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Fact Sheet

VHA CLINICAL VIDEO TELEHEALTH TECHNOLOGY

Technology Overview

Clinical Video Telehealth (CVT) technology in VA is videoconferencing-based and enables patient and provider participants at separate locations to see and hear each other, and interact in real-time. CVT requires high-speed connections (high bandwidth) between sites because of the volume of data that is exchanged. There are essentially two types of CVT technology: dedicated CVT systems illustrated below, and more recently, web cameras and personal computers running videoconferencing software for secure encrypted CVT.

CVT systems are often equipped with diagnostic peripherals (e.g., otoscopes, dermoscopes, close-up exam cameras) and auxiliary document cameras that can be integrated into the videoconference so that dynamic clinical video or static x-rays, cardiology traces and other information can be incorporated into the clinical encounter.

CVT is especially useful for:

- General medicine and several specialty care areas
- Mental Health
- Situations involving barriers to access, such as distance, geography, climate, cost, etc.
- Situations where motion contributes to diagnosis and/or treatment
- Situations where it enables or improves effective patient-provider communication

Technology Components

A Clinical Video Telehealth system has six major components, and compatible Clinical Video Telehealth systems are required on both ends of the video call:

1. CODEC

CODEC is short for Coder-Decoder. The CODEC compresses (codes) the two-way audio and video streams so that they can be sent over the



communications link, then decodes incoming signals from the far side. CODECs can be dedicated hardware "boxes" running proprietary software, or can be based on a personal computer.

2. Video Camera

The CVT system camera and Web cam for computers are specially designed for videoconferencing applications. Some offer pan (side to side) and tilt (up and down) controls so that the user can easily point the camera at the appropriate subject. It also offers control of the zoom for a wider or tighter angle of view. The CVT systems provide multiple camera connections to facilitate additional specialized diagnostic cameras. Many systems allow control of the camera on the far end of the connection. This is especially useful because the consultant has direct control over the view so the consultant can frame the subject as needed. Far end camera control has become standard on newer systems.

3. Video Monitor

Each CVT system has at least one video monitor. Systems with a dedicated CODEC most often use a standard video monitor. Computer-based CODECs generally use a computer monitor, although some newer systems use a combination of one video monitor and one computer monitor for data display.

4. Microphone

Each end has at least one microphone to pick up the sound for transmission to the far end.

5. Speakers

Speakers allow the user to hear the sound from the far end.

6. Accessories

CVT system accessories are available for virtually any specialized application. Some key accessories often used in telehealth applications include document cameras to share ECG's, x-rays, graphs and other static materials. Diagnostic peripherals adapted for use with videoconferencing equipment include dermascope, ENT scope, digital stethoscope, still camera, etc.

Website/Links:

Learn more about VHA Clinical Video Telehealth on the VHA Telehealth Services Web site at <http://www.telehealth.va.gov/real-time/index.asp>