NOSORH
National Organization of
State Offices of Rural Health

Telehealth
Resource Centers

Telehealth: The Big Picture

FREQUENTLY ASKED QUESTIONS

WHAT IS TELEHEALTH? Telehealth is the use of electronic information and telecommunications technology to support:

THE DELIVERY OF HEALTH ➤ PATIENT AND PROFESSIONAL HEALTH EDUCATION ➤ PUBLIC HEALTH ➤ HEALTH ADMINISTRATION

HOW IS TELEHEALTH DELIVERED? Telehealth is primarily delivered in four ways:

VIDEOCONFERENCING (Synchronous): Live two way interaction between a patient/client and a health professional. Examples include telepsychiatry, telepractice (speech therapy), and tele-stroke.


STORE AND FORWARD (Asynchronous): Transmission of pre-recorded digital information (images, pictures, video) through a HIPAA-secure electronic communications system to a health professional who uses the information to evaluate the case or render a service. Examples include tele-radiology, tele-dermatology, and diabetic retinopathy screening

REMOTE PATIENT MONITORING: Collection and wireless transmission of health and medical data (e.g., blood pressure, glucose, weight, pulse, blood oxygen, peak flow) from an individual at one location to a health care provider or call center in a different location for use in patient care. Use cases include chronic disease management, patient engagement/education, and prevention of hospital readmissions within 30 days of discharge.

MOBILE HEALTH (mHealth): Health care, education and public health practice supported by mobile apps and mobile communications devices such as cell phones and tablets. Applications can range from targeted text messages that promote healthy behavior (e.g., medication and appointment reminders) to wide-scale alerts about disease outbreaks to gamification of health to encourage healthy behaviors and practices (e.g., exercise, nutrition, tooth-brushing).

WHAT ARE THE DIFFERENT MODELS OF TELEHEALTH? Telehealth has been in existence for over 25 years, and models of telehealth have changed over time. Telehealth models fit into three broad categories:

HUB AND SPOKE
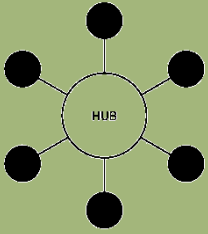
When telehealth first began, the model was predominantly hub and spoke and primarily involved specialty care consults between large tertiary care centers and smaller rural hospitals. The tertiary care center would be considered a "hub". Specialists at the hub site would provide consultation to patients at one or more small rural hospitals called "spokes". Examples of services provided using this model include tele-stroke, tele-burn, and tele-cardiology.

NETWORK OF NETWORKS
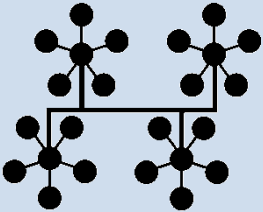
Over time, technology improved, bandwidth increased, and costs decreased. Health care systems also began to shift their priorities around "health reform", with a focus on reducing costs, providing better care, and ultimately improving health outcomes. Coordination of care and the ability to manage chronic and life style diseases became a necessity. As a result, the promise of telehealth expanded its reach to include community health centers, private practices, school based health clinics, and other facilities (both traditional and nontraditional). Health care facilities began to connect to each other, creating a network of networks. For example, students in school based health clinics connected via telehealth to receive primary care from a clinician at a pediatric practice; patients at community health center connected to a psychiatrist in hospital; etc.

FULLY DISTRIBUTED NETWORK
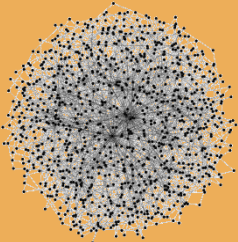
Telehealth is in the midst of yet another transformation called the "Direct to Consumer" evolution. We are seeing telehealth expand its reach to wherever the patient may be, whether that is at their home or school or even while on vacation. Instead of requiring a patient to go to a location to receive health care services, those services are now going to the patient. This model is often referred to as "virtual care" or "care anywhere".

