- If you are viewing this course as a recorded course after the live webinar, you can use the scroll bar at the bottom of the player window to pause and navigate the course.

- This handout is for reference only. Non-essential images have been removed for your convenience. Any links included in the handout are current at the time of the live webinar, but are subject to change and may not be current at a later date.

Technical issues with the Recording?

- Clear browser cache using these instructions
- Switch to another browser
- Use a hardwired Internet connection
- Restart your computer/device

Still having issues?

- Call 800-753-2160 (M-F, 8 AM-8 PM ET)
- Email customerservice@AudiologyOnline.com

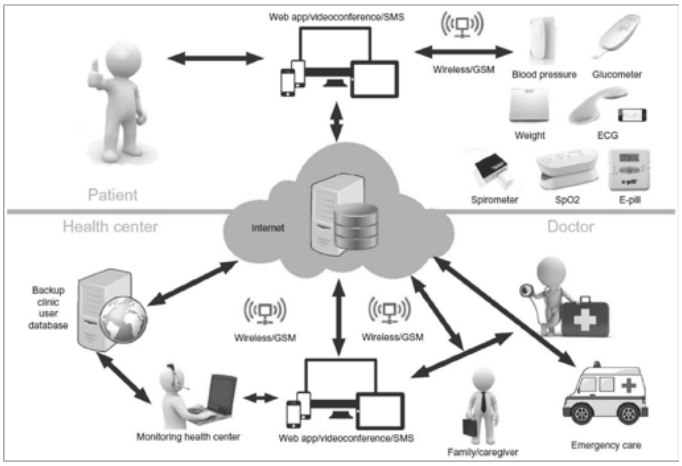
CONTINUED

Telepractice Audiology

Bopanna B Ballachanda, PhD

President Premier Consulting

Adjunct Professor Texas Tech Health Sciences



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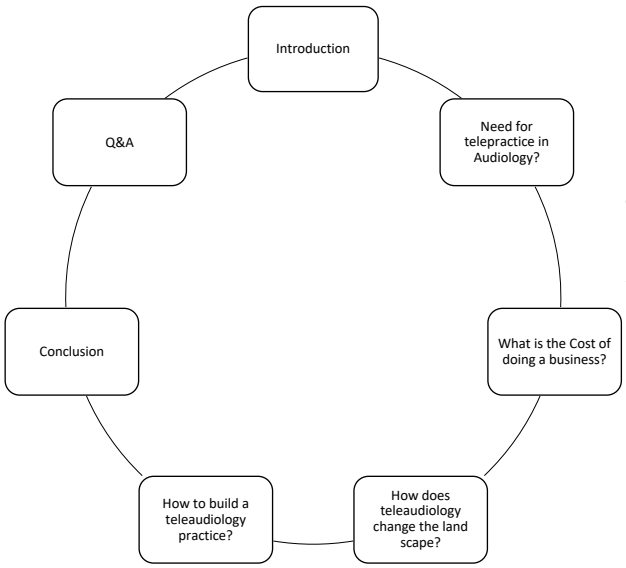
Learning Outcomes

- Identify the need for telepractice in their clinic to provide better patient care.
- Explain the skills needed to set up a successful teleaudiology practice.
- Explain how implementation of teleaudiology can change the patient care model in an audiology clinic.

CONTINUED

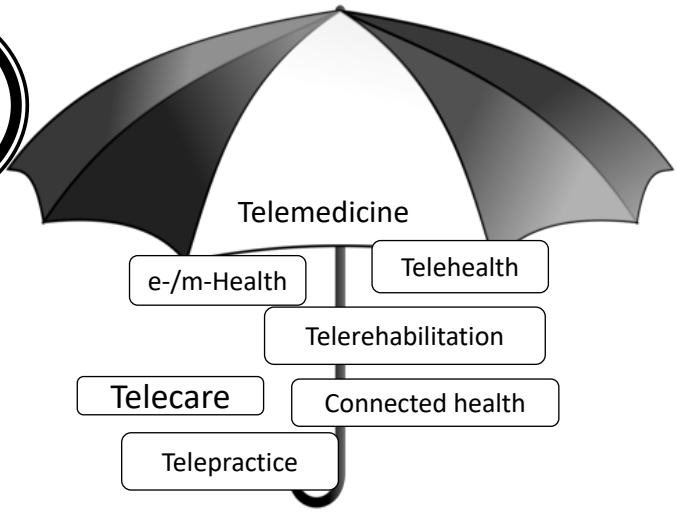


Telepractice in Audiology

CONTINUED

Introduction

Telepractice



CONTINUED

Telepractice in Audiology

- **Telemedicine** is the use of telecommunication and information technology to provide clinical health care from a distance. It has been used to overcome distance barriers and to improve access to medical services that would often not be consistently available in distant rural communities.

