Catalog of Services

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The Utah Telehealth Network (UTN) is proud to offer the following services. For more information call UTN at 801-585-2426 or visit us at www.utahtelehealth.net.

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1. Customer Support

UTN prides itself on our commitment to customer support. We can be reached at:

801-585-2426 office Office hours, 8:00 am – 5:00 pm Monday – Friday
866-525-5622 toll free

801-339-1500 pager Emergency support available 24/7/365

2. Videoconferencing and Media Services

Videoconferencing allows for interactive communication between distant participants. Using cameras, monitors, and codecs, participants can see and hear each other and share documents in real time. UTN's videoconferencing services are used primarily for patient care, educational programs, and meetings, but also support ad hoc events such as job interviews, dissertations, and depositions.

2.1. Videoconferencing Services

UTN is proud of our commitment to customer service. We excel at allowing our users to focus on their meetings and not worry about the technology. We take care of:

Getting started: UTN welcomes the opportunity to introduce videoconferencing to interested individuals and organizations. We can provide overviews of the technology, options for equipment, and demonstrations. UTN will advise on equipment selection and room layout to ensure that the technology is appropriate for the need.

Online scheduling and events calendar through UTED©: Scheduling can also be done over the phone. The online events calendar can be viewed by the day, week, or month, with detail available by clicking on an event.

Pre-conference testing: Pre-conference testing and practice runs ensure that sites and key participants are ready.

Conference set-up: All calls are launched 30 minutes in advance to give participating systems to be connected prior to the conference start-time.

Real time support by UTN staff: Technical support and "just in time training" is provided for participants before and during the conferences via the phone.

Advanced technical support: UTN provides Tier 1 and Tier 2 technical support, trouble-shooting advanced problems with videoconferencing systems. UTN will also advise with the design and assist with the setup for advanced

videoconferencing applications.

Vendor service agreements: For videoconferencing equipment under vendor maintenance through UTN, UTN will liaise and coordinate troubleshooting with vendors; upgrade software and hardware as covered under vendor agreements.

2.2. Bridging Services

Video Bridges provide simultaneous connection of multiple participants into one or more videoconferences. Bridging supports a variety of videoconferencing applications.

Videoconferencing standards: Participants may connect using Internet Protocol (H.323) in standard or high definition format or the older ISDN (H.320) services in standard definition only.

Bridging capacity: As of Q2 2009, UTN will have the bridging capacity to connect up to 100 sites simultaneously.

Screen views: Bridging allows for features such as continuous presence ("Hollywood squares") and lecture mode to be used in a videoconference.

Dual stream: Allows participants to both presenter and presentation separately but simultaneously. The ability to take advantage of this feature is contingent upon the user's endpoint equipment.

Audio connections: Bridging also supports audio only connections into a videoconference by using a telephone.

Recording of videoconferences: UTN has implemented systems that provide for high quality recording and editing of videoconferences (see 2.4).

Rebroadcasting: Recorded videoconferencing events can be rebroadcast via videoconferencing, as requested, either as a regularly scheduled program or on an ad hoc basis. Of course, recorded events can also be seen at the viewer's convenience via web streaming (see 2.3).

Technical support: UTN provides technical support before, during, and after videoconferences. Non-members that wish to videoconference with members through the bridge may be charged an hourly technical support fee during testing.

2.3. Web Streaming

UTN offers a wide range of programming in the form of Web Streaming, which is the broadcast of video/audio content using the Internet. This is a one-way feed and is offered in two different modes:

Live Web Casts which allow an individual or group to view a presentation without the need for special Videoconference equipment. The live web cast can be accessed using a PC, Mac or Laptop connected to the Internet.

Video on Demand allows for the delivery of presentations or other events that have been recorded and stored on a central server and are available to users at their own leisure. These presentations have been recorded at different speeds to cater for varying internet access speeds and this permits the user to view a quality presentation regardless of the internet bandwidth they have.

