PROBLEM TO BE ADDRESSED: Without sufficient infrastructure, rural communities struggle to maintain basic services and an appropriate quality of life for rural residents. Additionally, many rural residents live in remote or outlying areas, making it more difficult for them to access needed services. For example, extended travel times for ambulances and long distances to reach emergency rooms can literally mean the difference between life and death in the critical moments following a health emergency. Providing health care to rural areas is both functionally difficult and very expensive. There is no economic basis for Doctors to establish medical clinics in underserved or unserved areas. Moreover, according to a 2005 study published by the American Medical Association (2005), only about three percent (3%) of medical students expressed a desire to locate or work in rural areas. There is recognition that primary care consists mostly of management in providing care for chronic conditions or wellness and does not generate enough income to attract physicians. Geography should not dictate the health of a community; however, physical barriers to healthcare greatly impact longevity and the quality of life in rural areas of our country. Overcoming the challenges of geography and distance to provide Americans access to the full range of available healthcare services and medical expertise requires the use of technology to electronically link the healthcare delivery system to its patients.

OVERALL APPROACH TO ADDRESSING THE NEED: Through this proposal, U.S. Telemedicine will deploy 10 telemedicine kiosks in 10 rural underserved communities in California, Nevada and Arizona. The kiosks will be placed in convenient, readily accessible public locations. The kiosks will be linked via broadband to a regional medical center, local doctor, or medical emergency location (HUB). Utilizing two-way audio/video communications technologies, medical personnel will be able to communicate with the patient. Diagnostic equipment will transmit relevant medical data to health care professionals in real time. As most care concerns itself with obtaining vital signs and access to medical records (EMR), the kiosks supply information and presents immediate critical and essential connectivity between the caregiver and the patient. The Kiosks also serve as a diagnostic tool, equipping the health care provider with essential references and facts to make a diagnosis, take action and address the identified condition. The telemedicine kiosks will offer: Medical diagnosis and care regarding: hearing, ophthalmology, dermatology, cardio, respiratory, blood pressure, diabetes, allergies, cold/flu, psychiatry, psychology, pain, incontinence, osteoporosis, sexual dysfunctions and rheumatology, among many other conditions to be addressed. The kiosks will also offer a broad array of health education/prevention programming targeted to meet the specific needs of the community (e.g., ethnicity-specific health conditions, language, etc.). The kiosks will also be linked to first responder agencies in the area and will be used as a means of communication among public safety agencies, health care providers and rural populations. The broadband-based kiosks that we are
proposing offer a full range of telemedicine services and can ensure that millions of Americans living in rural and underserved settings with little access to healthcare and health information will now have the access to high quality, immediate and consistent health care services as do citizens in urban locations across the United States. Moreover, Telemedicine reduces the need for costly physician involvement, which can be adequately replaced, in many cases, by nurse practitioners and physician assistants. Broadband-based telemedicine not only enables the delivery of critical healthcare services to remote patients, but it also facilitates enormous cost savings, and empowers individuals by providing them with access to critical medical information. The approach we are proposing is unique and innovative in that for rural and medically underserved citizens, our Kiosk approach offers a true universal e-care platform. It provides care for dozens of physical and mental medical concerns from a common cold to heart conditions to anxiety issues. Patients do not require computing knowledge nor do they need any computer hardware at home. The Kiosk quickly and easily accommodates the physically handicapped, the visually impaired, the non-English speaker, the elderly, and children. No training is required. Additionally, the Kiosk's 24-hour day accessibility to health care for the public is groundbreaking and unique in all of Telemedicine. Typically, only hospital emergency rooms offer this type of access. An exclusive feature of the Kiosk is the '911' access available to the public. In areas where medical help is an hour or more away; a push of the button and immediate critical care is available. Because the Kiosk has such a wide variety of medical sensing capabilities, such as respiration, heart deficiencies, skin conditions and even pupil dilation, the Kiosk quickly provides the Doctor with all the necessary information to make an immediate life-saving diagnosis. In times when moments are critical, the Kiosk will save lives. In a completely pioneering application, first responders (e.g., police, fire, hazmat, etc.) can use the Kiosk as a Command Center for operations in rural areas. Through the Kiosk they can manage life threatening injuries, epidemics and regional emergencies, whether caused by terrorism, traffic, or weather related disasters. Information can be uploaded for analysis; information, directions, alerts and messages, can be downloaded into their computing devices using the Kiosk's built-in USB port. The video screen can include conferencing with up to four (4) individuals or agencies being able to simultaneously take advantage of broadband capabilities to ensure cross agency communications. Video conferencing in the Kiosk will also take on a novel approach. The screen in the Kiosk unit can host up to four participants in video conference with the patient. Another innovation is our use of face recognition software, which will allow for a custom, more personalized experience for repeat users. AREA TO BE SERVED: The Geographic areas are bound on the West by Ocotillo, California ‘ 224 Miles North to Henderson, NV; 100 miles South East to Flagstaff, AZ; 280 Miles South to Nogales, AZ. This represents a total area of 54,800 sq miles and includes approximately 50 isolated rural towns and the following Indian Tribes: Chemehuevi, Mojave, Yavapai, Pima, Papago, and the Quechan. There are about 625,000 resident and 200,000 undocumented persons (potential users) living in the area. APPLICANT QUALIFICATIONS: As outlined elsewhere in the "organizational capability" section, U.S. Telemedicine is fully qualified to fully implement this project as outlined in this proposal. The applicant currently operates one of the few true Telemedicine clinics in the region, using a high sophistication of broadband applications to provide E-Care. Applicant is also a pioneer in the adoption of EMR. Applicant has engaged a proven entrepreneur to champion these efforts on a full time basis, to the point of the implementation of 10 Kiosks and then roll out the concept nationwide. Applicant has engaged two medical Doctors (both former US Army Col,(res) and Major(res), both of whom have extensive
diagnostic and triage experience. Applicant has been a member of the American Indian Physicians Organization for a number of years and is aware of the medical needs and particular ethnic complications in providing care to these rural inhabitants. JOBS TO BE SAVED OR CREATED: When this demonstration project is operational, we will have between 10 hubs, each employing two-three workers each. Hospitals connected to the network will also increase their staff by two-three each, so as to provide 24 hour emergency coverage of the Kiosk. For this demonstration project, we expect to create a minimum of 50 full-time jobs up to 45 indirect jobs and 16 jobs induces by this project. Overall, the transition towards an electronic health infrastructure will create new job opportunities for workers. A recent study estimates that an investment of $10 billion in health IT in one year would create or retain 212,000 U.S. jobs for a year (The Digital Road to Recovery: A Stimulus Plan to Create Jobs, Boost Productivity and Revitalize America--2009). OVERALL COST OF THE PROPOSED PROJECT: The overall cost to implement this demonstration project is approximately $4.2 million. We are requesting approximately $2.9 million in BTOP support with the remainder being funded by the applicant, equaling a match of approximately 30.8%.