CONTINUED

Telepractice in Audiology

- **eHealth (also written e-health)** is a relatively recent healthcare practice supported by electronic processes and communication, dating back to at least 1999. It can also include health applications and links on mobile phones, referred to as mHealth or m-Health.

CONTINUED

- **Connected health** is a socio-technical model for healthcare management and delivery by using technology to provide healthcare services remotely. Connected health, also known as technology enabled care (TEC) aims to maximize healthcare resources and provide increased, flexible opportunities for consumers to engage with clinicians and better self-manage their care.

Telepractice in Audiology

CONTINUED

- **Telerehabilitation** (or **e-rehabilitation**) is the delivery of rehabilitation services over telecommunication networks and the internet. Most types of services fall into two categories: clinical assessment (the patient's functional abilities in his or her environment), and clinical therapy.
- Some fields of rehabilitation practice that have explored telerehabilitation are: Neuropsychology, speech-language pathology, audiology, occupational therapy, and physical therapy.

Telepractice in Audiology

CONTINUED

Telepractice in Audiology

- **Telecare** is the term for offering remote care of elderly and physically less able people, providing the care and reassurance needed to allow them to remain living in their own homes. The use of sensors may be part of a package which can provide support for people with illnesses such as dementia, or people at risk of falling.

Sensors and wearables allow continuous physiological monitoring with reduced manual intervention and at low cost.

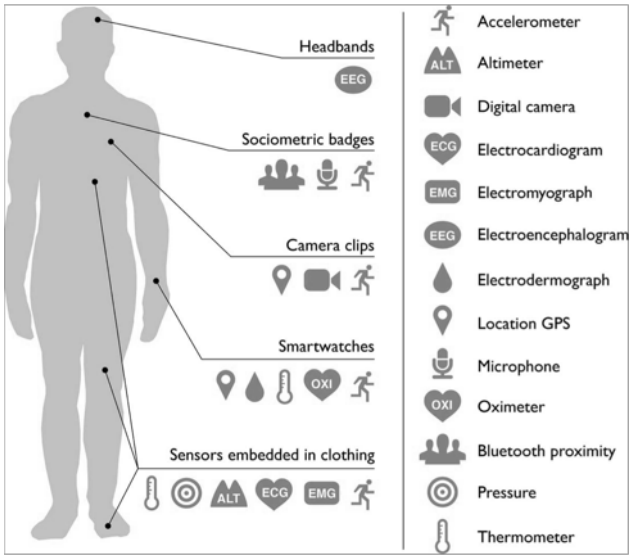
Sensors and wearables can be integrated into various accessories such as garments, hats, wrist bands, socks, shoes, eyeglasses and other devices such as wristwatches, headphones and smartphones.

Telepractice IN aUDIOLOGY

Telepractice

CONTINUED

Telepractice



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Growing trends in wearable technology