2.4. Recording & Archiving

UTN records, edits and makes available presentations and other events transmitted over its network. These presentations are recorded with the express permission of the individuals or organizations involved and stored either on DVD and/or a central library server. The recordings are stored at different speeds permitting quality online playback regardless of the internet bandwidth available to the user. Following are the recording services offered:-

Digital recording of videoconference or live web casts. For critical events, an analog recording system may also be used as a back-up.

Production: Basic editing, transcoding, and encoding prepares the recording for viewing using Windows Media.

Archiving of programs for later use. Presenters determine how long their events are to be archived.

Produce CDs for viewing on computers using Windows Media

Produce DVDs

Produce Video on Demand access:

- Recordings are made available for viewing through the Internet using Windows Media.
- Menus Groups can be set up to store related programs together. These Groups can be edited or updated.
- Web links are created from the customer's and/or UTN's web sites. UTN can also assist customers in the creation of a web page for accessing their Video on Demand events.

3. Patient Care Telemedicine – Development & Delivery

A variety of patient care applications are delivered via telemedicine using the Utah Telehealth Network. These may be delivered using one or more of these technologies: videoconferencing; store-and-forward, such as teleradiology or the transmission of echocardiograms; and remote monitoring. UTN staff facilitates the development of new clinical applications by assisting health care providers with the following:

3.1. Planning - Analysis & Recommendations

Many patient care services can be adapted to be delivered at a distance. The time and energy of planning is essential to successful telemedicine applications

Needs Assessment and Organizational Analysis

Elements included at this stage are the proposed clinical application; the target population; workflow; and organizational structure.

Infrastructure Assessment

Based upon the specifics of the clinical application, UTN will assess network connectivity; existing equipment, if any; physical space for conducting telemedicine encounters.

Equipment recommendations

UTN will make recommendations for equipment, network upgrades, and room layout and setup.

Administrative details

UTN can provide sample patient consent forms; review procedures for maintaining patient privacy and security; and provide information on pertinent topics such as coding and reimbursement for the patient encounters as well as licensing and credentialing for providers.

3.2. Implementation

UTN can facilitate all steps in the implementation process.

Protocol Development

UTN will work with health care providers to modify existing in-person patient visit processes to work in a telemedicine setting when the patient is at a different location than the specialist. The goal of telemedicine protocols is to ensure that providers at both locations have a similar understanding of what will occur and how to work together.

Training

UTN can provide and/or coordinate training for health professionals and personnel at both ends of the encounter.

Training covers using the technology and practicing “mock” patient visits prior to seeing patients, and as a review as needed, so that health care providers are comfortable delivering services via telemedicine on their own.

Technical support: UTN will assist with new equipment setup and testing, security implementation, scheduling and connecting. UTN will be on site (actually nearby, but not in the same room to protect patient privacy) and available as new implementations are launched. UTN is available 24/7 to troubleshoot problems once the new applications have been implemented.

3.3. Evaluation

This is an ongoing effort of continuous improvement which includes input, feedback, site visits, and periodic reviews. Evaluation can be a formal or informal process, but the goal remains the same.

A variety of Telemedicine Specialties have been deployed using the Utah Telehealth Network. These include but are not limited to Radiology, Stroke, Burn, Dermatology, Hepatitis, Neurosurgery, Orthopedics, Cardiology, Psychiatry and Pharmacy.

4. Educational Program Services

The Utah Telehealth Network partners with several organizations and institutions to deliver interesting, dynamic and timely educational opportunities to healthcare providers and consumers throughout Utah and surrounding areas. Educational programs, which include academic, continuing education, and training for health care providers, may be delivered through videoconferencing, web streaming, or both, live or on demand. UTN educational program services are:

4.1. Educational Programs Available for Viewing:

Many of the educational programs delivered via UTN are open to participation by any interested health care provider. Registration information for these programs can be found on UTN’s website.

