

Telemedicine Statewide Networks - Environmental Scan

October 2013

State/Name	Website	Organization Description	Inception and Funding	Partners	Services	Membership and Fees	Technology, Equipment, and Vendors	Successful Aspects	Key Messages for Maryland
ARIZONA: Arizona Telemedicine Program (university-based)	<a href="http://www.telemedicine.arizona.edu/app/home">http://www.telemedicine.arizona.edu/app/home</a>	The Arizona Telemedicine Program (ATP) is operated by the University of Arizona. The university designed the telecommunications system in a configuration that minimized telecommunications charges, installed the telecommunications equipment, and operates the entire network. The network spans the entire state and is linked to other telecommunication networks in Arizona.	In 1996, the Legislature of the State of Arizona funded the ATP. Leveraging the state startup funds, the program obtained additional funding and support from healthcare systems, state agencies, federal grant programs, and third party payors. ATP participants and members of affiliated programs have competed for grants and contracts totaling over \$14 M.	Hospitals, medical centers, community health centers, counseling centers, schools, Arizona Department of Corrections, Arizona State Prison Complex, Arizona Department of Health Services Children's Rehabilitative Services (CRS).	The program offers clinical, educational, and administrative services, as well as research supporting the end-to-end assessment of telemedicine—from video imaging, networks, picture archiving and communication systems to end-user equipment and appliances. ATP provides medical services via both real-time and store-and-forward technologies in twenty communities. Services include disease prevention, public education, correctional telemedicine, children's healthcare, home health care and nursing, occupational and physical therapy, and telenursing in schools. The Arizona Diabetes Virtual Center of Excellence (ADVCE) is a comprehensive program for diabetes prevention, assessment, and management. ADVCE offers training and education and teleconsultation with specialists. ATP also serves as an information clearinghouse and resource center for telemedicine in the state, including oversight of grants applications.	The program charges a membership fee to participating providers on a sliding scale based upon services desired. The program centralized the application process for rebates from the federal Universal Service Fund's Rural Health Care Program, which helps rural health care providers acquire telecommunications and Internet services. Arizona providers have received over \$2.6M in rebates to support telemedicine.	ATP has a Private Network Interface between the Arizona telemedicine communications network and its member sites. Any network member site can interact with other providers of services using the ATP Network with the understanding that all providers utilizing the network must have a membership agreement with ATP. However, member sites are responsible for contacting other sites that they wish to interact with in advance to assure compatibility of equipment, and to arrange scheduling of facilities and staff. No member site is in any way required to so participate. ATP's Project Nightingale, has a dedicated broadband healthcare infrastructure which functions as a telecommunications collaborative providing access to T-1/ATM telecommunications on a private network throughout the state on a cost-sharing basis.	Offer rebates to rural providers to help them adopt telemedicine. Comprehensive diabetes program. Strong focus on research and technology transfer.	State worked with a federal program to streamline the application process for rebates to rural health care providers for telecommunications and Internet services. Providers have received over \$2.6M in rebates.
CALIFORNIA: California Telehealth Network (non-profit)	<a href="http://www.caltelehealth.org/">http://www.caltelehealth.org/</a>	The California Telehealth Network (CTN) is a non-profit agency with a broadband network that supports the interconnection of hospitals, clinics, physicians, health departments, and schools. Institutions are connected together through a high speed network to academic centers, data centers, application service providers, and insurers.	CTN began in 2007. Coalition of healthcare, technology and governmental agencies requested funding from the FCC to expand broadband throughout California's rural and underserved areas. The FCC Rural Health Care Pilot Project (RHCPP) awarded \$22.1 million to California to install broadband services and develop a medical grade telecommunications network. The California Emerging Technology Fund and UnitedHealth/PacificCare provided matching funds. The University of California provided in-kind support.	Medical centers, community health centers, rural health clinics, hospitals, United Indian Health Services.	24/7 tech support and help desk. Point to point access to all members. Bridge services to connect multiple locations for meetings and education. Access to telehealth program development and technical assistance through federally designated Telehealth Resource Center, CTEC. Matching patient sites with available telehealth providers. Access to: public Internet (through the Corporation for Education Network Initiative in California-CENIC); Internet2 and national LambdaRail; national healthcare databases and disease registries; educational programming for clinical staff; patient education programs. Hosting for electronic health records. Webinars and training. Equipment discounts.	All health organizations can become members of CTN and obtain broadband services by subscription. Over 800 rural and underserved health care sites in California applied and were qualified by the FCC under the Rural Health Pilot Project to receive a subsidy for monthly subscription fees. Free telehealth training for member sites.	High speed, medical grade, HIPPA compliant broadband from 1.5 mgbs-45 mgbs. CTN conducted a competitive procurement. ATT was selected as the vendor to install broadband circuits and individual site routers for the 800 Pilot Project Sites.	CTN is widely expanding broadband access for the state and developing a medical grade telecommunications network.	CTN began their efforts by building the telecommunications infrastructure in the state. The technology services offered include telehealth.
