



American Telemedicine Association

## What Is Telemedicine & Telehealth?

- A radiologist interprets medical images coming from four clinics across the state.
- A surgeon operates on a patient located 300 miles away.
- A nurse takes the blood pressure of a homebound patient without ever leaving the office.
- A cardiologist sees and checks up on a heart transplant patient while away on a business trip.

These are all examples of telemedicine, a not-so-new technology that is slowly transforming the way healthcare is delivered. Involving the use of telecommunications technology to improve patient care, telemedicine may include sending medical images to a specialist for interpretation, a live two-way video consult between patient and provider, capturing and sending data from vital sign monitoring devices and incorporating all of these into electronic medical records.

Starting out with federally funded demonstrations to hospitals for extending care to patients in remote areas, the use of telemedicine has spread to become integrated into the ongoing operations of emergency rooms, ambulatory care facilities, radiology departments, home health agencies and private physician offices.

Taking advantage of new developments in telecommunications, lowered technology costs and the establishment of the Internet, the growth of telemedicine over the next five to ten years may have a profound and revolutionary effect on the delivery of medical care throughout the world.

Telemedicine is the use of medical information exchanged from one site to another via electronic communications to improve patients' health status. Closely associated with telemedicine is the term "telehealth," which is often used to encompass a broader definition of remote healthcare that does not always involve clinical services. Videoconferencing, transmission of still images, e-health including patient portals, remote monitoring of vital signs, continuing medical education and nursing call centers are all considered part of telemedicine and telehealth.

### **Why Telemedicine?**

- **Improved Access** – For over 40 years, telemedicine has been used to bring healthcare services to patients in distant locations. Not only does telemedicine improve access to patients but it also allows physicians and health facilities to expand their reach, beyond their own offices.
- **Cost Efficiencies** - Reducing or containing the cost of healthcare is one of the most important reasons for funding and adopting telehealth technologies. Telemedicine has

been shown to reduce the cost of healthcare and increase efficiency through better management of chronic diseases, shared health professional staffing, reduced travel times, and fewer or shorter hospital stays.

- Patient Demand - Consumers want telemedicine. The greatest impact of telemedicine is on the patient, their family and their community. Using telemedicine technologies reduces travel time and related stresses to the patient. Over the past 15 years study-after-study has documented patient satisfaction and support for telemedical services. Such services offer patients the access to providers that might not be available otherwise as well as medical services without the need to travel long distances.

### **Defining Telemedicine**

Telemedicine is not a separate medical specialty. Products and services related to telemedicine are often part of a larger investment by health care institutions in either information technology or the delivery of clinical care. Even in the reimbursement fee structure, there is usually no distinction made between services provided on site and those provided through telemedicine and often no separate coding required for billing of remote services.

**Telemedicine encompasses many different types of programs and services provided for the patient.**

### **Types of Services**

The term telemedicine encompasses an array of services

- ◆ Specialist and primary care consultations may involve a patient “seeing” a health professional over a live video connection or it may use diagnostic images and/or video along with patient data to a specialist for viewing later. This may be used for primary care or for specialist referrals. Recent surveys have shown a rapid increase in the number of specialty and subspecialty areas that have successfully used telemedicine. Major specialty areas actively using telemedicine include: dermatology, ophthalmology, mental health, cardiology and pathology. According to reports and studies, almost 60 different medical subspecialties have successfully used telemedicine.
- ◆ Imaging services such as radiology continues to make the greatest use of telemedicine with thousands of images “read” by remote providers each year. Digital images, sent to the specialist over broadband networks, are diagnosed with a report sent back. Radiology, pathology and cardiology are all using telemedicine to provide such services. It is estimated that over 400 hospitals in the United States alone outsource some of their medical imaging services.
- ◆ Remote patient monitoring uses devices to remotely collect and send data to a monitoring station for interpretation. Such “home telehealth” applications might include using telemetry devices to capture a specific vital sign, such as blood glucose or heart ECG or a more sophisticated device to capture a variety of indicators for homebound patients. Such services can be used to supplement the use of visiting nurses.
- ◆ Remote medical education and consumer information can include a number of activities including: continuing medical education credits for health professionals and special medical education seminars for targeted groups in remote locations; the use of call centers and Internet Web sties for consumers to obtain specialized health information and on-line discussion groups to provide peer-to-peer support.

## Delivery Mechanisms

Just like the array of services, the way the health information is organized and delivered covers a wide array of approaches:

- ◆ Networked programs link tertiary care hospitals and clinics with outlying clinics and community health centers in rural or suburban areas. The links may use dedicated high-speed lines or the Internet for telecommunication links between sites. Based on studies conducted by several agencies within the federal government and other assessments by commercial vendors and ATA, it is estimated that there are about 200 telemedicine networks in the United States involving close to 3,500 medical and healthcare institutions throughout the country. Some are more active than others and many combine clinical services with continuing education programs as well.
- ◆ Point-to-point connections using private networks are used by hospitals and clinics that deliver services directly or contract out (out sourced) specialty services to independent medical service providers at ambulatory care sites. Radiology, mental health and even intensive care services are being provided under contract using telemedicine to delivery the services.
- ◆ Primary or specialty care to the home connections involves connecting primary care providers, specialists and home health nurses with patients over single line phone-video systems for interactive clinical consultations.
- ◆ Home to monitoring center links are used for pacemaker, cardiac, pulmonary or fetal monitoring, home care and related services that provide care to patients in the home. Usually normal phone lines are used to communicate directly between the patient and the center although some systems use the Internet. It is estimated that over 200,000 patients use such services in the United States alone.
- ◆ Web-based e-health patient service sites provide direct consumer outreach and services over the Internet. Under telemedicine, these include those sites that provide direct patient care.

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### **About the American Telemedicine Association**

The American Telemedicine Association is the leading resource and advocate for telemedicine. ATA is a non-profit association established in 1993 and headquartered in Washington, DC. The Association works closely with medical societies, technology groups, industry leaders, elected officials and others to resolve barriers to the advancement of telemedicine through the professional, ethical and equitable improvement in health care delivery.

ATA is guided through the active involvement of over 2,000 professionals and corporate members. The Association holds the world's largest meeting and commercial exposition focusing exclusively on telemedicine and sponsors a scientific journal regarding the field. For further information, visit the ATA web site at [www.americantelemed.org](http://www.americantelemed.org).

**American Telemedicine Association**  
**1100 Connecticut Avenue NW, Suite 540**  
**Washington, DC 20036**  
**202-223-3333**  
[info@americantelemed.org](mailto:info@americantelemed.org)