Educational series: Many educational events are run as series, either weekly or monthly. These include series originating within UTN or provided by partner networks around the region. Examples of educational series available to health care providers include the Diabetes Brown Bag series presented by the Utah Diabetes Prevention and Control Program; Primary Children’s Pediatric Grand Rounds; and the University of Utah’s Trauma Update Grand Rounds, EMT Trauma Grand Rounds and Family Practice Grand Rounds. HIPAA Refresher training is provided on an annual basis.

One time events: Organizations occasionally have one time educational events broadcast over UTN, either to specified audiences or available to interested providers. Examples include conference proceedings and training programs.

Academic courses: UTN delivers live interactive University of Utah College of Nursing graduate courses to students in non-traditional academic settings such as their homes.

By request: UTN will facilitate ad hoc and special requests for educational programs as requested.

4.2. The Development of New Educational Programs

UTN staff partners with departments and organizations to add new educational programs available via UTN.

Planning distance education programs

Whether the goal is to extend existing educational programming to distant sites, or develop a special offering, UTN can walk educators through the process of providing education at a distance.

- Infrastructure assessment and recommendations: Based upon the specifics of the program, UTN will assess network connectivity; existing equipment, if any; and physical space to determine readiness for delivering programs. In needed, UTN will make recommendations for equipment, network upgrades, and room layout and setup.
- Broadcast options: UTN can work with educators to determine the most effective modalities (i.e. videoconferencing, web streaming, video on demand, etc) for delivering programs.
- Administrative details: UTN can provide guidance on the processes of registering participants, disseminating materials, and offering CME or CEUs credit for distance education.

Implementation

UTN can facilitate all steps in the implementation process.

- Training: UTN will provide guidelines for effective power point presentations for distant audiences. UTN is available to train program organizers or presenters.
- Promotion**:** If desired, UTN will market educational programs to the telehealth community in Utah and the intermountain west.
- Technical support: UTN will participate in the development of the technical aspects of the educational events; testing; scheduling and connecting sites; monitoring and troubleshooting, as needed.

Evaluation

This is an ongoing effort of continuous improvement which includes input, feedback, site visits, and periodic reviews. Evaluation can be a formal or informal process, but the goal remains the same. .

5. Networking Services

UTN delivers Wide Area Network (WAN) services to its member health care facilities in support of their operations, health information technology and telehealth applications.

5.1. Dedicated Circuits

UTN provides leased circuits to healthcare facilities starting at speeds of 1.5 Megabits per second (Mbps). UTN manages these circuits, including the provisioning, monitoring, and maintenance of one firewall, router and Ethernet switch per circuit. Services related to these dedicated circuits are:

Extension to Satellite Facilities
Many health care providers with dedicated circuits to UTN also have satellite clinics or offices to which they need to connect. Whether UTN provides the connectivity or not, if the router and firewall at the satellite site are linked directly to the UTN-managed router and firewall for the main site, UTN will manage these devices at the satellite site as well. Connections between a main site and its satellite location require a secure connection. UTN will build secure network connections (virtual private networks) between the facilities.

Network Interoperability
Some health care facilities have UTN and non-UTN networks within the same facility. UTN will coordinate connectivity with local technicians to configure network elements so that UTN and other services operate efficiently and without conflicts.

Local Area Network Assistance
Generally, UTN does not support, and is not responsible, for Local Area Networks (LANs). However, at the request of the local technician, UTN will assist with configuring or troubleshooting a LAN.

5.2. Security Services

As a network of unrelated health care facilities, UTN understands the importance of protecting network and information security, particularly as it relates to HIPAA privacy and security. UTN has developed a suite of security services that cater for and can be adapted to members' business requirements. This includes encryption, web content filtering and firewall provisioning, all designed to help protect against malware, spyware, Internet attacks and operating system vulnerabilities. This service includes regular vulnerability scans of the network to help identify and fix any weaknesses that would normally be exploited by hackers if left unattended. UTN will also create secure connections from member to non-member facilities.

Vulnerability scanning
Regular vulnerability scanning identifies any weaknesses that could be exploited by hackers if left unattended. Both the UTN WAN and member site LANs are scanned. Results are shared with the technicians at the health care facilities. Both UTN and the health care facilities address any vulnerabilities identified through the scanning.