COLORADO: Colorado Telehealth Network (consortium)	<a href="http://www.cotelehealth.com/">http://www.cotelehealth.com/</a>	The Colorado Telehealth Network (CTN) provides broadband connections for Colorado's health care delivery systems. CTN provides a dedicated, secured network with essential connection capabilities for health care data, medical images, and electronic health records.	CTN was formed in 2008 by the Colorado Hospital Association and the Colorado Behavioral Health Council as a result of two FCC grants. Network resulted from a \$10.7 million federal Universal Service Fund award to develop a dedicated, statewide health care broadband network.	More than 200 participating health care providers across Colorado, including hospitals, clinics, behavioral health centers, and an HIE. Majority of member sites are rural.	Low-cost, high-capacity digital bandwidth for enhanced communications systems, including use of electronic health records, televideo, telephone services using the Internet (VoIP), and transmission of high-resolution images in trauma situations.	High-capacity connection to more than 200 health care sites for cost of a single connection.	Connectivity between participating providers and to the Internet and Internet2 via private broadband network. Core services (shared infrastructure) include encryption and advanced routing services.	Potential for increased referrals from and consults to organizations not currently in a provider's referral network.	Network is partnered with the a statewide health information exchange: Colorado Regional Health Information Organization (CORHIO).

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GEORGIA: Georgia Partnership for Telehealth (non-profit)	<a href="http://www.gatelehealth.org">http://www.gatelehealth.org</a>	The goal of the Georgia Partnership for Telehealth (GPT) is to allow all Georgians to have access to specialty consultations without having to travel more than 30 miles from their homes. The program had over 25,000 patient encounters in 2010. More than 175 specialists and health care providers participate, representing over 40 specialties. Georgia's prison system makes heavy use of the technology, saving the department over 30 percent in medical costs.	GPT is a charitable non-profit corporation funded through public and private sources. The statewide Georgia Telemedicine Program began in 2005 through a grant from WellPoint, Inc. Negotiations with Commissioner Oxendine for Anthem and WellPoint Merger resulted in the Rural Health Initiative and \$100M over the next 20 years in rural capital bonds and \$11.5 M in over 3 years for a Statewide Telemedicine Program. The GPT was formed in 2008 to continue the successes of the telemedicine program after Wellpoint's 3 year commitment.	Hospitals, medical centers, community sites, schools, skilled nursing facilities, specialty sites, tele-trauma and stroke sites, corrections.	Services in primary care, trauma, nursing, mental health, child advocacy, school systems, continuing education, consultative services in network design, and telemedicine development and implementation. The program includes centralized scheduling of specialist consultants using a website that tracks open appointment times for panel specialists, so that consults can be requested and scheduled efficiently. GPT has a network of primary and remote stroke treatment centers. Providers are required to be fully licensed in the state of Georgia.	<i>Information not provided</i>	GPT is based on the Open Access Network, a web of access points formed by leveraging existing telemedicine programs in the state and creating access points at additional locations.	Active telemedicine network that includes a centralized scheduling service for specialty consultations.	Savings in medical costs attributable to use of telemedicine by the prison system (departmental savings of over 30 percent in medical costs).