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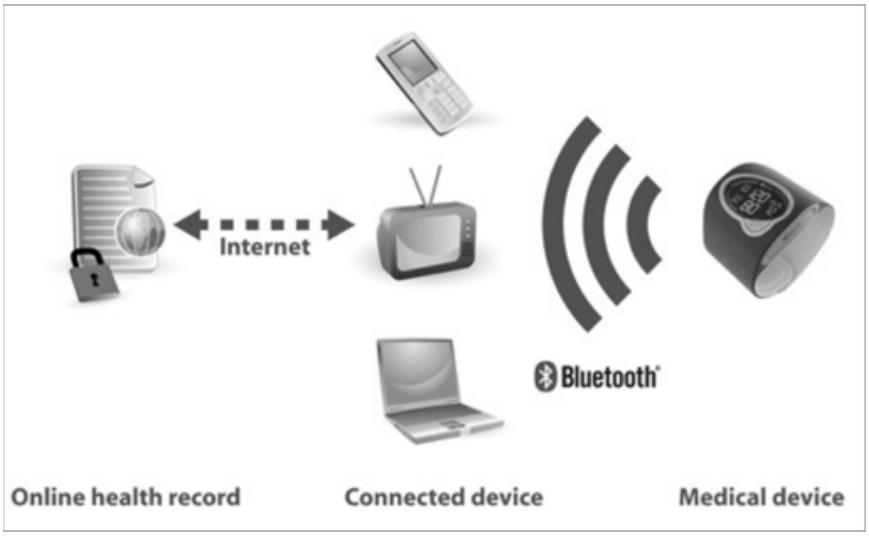
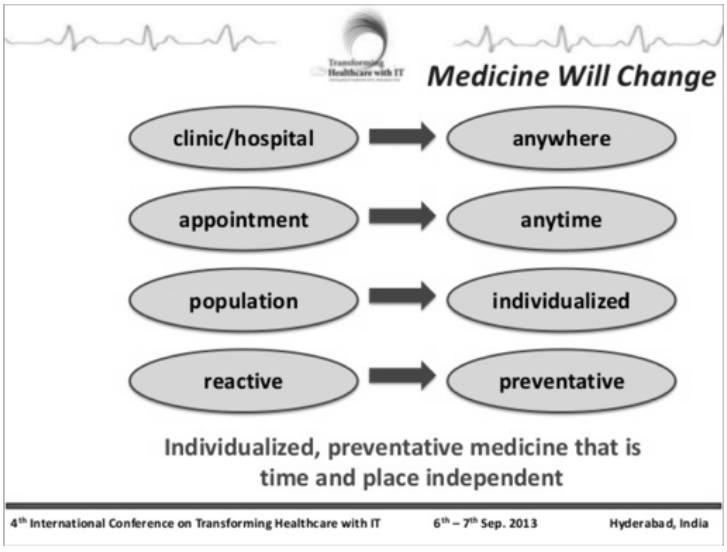

Internet
Bluetooth
Online health record
Connected device
Medical device


Medicine Will Change
clinic/hospital
anywhere
appointment
anytime
population
individualized
reactive
preventative
Individualized, preventative medicine that is time and place independent
4th International Conference on Transforming Healthcare with IT
6th – 7th Sep. 2013
Hyderabad, India

Current Hearing Care

- Traditional delivery of Hearing Care involves patient and provider in a clinic space, in-person encounter, communication and interaction takes place in real time.
- At this encounter the provider obtains the case history, performs needed assessment(s) using diagnostic testing, diagnoses the condition, and recommends a treatment protocol.
- From the information collected, **the plan of care is formed**.

Telepractice in Audiology

HOW DOES TELEAUDIOLOGY CHANGE THE LAND SCAPE OF CLINICAL SERVICES?

Goals of TeleAudiology

- "We can help patients live the lives *they want*."
- "We can design a personalized hearing care plan to help patients achieve their stated goals."
- "We can find/create tools and technologies that are most effective and integrate those in the most efficient, accessible, and familiar way."

