AMERICAN TELEMEDICINE ASSOCIATION
TELEMEDICINE TECHNOLOGY SUMMIT

TELEMEDICINE/TELEHEALTH TERMINOLOGY

TELEMEDICINE/TELEHEALTH TERMS:

Distant Site:
The Centers for Medicare and Medicaid Services (CMS) define the distant site as the telehealth site where the provider/specialist is seeing the patient at a distance or consulting with a patient's provider. Others common names for this term include – hub site, specialty site, provider/physician site and referral site.

Digital Camera (still images):
A digital camera is typically used to take still images of a patient. General uses for this type of camera include dermatology and wound care. This camera produces images that can be downloaded to a PC and sent to a provider/consultant over a network.

Document Camera:
A camera that can display written or typed information (e.g., lab results), photographs, graphics (e.g., EKG strips) and in some cases X-Rays.

Originating Site:
CMS defines originating site as the site where the patient and/or the patient's physician is located during the telehealth encounter or consult. Other common names for this term include – spoke site, patient site, remote site, and rural site.

Patient Exam Camera (video):
This is the camera typically used to examine the general condition of the patient. Types of cameras include those that may be embedded with set-top videoconferencing units, handheld video cameras, gooseneck cameras, camcorders, etc. The camera may be analog or digital depending upon the connection to the videoconferencing unit.

Presenter (Patient Presenter):
Telehealth encounters require the distant provider to perform an exam of a patient from many miles away. In order to accomplish that task an individual with a clinical background (e.g., LPN, RN, etc) trained in the use of the equipment must be available at the originating site to "present" the patient, manage the cameras and perform any "hands-on" activities to successfully complete the exam. For example, a neurological diagnostic exam usually requires a nurse capable of testing a patient's reflexes and other manipulative activities. It should be noted that in certain cases (e.g., some dermatology or mental health encounters) a presenter with a clinical background is not always necessary, because the encounter may only require camera management skills.

Store and Forward (S&F):
S&F is a type of telehealth encounter or consult that uses still digital images of a patient for the purpose of rendering a medical opinion or diagnosis. Common types of S&F services include radiology, pathology, dermatology and wound care. Store and forward also includes the asynchronous transmission of clinical data, such as blood glucose levels and electrocardiogram (ECG) measurements, from one site (e.g., patient's home) to another site (e.g, home health agency, hospital, clinic).

Universal Service Administrative Company (USAC):
The Universal Service Administrative Company administers the Universal Service Fund (USF), which provides communities across the country with affordable telecommunication services. The Rural Health Care Division (RHCD) of USAC manages the telecommunications discount program for health care.

TELECOMMUNICATION/NETWORKING TERMS:

Asynchronous:
This term is sometimes used to describe store and forward transmission of medical images or information because the transmission typically occurs in one direction in time. This is the opposite of synchronous (see below).

Bandwidth:
A measure of the information carrying capacity of a communications channel; a practical limit to the size, cost, and capability of a telemedicine service.

Broadband:
Communications (e.g., broadcast television, microwave, and satellite) capable of carrying a wide range of frequencies; refers to transmission of signals in a frequency-modulated fashion, over a segment of the total bandwidth available, thereby permitting simultaneous transmission of several messages.

CODEC:
Acronym for coder-decoder. This is the videoconferencing device (e.g., Polycom, Tandberg, Sony, Panasonic, etc) that converts analog video and audio signals to digital video and audio code and vice versa. CODECs typically compress the digital code to conserve bandwidth on a telecommunications path.

Compressed video:
Video images that have been processed to reduce the amount of bandwidth needed to capture the necessary information so that the information can be sent over a telephone network.

Digital Imaging and Communication in Medicine (DICOM):
A standard for communications among medical imaging devices.

DS1 (T1):
A digital carrier capable of transmitting *1.544* Mbps of electronic information. The general term for a digital carrier available for high-value voice, data, or compressed video traffic.

DS3 (T3):
A carrier of *45* Mbps

Electronic Data Interchange (EDI):
The sending and receiving of data directly between trading partners without paper or human intervention.