MAINE: Maine Telemedicine Services (non-profit)	<a href="http://mainetelemedicine.org">http://mainetelemedicine.org</a>	Maine Telemedicine Services (MTS) uses video conferencing for administrative, educational, social service, and clinical telemedicine.	The Governor's Office and the Maine Health Access Foundation, an independent charitable corporation that has provided over \$40 million in grants and program support, have been partners to the MTS in expanding telemedicine.	MTS partners with the Eastern Maine Health Care Systems Telehealth Network and the MaineHealth eICU VitalNetwork, as well as state governmental entities such as the Departments of Health and Human Services and Corrections. The network includes over 300 facilities including hospitals, health centers, mental health and social service agencies, nursing homes, community programs, child care centers, and government.	MTS projects include mental health and psychiatry efforts, expanding telemedicine access among correctional and youth correctional facilities, judicial videoconferencing, telepharmacy, home telehealth care (especially mental health care for elders with depression and anxiety), island health care (connecting residents of remote islands along the coast to specialists), video relay (American Sign Language) interpreting services, health care education for doctors and nurses (such as Grand Rounds CME), state telemedicine infrastructure development, and helping other states plan telemedicine programs.	Telemedicine equipment and installation at lower prices than commercial vendors. Service contracts on Polycom telemedicine equipment at greatly reduced rates. Discounted ISDN line costs and support with telephone company. Discounted bridging services for multipoint teleconferencing through MTS bridge.	Open, interoperable statewide network. A video bridge for linking multiple users. In addition to live video conferencing, all video units within the network have the capability of running PowerPoint, VHS and DVD presentations to other sites.	Exploring a variety of use cases for telemedicine, including correctional, judicial, pharmacy, and home health.	Provide assistance to other states planning telemedicine programs.
MISSOURI: Missouri Telehealth Network (public-private partnership)	<a href="http://medicine.missouri.edu/telehealth">http://medicine.missouri.edu/telehealth</a>	The Missouri Telehealth Network (MTN) enhances access to care for underserved areas of Missouri, delivers education for providers, furthers homeland security for disaster preparedness, and provides research opportunities to clinicians to study via telehealth. MTN has over 202 sites in 62 Missouri counties. In FY2010 a total of 6,703 trips were avoided due to telemedicine, totaling 245,608 miles with cost savings of \$662,285 for patients.	MTN began in 1994 as a public-private partnership. A ten site network was developed with federal support from HRSA's Office of Rural Health Policy and private support from telecommunication companies, as well as each telehealth site. The network is now funded with federal, state, and institutional dollars, including financial support from MTN sites.	The MTN network consists of hospitals, federally qualified health centers, community mental health centers, a state habilitation center, critical access hospitals, community hospitals, rural health clinics, and other health care facilities.	MTN has provided services in radiology, mental health, dermatology, and cardiology. In 2011, 69 medical professionals in 29 specialties conducted over 15,386 encounters via video on the MTN. MTN provides: training for start up telemedicine programs in clinical, technical, operational, and legal and regulatory areas. It also provides technical assistance to telehealth networks; business and strategic planning; evaluation of satisfaction, cost analysis, concordance in diagnosis and treatment of various telehealth modalities; telehealth policy activities; educational outreach; and information dissemination. MTN provides an average of 340 Interactive Telehealth Encounters and 720 Teleradiology Exams per month.	MTN members can be Full or Affiliate. A full membership is physically connected to the MTN backbone where affiliate members use the public internet for their video connection.	MTN has a 2 gigabit backbone infrastructure on the MOREnet secure network. This network connects to the Internet via a high-speed intrastate network of six major circuits connecting several major population centers. The six major circuits form the network backbone. MTN sites use the backbone to connect to each other. The MTN uses a semi private network using the Internet Protocol (IP) to deliver two way interactive audio and video for clinical encounters, and data transfer for teleradiology and other store and forward services. The MTN uses T1 (Frame Relay) connections to each site providing dynamic bandwidth allocation for voice, video, and data. MTN sites have the flexibility to call any other MTN site directly in this configuration.	An active network with regular telemedicine encounters between network partners. Experience with a number of telemedicine use cases, including radiology, mental health, dermatology, and cardiology.	Data on cost savings for patients based on avoided travel. In FY2010, cost savings of \$662,285 for patients.

