Statement of the Problem: Broadband and associated broadband applications provide tools enabling new models of health care delivery and education leading to healthier communities. These new models include applications such as telemedicine which bring critically needed services such as specialty care to underserved and low-income areas. These broadband applications can save money, improve health and, in areas such as emergency medicine, save lives. The healthcare industry represents a critical business sector of most communities but it has typically been a late adopter of broadband-enabled technologies. In addition, though healthcare consumers are increasingly using healthcare content available on the internet, many struggle to apply it effectively to manage their own health. Healthcare providers urgently need assistance in effective telehealth and eHealth technology application implementation, including the workforce and workflow changes that must be made to meet those challenges. Finally, public safety entities, including county health offices and public safety agencies, need to effectively utilize broadband applications to support disaster preparedness efforts, opportunities that are currently underutilized. For healthcare providers to effectively participate in a technology-enabled healthcare system, a reliable and cost effective broadband infrastructure must be developed and sustained. Rural and low-income urban communities frequently do not have the resources or technical expertise to monitor broadband implementation, negotiate ongoing services, and ensure network security and privacy. Successful broadband adoption also requires implementation of broadband-dependent applications that add value to healthcare organizations, businesses and consumers. This requires that clinicians and consumers are broadband technology-literate. California is coordinating multiple, funded initiatives that will create a reliance on broadband, particularly in rural/low income regions. These applications include electronic health records, telehealth, distance education, e-prescribing, home monitoring, and health information exchange that collectively establish a sustainable business model for providers, insurers, and consumers. Comprehensive training programs are necessary to maximize the potential of these priority initiatives.

Overall Approach: More than $26M of funds from the FCCs Rural Health Care Pilot Program and FCC match partners has established the California Telehealth Network (CTN). Led by a statewide consortium, the CTN is a high-priority, visible initiative that will bring broadband to underserved regions in the state and serve as a critical resource for disaster preparedness and response to the State. A vendor for the CTN has been selected and construction will begin in April 2010. The CTN will provide state-of-the-art, peer to peer, MPLS, broadband services to healthcare sites (predominately rural and low income consumers), county health offices and academic health centers throughout California. The proposed SBA project complements this substantial infrastructure investment with funding to support the initial implementation of the CTN management services, technical training for member sites, and transition to
the long term sustainability model filed with the FCC. The proposal includes an extensive training program to raise broadband application literacy of healthcare providers, community college instructors, public safety/county health officers and local librarians. This project will also establish Model eHealth Communities (MCs) selected to demonstrate successful transitions to technology-enabled health delivery. Healthcare and public safety anchor sites in MCs will receive eHealth equipment to accelerate the adoption of broadband-reliant applications. In these communities, community college faculty will incorporate technology adoption as a curricular thread for their healthcare workforce courses and offer consumer health courses. Libraries will serve as anchor institutions to support consumer healthcare broadband literacy. Healthcare providers will have skills to teach people to effectively utilize web-based tools to manage their health. Addressing the issue of consumer literacy is core to creating sustained adoption. According to the FCC report 'Broadband Adoption use in America' dated February 2010, 35% of homes do not use broadband and 22% of the non-adopters indicate issues related to digital literacy. Training partners in this project will include UC Davis Extension Program, UC Davis Agriculture and Natural Resources, UC Davis Health Informatics and California Health Information Partnership and Services Organization (CalHIPSO ' the HITECH Regional Extension Center), community colleges, and local libraries. The California Rural Indian Health Board will collaborate to prepare culturally inclusive materials to specifically meet the needs of tribal communities. Innovation and Sustainability: The proposed approach addresses the historic barriers to sustained broadband adoption with an innovative, cost-effective broadband architecture, the provision of eHealth equipment, and a collaborative training partnership. First, the CTN broadband network represents an aggregation of demand for broadband with features required in eHealth applications. This strategy offers a purchasing advantage, thus decreasing the individual site’s eventual sustaining monthly cost. The CTN operations team will assist its members in identifying and applying for on-going state and federal broadband subsidy programs which further reduce the cost of sustained adoption. The technical architecture of the CTN ' including medical-grade security features and affordable WiFi to resolve last-mile access coverage ' provides an innovative platform for industry and providers that will advance broadband adoption. The second element proposed is the strategic placement of broadband-dependent equipment in MC health care and public safety/county health facilities to establish telehealth, distance learning, and eHealth. In addition to the telehealth/eHealth equipment provided through the proposed SBA program, technology partners such as the National Coalition for Health Integration (NCHI) will advance health information and image exchange within these communities. Future communities will have the opportunity to replicate these models of care and education further increasing broadband adoption. Finally, the collaborative training partnership leverages the experience of a consortium of recognized eHealth and broadband adoption educators. The comprehensive curriculum includes on-line, on-site, and community-based modalities. It will be available to healthcare providers, public safety officers, librarians, community college faculty and consumers (community college students, patients, library patrons). Areas to be Served: The service area for the CTN includes 57 of the 58 counties of California -- 56% of the CTN sites are in 'broadband adoption underserved' regions based on the work of the California Broadband Mapping Task Force. Online training materials will be available for all 863 healthcare, public safety, as categorized by USAC, and academic sites within the CTN, all community college instructors all librarians in the state, and the nearly 7000 providers working with CalHIPSO to implement EHRs (to encourage adoption of broadband technologies in addition to EHR 'meaningful use'). Additional consumer-based education and equipment
will be provided within 15 MCs that will be distributed throughout the state based on criteria consistent with the BTOP and FCC program goals. Applicant Qualifications: The University of California (UC) system is the Lead Agency for the CTN and for this proposal. UC has a record of success in the development and management of telemedicine and eHealth programs and the management of large grant programs. The training partners are recognized leaders in their fields. The community college system, under the California Master Plan for Higher Education, provides essential workforce development programs and will serve to meet the local need for a technology-literate healthcare workforce. Libraries, recognized as community resources, will complete the training program by supporting the efforts to reach consumers. Jobs will be created within the 863 CTN sites, through the training program and in the CTN operations team. It is estimated that 63 direct and indirect jobs will be saved or created and 36 jobs will be induced. The overall cost for the CTN Sustainable Broadband Adoption is $14M. An additional $26M is leveraged to support broadband infrastructure via the FCC Rural HealthCare Pilot and funding partners: the University of California, the California Emerging Technology Fund, the California Teleconnect Fund, the National Coalition for Health Information, the California HealthCare Foundation, and United Healthcare.