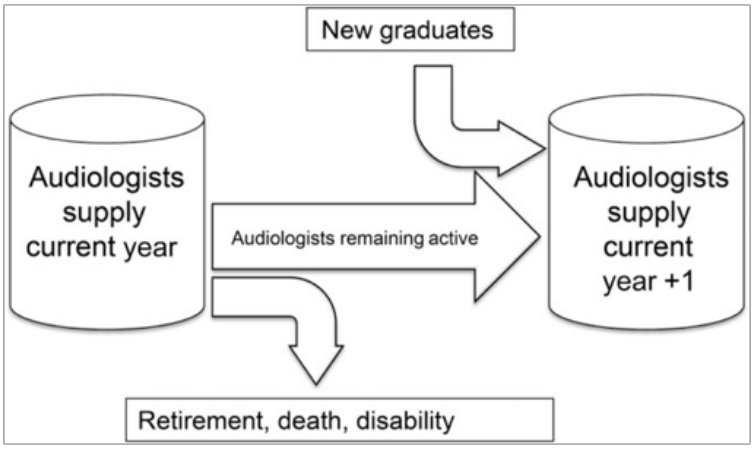
TeleAudiology

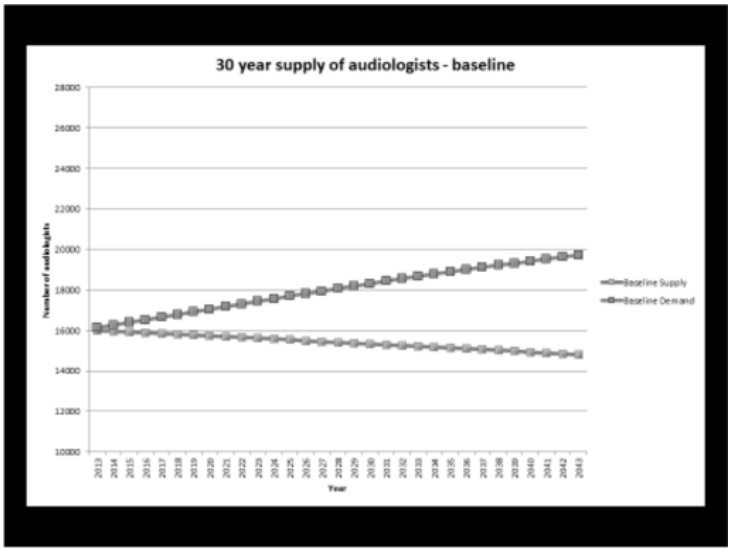
The Teleaudiology/hearing care services include the following:

1. Video otoscopy
2. Hearing Screening
3. Diagnostic testing: Hearing test, tympanometry, real ear hearing aid evaluation, auditory brainstem testing, and Otoacoustic Emissions testing.
4. Fitting and programing hearing aids – Aural RehabilitationTrouble shooting hearing aids
5. Balance and Tinnitus evaluation and management

Need for teleaudiology

01	02	03	04
Shortage of excellent hearing care professionals in the US and around world.	Has been proven to be very successful in several heath care practices	Most state laws support telepractice and is on parity with face to face meeting (The best law is in New Mexico)	Trend towards future of hearing care in a commercial setting.





Telepractice in Audiology

- Cost of doing a business
- ROI

ROI Teleaudiology Implementation Example

Available Hours for One Full time Employee (40X52)	# FTE	Total Available hours			
2080	1	2080			
Non-Billable Hours					
	Hrs/day	# days	Total Hrs	# Staff	Total
Vacation	8	4	32	1	32
Holidays	8	2	16	1	16
Sick	8	0	0	1	0
Unrecorded	8	1	8	1	8
Personal days	8	0	0	1	0
Staff Meetings	1	50	50	1	50
CEU Meetings	8	2	16	1	16
OSHA training	8	0	0	1	0
Holiday party	1	1	1	1	1
Staff lunches	8	0	0	1	0
Maternity Leave	0	0	0	1	0
Jury Duty	0	0	0	1	0
Teaching	0	0	0	1	0
Patient Seminars	8	2	16	1	16
Snow days	0	0	0	1	0
Others/Hearing aid check, Services, etc.	0	0	0	1	0
Research	0	0	0	1	0
Total					139
Other Non-Billable hours					Per Year
Patient No-Show	1	50	50	1	50
Cancellations	1	50	50	1	50
Travel time	0	50	0	1	0
Others			0		0
Others			0		0
Total					100
Total Non-Billable Hours					-239
Available Hours	**Unbillable**		**Billable hours**		
2080	-239		**1,841**		

How to build a teleaudiology practice?

Telehealth Modalities

- **Live video (synchronous):**

Live, two-way interaction between a person (patient, caregiver, or provider) and a provider using audiovisual telecommunications technology

Telehealth Modalities

- **Store-and-forward (asynchronous):**

- Video otoscopy and automated testing for later interpretation
- (audiometry, immittance, OAE, ABR). New born hearing screening.
- Any other materials that can be stored and evaluated by a specialist (X-Ray etc.)

Telehealth Modalities

- Synchronous/Real time (synchronous):

Audiological evaluation, Hearing aid fittings, Real-ear measures, Hearing aid counseling, Tinnitus management, Aural Rehabilitation.

Telehealth Modalities

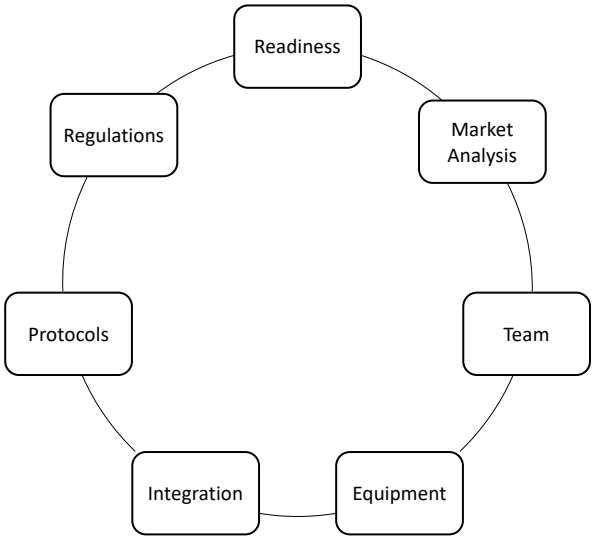
- Remote patient monitoring (RPM):

Personal health and medical data collection from an individual in one location via electronic communication technologies, which is transmitted to a provider (sometimes via a data processing service) in a different location for use in care and related support. This type of service allows a provider to continue to track healthcare data for a patient once released to home or a care facility, reducing readmission rates.