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NEBRASKA: Nebraska Statewide Telehealth Network (collaboration of over 110 sites)	<a href="http://www.netelehealth.net">http://www.netelehealth.net</a>	The Nebraska Statewide Telehealth Network (NSTN) is a statewide secure communications network capable of supporting real-time video-conferencing and communications, data transmission, and telehealth services.	The FCC Rural Health Program administered by the Universal Services Administrative Company (USAC) provides funding to eligible rural sites to offset costs of connectivity. The Nebraska Public Service Commission provides up to \$900,000 per year in support--this funding is available to all not-for-profit urban and rural hospitals and assists in paying for connectivity costs and equipment costs (such as routers, firewalls and bridges). Participating hospitals in rural areas each contribute a minimum of \$100 per month for transmission costs.	Collaboration of over 110 sites, including hospitals, health departments, mental health centers, physician offices, and rural health clinics.	Clinical consultation, support groups, education, and training and connectivity for administrative meetings. Health care professionals can perform physical examinations through the system, using specialized cameras, electronic stethoscopes, and other medical peripheral devices. Network is also designed to improve the readiness of the State to deal with terrorist acts and threats, naturally-occurring disasters, and issues of public health concern by allowing instant communication between the Lt. Governor, the Chief Medical Officer and physicians, hospitals, public health departments, and public health laboratories.	A member has a permanent technological connection to the network. This connection is always engaged and the organization can use it at any time. The NSTN does not assess a membership fee, but members do pay a fee to telecommunications providers for connection to the network.	Private network. Spoke and hub with all hubs connected to backbone that runs length of state. Backbone lines are comprised of bundled T-1s. 26 backbone lines are in place. Each spoke site is connected by a T-1 line, a fiber line or microwave technology to its hub site. Users can connect to other entities outside the network via internet through secure bridge connections, but NSTN is not designed to be a telecommunications provider of voice over IP or internet. Network spoke sites receive assistance in connection from their hub sites, esp for meetings with multiple sites; but any site can connect to any site in the network. All network sites employ routers with firewall and have one or more cameras. Seven of eight hub sites have bridges for multi-point connectivity. Some sites employ peripheral devices. All hub sites have more than one camera for many interactions to take place simultaneously. Many endpoint hospitals have more than one camera: one for clinical, administrative, and educational sessions and one in the emergency department for teleemergency.	A well-developed network designed specifically for telemedicine consultations with advanced services to perform physical examinations.	Considerable detail regarding their network technology and equipment could be instructive.
NEW MEXICO: New Mexico Telehealth Alliance (non-profit)	<a href="http://www.nmtelehealth.org">http://www.nmtelehealth.org</a>	The New Mexico Telehealth Alliance is a network of public and private healthcare organizations providing technical and program support to members to ensure coordinated telehealth services.	<i>Information not provided.</i> (Board members, officers, and executive director are volunteers)	LCF Research, NM Association for Home & Hospice Care, NM Center for Telehealth, NM Coalition for Health Care Leadership Initiatives, NM Health Resources, NM Medical Review Association, NM Primary Care Association, RHIO Grande, Sangre de Cristo Community Health Partnership, The Wellness Coalition, University of New Mexico Center for Telehealth	Clinical Coordination: Identifying healthcare delivery needs, finding organizations to deliver healthcare services, and monitoring the delivery. Technical Coordination: Identifying the proper technical solution for healthcare service delivery including equipment evaluation, telecommunications connectivity, reuse of existing resources, scheduling, network management, support, and maintenance. Health Information Technology: Managing information exchange among healthcare providers and ensuring compliance with federal, state, and other standards. Administrative Services: Reimbursement issues, administrative policy and procedures, and legislative issues.	<i>Information not provided.</i>	The alliance is working with an Australian vendor to bring a remote monitoring kiosk into New Mexico for testing and preliminary deployment. The device will enable physicians to monitor patient parameters such as pulse, blood pressure, and glucose level without an office visit. Likely sites for the devices include senior centers, senior living and assisted living facilities, and community centers. The alliance is also in discussions with Technet and PNM regarding use of the PNM's high-speed network for monitoring power stations and transformers. The network extends through much of the state and has excess capacity that could be used for telehealth and other applications.	Exploring physical examination devices to remotely monitor patients' pulse, blood pressure, glucose levels.	Focus is on coordinating the various telehealth initiatives in the state.