IS TELEHEALTH CONSIDERED A SAFE WAY TO PROVIDE QUALITY HEALTH CARE? Telehealth is a tool for delivering health care and not a separate service in and of itself. Therefore, the safety and quality of care provided through telehealth is dependent on the clinical judgment, adherence to clinical practice standards and education/training of the clinician.

CLINICAL JUDGMENT

Developing and being able to apply good clinical judgment is essential for all health professionals. Clinical judgment comes from a combination of critical thinking skills, training, and experience. If a patient were to come into a clinician's office and his/her stethoscope were malfunctioning, one would expect the clinician not to use it as a tool for rendering a clinical assessment. Similarly, if a patient were being seen via telehealth and for whatever reason, the clinician is unable to see or hear the patient clearly; one would expect the clinician not to proceed with the telehealth encounter until the problem is resolved. If the issue cannot be resolved, then the clinician would need to ask the patient to make an in-office visit. Ultimately, the health professional must make the determination regarding whether telehealth is or isn't appropriate for the service being rendered.

STANDARDS AND GUIDELINES

Over the years, there have been a number of standards, guidelines and best practices that have been developed to ensure the responsible use of telehealth technologies in patient care. In some instances, telehealth has actually become the standard of care. Examples of existing standards include:

- The Federation of State Medical Boards' **Model Policy for the Appropriate Use of Telemedicine Technologies in the Practice of Medicine**
- **American Telemedicine Association Telemedicine Practice Guidelines** for:
  - Live, On Demand Primary and Urgent Care
  - Telepathology
  - TeleICU Operations
  - Core Operational Guidelines
  - Telemental Health and Video-Based Online Mental Health Services
  - Store and Forward and Live-Interactive Teledermatology
  - Videoconferencing-Based Telepresenting
  - Diabetic Retinopathy
  - Telerehabilitation
  - And more!
- American Psychological Association **Guidelines for the Practice of Telepsychology**
- American Academy of Ambulatory Care Nursing **Telehealth Nursing Practice Scope & Standards of Practice**

TRAINING, ACCREDITATION AND CERTIFICATION

Training programs currently exist, both in the classroom, on-site and online. The American Telemedicine Association has a list of accredited training programs and also has an accreditation for online patient consultation. Certificate programs exist for Telehealth Coordinators, Telemedicine Clinical Presenters, and Telestroke Presenters through STAR Telehealth and the National School for Applied Telehealth. As telehealth continues to expand, more and more such programs will emerge. For example, the National Board for Certified Counselors is currently beta-testing a 9-module telehealth certification course for mental health professionals.

WHAT ARE THE BENEFITS OF USING TELEHEALTH? There exists a large body of literature regarding the evidence for telehealth feasibility, quality, safety and cost-effectiveness.

EVIDENCE BASE

There are several places to find the body of literature on telehealth. These include:

- The Institute of Medicine publication "**The Role of Telehealth in an Evolving Health Care Environment**".
- A recent (2016) technical brief prepared for the Agency for Healthcare Research and Quality entitled "**Telehealth: Mapping the Evidence for Patient Outcomes for Systematic Reviews**" that identified 1,494 citations about telehealth and found a number of areas where the evidence base is very strong and other areas where further research is still needed.
- The Center for Connected Health Policy (National Telehealth Policy Resource Center) "**Research Catalogues**" summarizing peer reviewed research in a number of telehealth-related areas.
- The Northeast Telehealth Resource Centers' "**Resource Library**". Here you will find a searchable database of publications related to clinical guidelines, outcomes research by specialty area and more.

CASE STUDIES

The American Telemedicine Association (ATA), Health Information and Management Systems Society (HIMSS) and Personal Connected Health Alliance have all been actively collecting and making available case studies to show how telehealth saves time, saves money, improves patient outcomes and otherwise demonstrates the value of telehealth. These case studies may be found at:

- **Telemedicine Case Studies (ATA)**

- **mHealth Case Studies (HIMSS)**

- **Personal Connected Health Alliance Case Studies**

For more information about telehealth, visit www.telehealthresourcecenter.org