1	7,000			7,000
Shenandoah Memorial Hospital (Valley Health/Critical Access Hospital)	DS1	10,000			10,000
Carilion Giles Memorial Hospital (Critical Access Hospital)	install MPLS	46,000			46,000
Dickenson County Medical Center (Critical Access Hospital)	DS1	10,000			10,000
Pulaski Community Hospital	install DS1	10,000			10,000
Smyth County Community Hospital	DS1	10,000			10,000
Rappahannock General Hospital	DS1	8,000			8,000
Augusta Medical Center	existing 100M	25,000			25,000
Danville Regional Medical Center	install 2 DS1	19,000		1,000	20,000
Halifax Regional Hospital	3 DS1	40,000			40,000
Lynchburg General Hospital (Centra Health)	existing 100M	40,000			40,000
Buchanan General Hospital	install MPLS	43,000		3,000	46,000
Carilion New River Valley Medical Center	install DS1	9,000		1,000	10,000
Carilion Roanoke Memorial Hospital	spt existing	40,000			40,000
Johnston Memorial Hospital	MPLS local fiber	43,000		103,000	146,000
Norton Community Hospital	install 2d DS1	19,000		1,000	20,000
Twin County Regional Hospital	DS1	10,000			10,000
Shore Memorial Hospital	NG install MPLS	46,000			46,000
University of Virginia Medical Center	install 45M MPLS	73,000			73,000
VCU Health System	100M	50,000			50,000
Winchester Medical Center (Valley Health)	DS3	50,000			50,000
Sentara Norfolk General	DS3	50,000			50,000
Sentara Virginia Beach General Hospital	DS3	50,000			50,000
Blue Ridge Medical Center	install DS1	10,000			10,000
Boydton Community Health - Halifax Family Health Center	install DS1	9,000		1,000	10,000
Johnson Health Center	install DS1	9,000		1,000	10,000
Piedmont Access to Health Services - Community Health Center of Danville	install DS1	9,000		1,000	10,000
Southwest Virginia Community Health - Saltville Medical Center	DS1	9,000			9,000
Southwest Virginia Community Health - Troutdale Medical Center	DS1	9,000			9,000
Southwest Virginia Community Health - Twin City Medical Center	DS1	9,000			9,000
Stone Mountain Health Services - Appalachia Family Health Center	DS1	10,000			10,000
Stone Mountain Health Services - Haysi Clinic	DS1	10,000			10,000
Eastern Shore Rural Health - Atlantic Community Health Center	NG install MPLS	46,000			46,000
Eastern Shore Rural Health - Bayview Community Health Center	NG install MPLS	46,000			46,000
Eastern Shore Rural Health - Onley Community Health Center	NG install MPLS	46,000			46,000
Internet2/Lambda Rail	VT connection	35,000			35,000
Installation and recurring monthly costs for broadband communications for above facilities		1,068,0001	0	112,0001	1,180,000

Facility	Bandwidth	FCC Request	Dept of Housing and Community Development	Virginia Tobacco Commission	Total Project
Shore Memorial Hospital	Local loop build out	10,000			10,000
Atlantic Community Health Center	Local loop build out	60,000			60,000
Bayview Community Health Center	Local loop build out	40,000			40,000
Onley Community Health Center	Local loop build out	10,000			10,000
Eastern Shore backbone Dept. of Housing and Community Development	Backbone buildout		1,400,000		1,400,000
Fiber build out and the local loop connections on the Eastern Shore		120,000	1,400,000	0	1,520,000
OPTIONAL Emergency Medical Services sites- Comms, Connectivity, 8 Cisco 2811 Routers (Clinton, Maron, South Boston, Grundy, Abingdon, Norton, Galax, Martinsville)		80,000		40,000	120,000
Telehealth NOC (OTPS)					
On Call Support 24/7		26,000			26,000
USAC Compliance Outsource		27,000			27,000
MPLS Network Analysis & Migration Studies		100,000			100,000
Travel, Installation, Training		16,000			16,000
Outreach		5,000			5,000
8 Cisco 2800 routers and 1 Cisco 3800 router/gateway				50,000	50,000
Personnel					
Program Director .2 FTE		66,639			66,639
Senior Technical Engineer-Telehealth NOC .2 FTE		26,076			26,076
Fiscal /Admin/Audit/Review .25 FTE		14,388			14,388
VAST Physician Coordinator .05 FTE		7,788			7,788
VAST Project Evaluator .5 FTE		30,085			30,085
Senior Project Manager- Telehealth NOC		80,000			80,000
Administrative support-Telehealth NOC		50,000			50,000
Network Engineer 1 FTE Telehealth NOC		65,500			65,500
Personnel Total		274,976		65,500	340,476
Total OTPS		174,000		50,000	224,000
Grand Total		1,716,976	1,400,000	267,500	3,384,476



