

Technology Overview

by Capella Healthcare



WHAT'S COVERED

In this lesson, you will learn about different types of telehealth technology. Specifically, this lesson will cover:

1. Synchronous Video Software (Videoconferencing)
2. Hardware
3. Mobile Technologies
4. Telehealth Room Space



HINT

Please refer to the *Telehealth: Technical Requirements* course for complete details on this topic.

1. Synchronous Video Software (Videoconferencing)

Videoconferencing can be accomplished with a fixed camera and video systems or mobile telehealth stations (such as a camera and laptop system that can be moved from room to room). Desktop video conferencing systems use software on a personal computer along with a webcam, microphone, speakers, or a headset. Mobile devices, such as tablet computers and mobile phones, are increasingly used for videoconferencing-based telehealth services.

2. Hardware

General hardware requirements include a desktop computer, laptop or tablet, high definition video camera, and audio system. An existing laptop or desktop computer can serve as the foundation of a simple system suitable for most videoconferencing visits by adding a USB webcam and a USB microphone.

Regardless of the manufacturer, videoconferencing equipment should meet specified HIPAA requirements as well as patient privacy and data security requirements consistent with applicable local guidelines.

3. Mobile Technologies (mHealth)

Mobile devices (i.e., smartphones and tablets) provide capabilities for both synchronous and asynchronous telehealth. A principal benefit of mobile technology is that it provides a cost-effective way to increase the potential sites of service for both the client/patient and healthcare service provider. Smartphone and tablet devices that have video camera capabilities may be used as mobile videoconferencing devices if electronic data security requirements are met. Some mobile devices can also be used to connect to external hardware devices such as biofeedback or health monitoring sensors.

4. Telehealth Room Space

The physical space that is used for telehealth services does not need to be specialized as long as basic requirements are met. When using videoconferencing equipment to provide services, the spaces at both the originating and distant sites should be adequately lit. The lighting may need to be adjusted to ensure that the client/patient's face and that of the service provider is sufficiently illuminated. Keep in mind that how the camera picks up the image may be different (washed out, too much contrast, too dark, etc.) than how it appears when in-person. It is therefore important to test the image quality and to make sure that it is adequate at both ends of the connection.

The space should also provide adequate acoustic isolation to assure privacy and to limit distracting noise from the outside. Acoustic treatments (sound barriers/absorbers, etc.) may be helpful. A white noise sound generator placed on the outside of the room may also be helpful to mask voices inside of the space (for privacy). Discussion regarding how to schedule the space to reduce the risk for disruptions is also recommended. This may be especially a concern in home-based care services whereby family members, roommates, pets, or other disruptions may impact sessions.

The camera at both the distant and originating site should have sufficient resolution to capture detailed images. Microphones should be placed close enough to the person during the telehealth encounter. If there is too much noise, the provider can mute the microphone and call the patient. It is important to test the quality of the video and audio connections prior to starting the clinical session.

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Support

If you are struggling with a concept or terminology in the course, you may contact **TelehealthSupport@capella.edu** for assistance.

If you are having technical issues, please contact **learningcoach@sophia.org**.