Encryption services
UTN configures and supports site-to-site Virtual Private Networks (VPNs) to secure data between sites and restrict access to specific information or devices. UTN also offers a user access VPN (SSL-VPN) for individuals to access sites within UTN. Finally, UTN assists in setting up videoconferencing encryption as well as software VPNs used for other health information technology applications.

Web filtering
Web filtering allows sites to enforce Internet use policies, blocking specific web sites. Web filtering can improve network performance by restricting bandwidth for unnecessary use.

Firewall provisioning
Much of network security is accomplished by provisioning firewalls, a service managed by UTN.

5.3. Technical Support

In collaboration with local technicians, UTN engineers support and secure all aspects of the network.

24/7/365 Network monitoring and support
For network connections and telemedicine services requiring it, UTN provides 24/7 network monitoring and on-call support. UTN staff receives automatic alerts when network connections are lost in order to these address outages on a timely basis. UTN staff is also available 24/7 by pager to support emergency telemedicine services. When alerted or paged, UTN will respond within 15 minutes of the notification.

Network design and implementation
As requested, UTN will plan and design new network connections, as well as the enhancement of existing network circuits. UTN coordinates the installation of new circuits and the installation and configuration of the associated network equipment.

Network and security management
UTN manages a router, firewall, and switch at each site as well as maintaining the network core. UTN uses several tools to monitor the health of network circuits and equipment. Beyond making sure that the circuits are up, UTN monitors bandwidth allocation, network vulnerabilities, and other data to ensure seamless operation of the network. These data are used to proactively address network and security issues for both short term fixes and long term solutions.

Vendor service agreements: For network equipment under vendor maintenance through UTN, UTN is the first point of contact for problems. UTN will liaise and coordinate troubleshooting with vendors; upgrade software and hardware as covered under vendor agreements.

5.4. Ancillary services

These are additional optional services which can be delivered via UTN.

E-mail Services
UTN partners with a third party provider to deliver HIPAA compliant secure e-mail services to its Members. Basic email includes POP3 client access, web access, anti-SPAM, anti-virus, and 128-bit encryption while stored, collaboration tools (e.g. Calendars, Distribution lists). Sites can have individual identity by domain name and the ability to manage their own users, passwords and storage requirements. Optional services include encryption to e-mail to any location, PDA integration, and additional storage.

Health Information Technology (HIT) application support
In collaboration with local technicians and, as needed, vendors, UTN facilitates the secure sharing of HIT applications and patient data between health care providers. Today this most often occurs with PACS image transfer. As this

becomes a more integral component of health care, it will become a more significant service.

6. Value Added Services

6.1. Universal Service Rural Health Care Program management

The Universal Service program provides significant discounts on telecommunication lines for eligible rural health care facilities, making connectivity more affordable. With years of experience and expertise in the processing of required annual forms and follow, UTN manages the annual application process for eligible health care facilities to ensure that full discounts are realized.

6.2. Consulting

UTN has expertise and experience in many aspects of telehealth: telehealth program development, clinical application development, technical planning, deploying video networks, software evaluation and implementation, and more. Consulting may include recommendations for the purchase of new videoconferencing endpoints or advanced networking solutions. These services provide clients with the documentation and support to make informed decisions.

6.3. Customized Training

Training is part of the process when adding new videoconferencing systems, patient care applications, and educational programs. Refresher training may be requested as needed. Additional training on a variety of topics is available. Upon request, customized training can be provided to meet the needs of a particular audience.

6.4. New Customer Support

UTN assists new customers by providing the expertise to evaluate their unique requirements and provide a solution that fits their technical requirements, business model and budget.

6.5. UTED© - Utah Telemedicine Enterprise Database

Developed in-house to support UTN's operations, UTED© is available to other telehealth networks as an open source application. UTED© modules cover sites, contacts, network, inventory, scheduling and calendaring.