Telehealth Modalities

- **Mobile health (mHealth):**

Health care and public health practice and education supported by mobile communication devices such as cell phones, tablet computers, and PDAs. Applications can range from targeted text messages that promote healthy behavior to wide-scale alerts about disease outbreaks, to name a few examples.



Ten Steps to BE Successful

1) Assess and confirm your readiness to start a teleaudiology program.

Is it within the mission/vision and goals

SWOT analysis

Identify and recruit

A needs analysis

Ten Steps to BE Successful

2) Perform a market analysis and write a business plan.

Create a detailed programmatic and technical implementation plan.

The most successful teleaudiology programs are the result of careful, detailed planning and the deployment of well-considered integrated and streamlined technologies.

Ten Steps to BE Successful

3) Build a team trained to forge ahead.

Identify a coordinator to oversee all daily operational activities of the program, including scheduling, billing, technical operations, etc.

Staff are **technically savvy and knowledgeable** about the teleaudiology program, and applications.

Develop and implement a **formal, comprehensive, and standardized training** regimen for all staff.

Ten Steps to BE Successful

4) Purchase the right equipment.

Appropriate specifications for the devices

Trustworthy and knowledgeable sources

Mindful that technology advances

Ten Steps to BE Successful

5) Create an effective and professional environment that can emulate a traditional face-to-face encounter.

Follow basic and **standard rules for the design** similar to face to face interaction.

Placement

Lighting

Acoustics

Ten Steps to BE Successful

6) Plan for the seamless integration of teleaudiology between sites.

Think of the teleaudiology technology as just **another tool for the delivery of normal services**, with the only difference being that the patient isn't in the same room as the provider.

Keep it simple.

Ten Steps to BE Successful

7) Plan for the availability of IT support at all participating locations. applications, and network needs.

Educate IT personnel about teleaudiology needs and technologies, and authorize them to work directly with network systems and settings.

Ten Steps to BE Successful

8) Establish protocols, policies, and procedures, as well as short- and long term performance goals.

Create protocols that are as close as possible to face-to-face interaction.

Follow **standard recognizable protocols** which lead to consistent clinical results

Establish longer-term goals that consider clinical, business, and financial outcomes several years into the future and movement towards programmatic self-sustainability.

Ten Steps to BE Successful

9) Develop an evaluation, monitoring, and quality-improvement plan.

Monitor and evaluate all key elements of the program on a regular and ongoing basis.

Constant quality improvement must be a part of regular operations

Ten Steps to BE Successful

10) Understand the legal and regulatory issues of teleaudiology.

Identify the **current policies and regulations**, and determine the impact they may have on teleaudiology program. Critical legal and regulatory areas to consider include licensure, credentialing, and HIPAA.

TeleAudiology Levels

Levels of Teleaudiology Practice

The Teleaudiology/hearing care services include the following:

1. Video otoscopy
2. Hearing Screening
3. Diagnostic testing: Hearing test, tympanometry, real ear hearing aid evaluation, auditory brainstem testing, and Otoacoustic Emissions testing.
4. Fitting and programing hearing aids – Aural Rehabilitation Trouble shooting hearing aids
5. Balance and Tinnitus evaluation and management

TeleAudiology

Level 1: Hearing aid trouble shooting

Satellite Clinic (Remote area)	Main clinic
High speed internet	High speed internet
One computer(with provision for two monitors)	One computer (should provide connections to two monitors).
One high resolution camera (Logitech)	One high resolution camera.
Two monitors –large size 34" to 42", one for hearing aid programing the other for viewing the teleaudiology provider (hearing care provider at the main clinic) .	Two monitors (large size 34" to 42"). One to see the computer screen for programing and the other for viewing the patient
License to use software for connectivity and video conferencing.	License to use software for connectivity and video conferencing.

Level 2: Diagnostic testing , and hearing aid recommendation-fitting.