COMMONWEALTH of VIRGINIA

DEPARTMENT OF
HOUSING AND COMMUNITY DEVELOPMENT
Division of Community Development

Timothy M. Kohn
Governor

Patrick G. Gutschalk
Secretary of
Commerce and Trade

William C. Spalton
Director

May 1, 2007

Dr. Karen Rhasben
Office of Telemedicine
University of Virginia
1214 Lee Street
Room 1878
Charlottesville, Virginia 22908

Dear Dr. Rhasben:

I am very glad to learn of your application to the FCC for broadband deployment for health care facilities on the Eastern Shore of Virginia. As you know our Department has been interested in rural health care, particularly telemedicine and its impact on rural communities.

Our Department has been provided funding to assist in the installation of fiber optic "backbone" in rural areas of Eastern Virginia. If your application is funded, we will make the Eastern Shore our top priority. We will provide \$1,400,000 to Mid Atlantic Broadband Cooperative to install fiber from the "megapop" at Wallops Island to Route 13 and south through Nassawadox, Onley and Bayview, thereby providing affordable, reliable, high speed connectivity to the hospital and three clinics included in your proposal.

Good luck on this highly important project!

Sincerely,

Bill _____

Partners for Better Communities



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Virginia Tobacco Indemnification and Community Revitalization Commission

701 E. Franklin Street, Suite 501 • Richmond, Virginia 23219

April 27, 2007

Karen S. Rheuban MD
Medical Director of Telemedicine
University of Virginia Health System
P.O. Box 800707
Charlottesville, Virginia 22908

Dear Dr. Rheuban:

I am pleased to provide this letter in support of The Commonwealth's proposal for funds associated with the Federal Communication Commission's Universal Service Fund for Rural Health Care Providers.

This letter also serves to affirm that on April 26, 2007 the Tobacco Commission approved a grant award of \$750,000 as matching funds to this proposal. Tobacco Commission funds are to be used upon successful award of FCC grant funds, and only for capital project costs (e.g. construction, materials, equipment) for healthcare facilities located within the 41 Southside and Southwest Virginia localities that are defined as the tobacco growing region. A map of the Tobacco Commission's service area is on our website (www.vatobaccocommission.org). Please be aware that, due to the source of our funds (tax exempt bonds), they may not be used for non-capital operating expenses such as ongoing connectivity or indirect project costs.

With this funding commitment, our Commissioners clearly stated that the proposed telemedicine project is highly supportive of and consistent with the Tobacco Commission's mission to revitalize the economic base of this region, and with our strategic initiatives to create robust, affordable, open-access high speed connectivity for use by businesses, institutions and government. We look forward to being a partner in the successful implementation of this important rural development project.

Sincerely,

Neal E. Noyes
Executive Director

8.0 Conclusion

8.0 CONCLUSION

Through this application we have provided a comprehensive view of how VirginiaAcute Stroke Telehealth (VAST) and the work that is supporting it meets and exceeds the criteria set out by the FCC for the Pilot Program.

On behalf of the Commonwealth of Virginia, the Office of Telemedicine of the University of Virginia Health System would like to thank the Federal Communications Commission for its review and consideration of this application for funds under the Rural Health Care Pilot Program. The timing and requirements of the Pilot Program are a very good fit with the telehealth initiatives that have been underway in Virginia for the past four years through the Virginia Telehealth Network – a collaboration of telehealth stakeholders from throughout the Commonwealth. The Pilot Program has become the catalyst for turning the vision of the last four years into reality through the development of the Virginia Acute Stroke Telehealth (VAST) network.