Encryption:
The rearrangement of the "bit" stream of a previously digitally encoded signal in a systematic fashion to make it unrecognizable until restored by the necessary authorization key. This technique is used for securing information transmitted over a communication channel with the intent of excluding all other than the authorized receivers from interpreting the message.

Firewall:
Computer hardware and software that block unauthorized communications between an institution's computer network and external networks.

H.320:
This is the technical standard for videoconferencing compression standards that allow different equipment to interoperate via T1 or ISDN connections.

H.323:
This is the technical standard for videoconferencing compression standards that allow different equipment to interoperate via the Internet Protocol (see below).

H.324:
This is the technical standard for videoconferencing compression standards that allow different equipment to interoperate via Plain Old Telephone Service (POTS).

Health Level-7 Data Communications Protocol (HL-7):
Defines standards for transmitting billing, hospital census, order entries, and other health-related information.

Interactive Video/Television:
This is analogous with video conferencing technologies that allow for two-way, synchronous, interactive video and audio signals for the purpose of delivering telehealth, telemedicine or distant education services. It is often referred to by the acronyms – ITV, IATV or VTC (video teleconference).

Integrated Services Digital Network (ISDN):
This is a common dial-up transmission path for videoconferencing. Since ISDN services are used on demand by dialing another ISDN based device, per minute charges accumulate at some contracted rate and then are billed to the site placing the call. This service is analogous to using the dialing features associated with a long distance telephone call. Who ever dials, pays the bill.

ISDN Basic Rate Interface (BRI):
This is an ISDN interface that provides 128k of bandwidth for videoconferencing or simultaneous voice and data services. Multiple BRI lines can be linked together using a multiplexer (see below) to achieve higher bandwidth levels. For instance, a popular choice among telehealth networks is to combine 3 BRI lines to provide 384k of bandwidth for video-conferencing. It should be noted that BRI services are not available in some rural locations. One should check with their telecommunications providers on the availability of BRI service before ordering videoconferencing equipment that uses this type of service.

ISDN Primary Rate Interface (PRI):
This is an ISDN interface standard that operates using 23, 64k channels and one 64k data channel. With the proper multiplexing equipment the ISDN PRI channels can be selected by the user for a video call. For instance if the user wants to have a videoconference at 384k of bandwidth then they can instruct the multiplexer to use channels 1 through 6 (6 x 64k = 384k). This is important because the user typically pays charges based on the number of 64k channels used during a videoconference. The fewer channels used to obtain a quality video signal the less expensive the call.

Internet Protocol (IP):
IP is part of the protocols describing the software that tracks the Internet address of outgoing and incoming messages. Most of today's videoconferencing devices have the capability to use IP as a video protocol (see H.323 above). The IP address of a videoconferencing system is its phone number.

Multiplexer (MUX):
A device that combines multiple inputs (ISDN PRI channels or ISDN BRI lines) into an aggregate signal to be transported via a single transmission path.

Multipoint Control Unit (MCU):
A device that can link multiple videoconferencing sites into a single videoconference. An MCU is also often referred to as a "bridge".

POTS:
Acronym for Plain Old Telephone Service

Router:
This is a device that interfaces between two networks or connects sub-networks within a single organization. It routes network traffic between multiple locations and it can find the best route between any two sites. For example: PCs or H.323 videoconferencing devices tell the routers where the destination device is located and the routers find the best way to get the information to that distant point.

Switch:
A switch in the videoconferencing world is an electrical device that selects the path of the video transmission. It may be thought of as an intelligent hub (see hub above) because it can be programmed to direct traffic on specific ports to specific destinations. Hub ports feed the same information to each device.

Synchronous:
This term is sometimes used to describe interactive video connections because the transmission of information in both directions is occurring at exactly the same period.

Telehealth and Telemedicine
Telemedicine and telehealth both describe the use of medical information exchanged from one site to another via electronic communications to improve patients' health status. Although evolving, telemedicine is sometimes associated with direct patient clinical services and telehealth sometimes associated with a broader definition of remote healthcare and is sometimes also perceived to be more focused on other health related services.

Transmission control protocol/Internet protocol (TCP/IP):
A communications protocol governing data exchanged on the Internet.