UTAH: Utah Telehealth Network (university-based program)	<a href="http://www.utahtehealth.net">http://www.utahtehealth.net</a>	The Utah Telehealth Network (UTN) uses interactive video to deliver patient care, provide continuing education to health professionals, and facilitate administrative meetings.	Utah Arches project awarded over \$9 million by the FCC to participate in the Rural Health Care Pilot Program to facilitate a nationwide broadband network dedicated to healthcare. Over \$1.5 million in additional funds provided by partners, participating sites, and other sources.	Network connects hospitals, clinics, and health departments.	Videoconferencing and media services include assistance with getting started in telemedicine, real time support with live videoconferencing and webstreaming, and video-on-demand. UTN guides health care providers in developing patient care applications and new continuing education programs. A schedule of live and on-demand educational programs is available to health professionals for viewing. Clinical telemedicine services include patient exams, patient consultations, and follow-up exams. UTN will assist health care providers to develop new clinical telemedicine services.	Rates for videoconferencing services available at: <a href="http://www.utahtehealth.net/services/Service_Pricelist.pdf">www.utahtehealth.net/services/Service_Pricelist.pdf</a>	UTN is a hub and spoke model with a redundant core, connects to the University of Utah Hospital, the University of Utah, Internet2, National Lambda Rail, and the Internet via two one Gigabit Ethernet connections. Most network sites utilize dedicated T1(1.544Mbps) WAN services. Some members use DSL. All WAN services support data, voice, and video communications using IP. With a high speed backbone that incorporates Video Bridge technology, UTN can provide simultaneous connection of three or more participants into one or more videoconferences. Equipment includes cameras, monitors, and codecs as well as room, desktop, PC, and mobile systems. The majority of endpoints use Polycom models, but UTN can support endpoints from major vendors including Tandberg, Lifesize, Radvision and Sony.	Focus on continuing to build and expand the network through collaboration with providers.	Emphasis on providing technical support to healthcare providers, including assistance in getting started with telemedicine.

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VIRGINIA: Virginia Telehealth Network (university-based, non-profit)	<a href="http://ehealthvirginia.org">http://ehealthvirginia.org</a> ; <a href="http://www.healthsystem.virginia.edu/pub/office-of-telemedicine/">http://www.healthsystem.virginia.edu/pub/office-of-telemedicine/</a>	Telemedicine efforts in Virginia are led by the Virginia Telehealth Network (VTN) and the University of Virginia's Office of Telemedicine, which have facilitated visits with thousands of patients and providers in 32 different specialties.	The UVA Office of Telemedicine launched a comprehensive program in 1994 to provide specialty medical care and distance learning to underserved regions. Awarded a HRSA Telehealth Resource Center Grant to serve as a multi-level telehealth resource center in the Mid-Atlantic region. They will build upon and expand the mentoring and program development services provided by the Office of Telemedicine through the Mid-Atlantic Telehealth Resource Center (MATRC). Using this HRSA funding they will seek to further expand telehealth activities in Virginia, North Carolina, Kentucky, West Virginia, Maryland, Delaware, and the District of Columbia.	Anthem Blue Cross Blue Shield; MedVirginia; Richmond Orthopedics; Bath County Community Hospital; Edward Via College of Osteopathic Medicine; Inova Health; Medical Society of Virginia; Riverside Health System; UVA Center for Telehealth; UVA at Wise Foundation; Valley Health; GW University School of Nursing; Southeastern Telehealth; Southwest Virginia Community Health System; Virginia Community Healthcare Association; Virginia Council of Nurse Practitioners; Center for Innovative Technology; Old Dominion University; Virginia Department of Medical Assistance Services	Telemedicine consultations, distance learning for health care professionals, transfer of images, ability to share electronic health records, clinical research, health education applications, and outreach projects. Their Rural Health Care Pilot Project is working to develop a Virginia Acute Stroke Telehealth (VAST) network with the intent to produce a viable stroke model that can be implemented statewide. Virginia is requiring their HIE to offer plans for synergy with the state's telemedicine initiatives. The UVA Office of Telemedicine uses surveys and metrics to collect data from patients, practitioners, and partner sites to assess the quality and satisfaction of telemedicine services. The Office of Telemedicine also mentors fledgling telemedicine programs to develop and expand their networks and services. Telemedicine specialties include: Cardiology, Child & Family Psychiatry, Dermatology, Endocrinology, Gastroenterology, Gynecology, Hepatology, High Risk OB, Infectious Disease, Nephrology, Neurology, Pediatric Cardiology, Pediatric Orthopedics, Psychiatry, Retinopathy, Urology, and Wound Care.	The UVA Office of Telemedicine provides guidance to clinics in becoming a UVA Telemedicine Partner Site. Rates of service are estimated based on requested videoconferencing services.	TV screen, camera, and broadband internet technology. Tandberg and Polycom equipment. The vision for VAST is a robust, secure, and sustainable telemedicine network that has sufficient scalable, high capacity-links communicating from the hubs to the cloud. The goal is to support health care applications of the end-to-end networks to allow for seamless and dynamic routing of data.	Focus on developing a comprehensive stroke network throughout the state.	Effort to integrate the statewide HIE with telemedicine. Expanding telehealth activities to mid-Atlantic states, including Maryland.
WYOMING: Wyoming Telehealth Consortium (consortium)	<a href="http://wyomingtelehealth.org/">http://wyomingtelehealth.org/</a>	The Wyoming Telehealth Consortium (WTC) aims to facilitate the operation of a statewide interoperable telemedicine/telehealth network using existing internet protocol based communication and videoconferencing infrastructure and telecommunication services.	Established in 2009 and given statutory authority by the Wyoming Legislature to coordinate and promote telehealth activities within Wyoming.	Consortium is comprised of members (e.g. department of health, hospital association, medical centers, medical society, health information organization, university, department of corrections, business council, veterans administration, Indian health service, telecommunications association, board of medicine).	Provider directory and informational resources about videoconferencing (e.g. resources to assist providers with setting up and providing telehealth services; resources for hospitals and practitioners to implement the Centers for Medicare and Medicaid Services final rule on privileging and credentialing requirements; telehealth protocols and procedures for cardiology, pediatrics, and stroke).	<i>Information not provided.</i>	Information provided about the Polycom Converged Management Application CMA Desktop System.	Consortium serves as an informational resource to help providers in adopting telemedicine.	Directory of Wyoming telehealth providers, including name, location, specialty, and phone number available on public site.
ONTARIO, CANADA: Ontario Telemedicine Network (non-profit)	<a href="http://otn.ca/en">http://otn.ca/en</a>	The Ontario Telemedicine Network (OTN) develops and supports telemedicine solutions that enhance access and quality of health care, and inspire adoption by health care providers, organizations, and the public. OTN envisions telemedicine as a mainstream channel for health care delivery and education.	OTN is funded by the Government of Ontario.	Academic health science centers, community hospitals, psychiatric hospitals, family health teams, community health centers, clinics, nursing stations, medical and nursing schools, professional organizations, local health integration networks, first nations communities, long-term care homes, educational facilities, public health.	OTN offers scheduling, video conferencing, a telemedicine directory and site finder, tools and guidelines to develop telemedicine programs, and learning events. Includes programs for mental health and addictions, teledermatology, telestroke, teletrauma, teleburn, telehomecare, teleophthamology, aboriginal health access, and telemedicine nursing for delivering clinical telemedicine at member sites.	All plans include private and secure clinical conferencing, with access to more than 3,000 telemedicine systems. Membership fees vary based on type of organization.	Single point of access for videoconferences from room-based systems or from desktop, laptop and/ or mobile devices, using a private and secure Internet connection.	Advanced network offering telemedicine services across wide range of specialties.	Capability for providers to sign up for an account in the telemedicine registry, including a site profile to advertise, coordinate, and manage their telemedicine services (accessible after log-in).