Satellite Clinic (Remote area)	Main clinic
One computer	One computer (should provide connections to two monitors)
One high resolution camera	One high resolution camera
Three monitors – One monitor with touch screen	Two monitors
Video Otoscope (Interfaces with computer)	
Audiometer (Interfaces with computer)	
License to use software for connectivity and video conferencing.	Live communication
Programing interface like HiPro box or manufacturers interface hardware.	
License to use software for connectivity and video conferencing.	License to use software for connectivity and video conferencing.
High speed internet	High speed internet connection

Satellite (Remote area)	Main clinic
High speed internet	High speed internet
One computer (Provision for two to three monitors)	One computer (should provide connections to two monitors)
One or two high resolution camera (Logitech)	One high resolution camera (Logitech)
Three monitors – One monitor with touch screen – Two large monitors 34" to 42"	Two large monitors 34" to 42"
Video Otoscope (Interfaces with computer). This is optional if the patient is referred from an ENT practice where the patient was examined and cleared for hearing testing	
Audiometer (Interfaces with computer)	Live communication
Immittance equipment (Interfaces with the computer)	
Otoacoutic equipment	
Real ear measurement equipment	
Programing interface like HiPro box or manufacturers interface.	
Provision for Free field testing – Post fitting evaluation or basic Free field testing.	
License to use software for connectivity and video conferencing.	License to use software for connectivity and video conferencing.

TeleAudiology

TeleAudiology

Equipment configurations

Main Location

1. One computer
2. One high resolution camera's
3. Two monitors – One monitor with touch screen
4. Video Otoscope (Interfaces with computer)
5. Audiometer (Interfaces with computer)
6. Immittance equipment (Interfaces with computer)
7. Hi Pro box (Manufactures interface equipment)

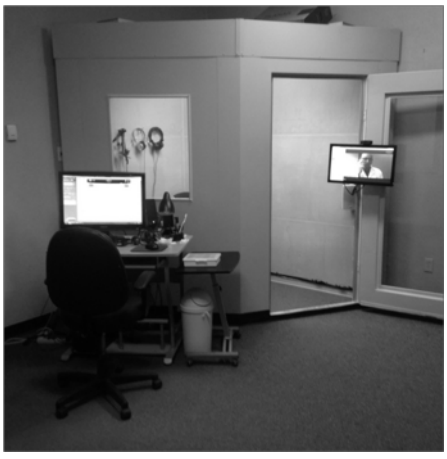
Remote

1. One computer
2. One high resolution camera
3. Two monitors
4. High speed internet connection
5. Log me in and Skype/Zoom software

7. License to use Log me In Pro small business remote software and Skype/Zoom software
8. Live communication between the Audiologist and the assistant without interruption while testing or while fitting hearing aids. Patients don't hear the conversations.
9. High speed internet

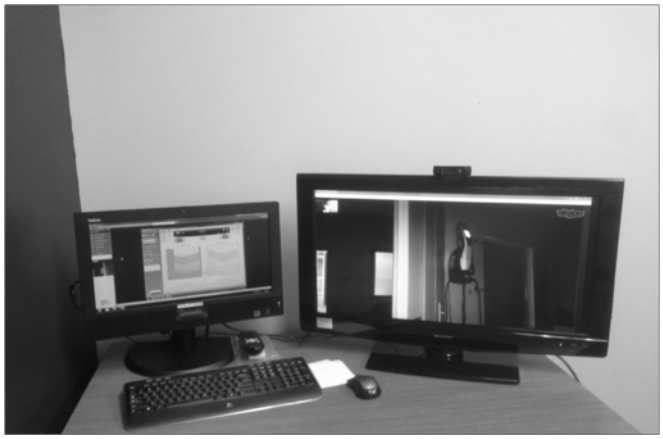
TeleAudiology

Remote location (NM)



TeleAudiology

Main location



TeleAudiology – work Flow Remote site

- Patient should arrive 30 minutes prior to appointment.
- Assistant will prepare exam room
- Fax completed history, and consent form
- Once the patient and the audiologist are in the room , the assistant remains in the room to assist with the equipment as necessary.

TeleAudiology – work Flow
Test site

- Turn the computer and monitors on
- Check connectivity
- Check camera location and usage
- Check the case history
- Consultation
- Testing
- Consultation
- Report – Print audiogram at the remote site – Report and chart notes

TeleAudiology

- **H.R.2550 - Medicare Telehealth Parity Act of 2017**115th Congress (2017-2018)
- Rep. Thompson, Mike [D-CA-5] (Introduced 05/19/2017)
- with respect to services furnished on or after the date that is 6 months after the date of the enactment of the Medicare Telehealth Parity Act of 2017, a certified diabetes educator or licensed—
- "(I) respiratory therapist;
- "(II) audiologist;
- "(III) occupational therapist;
- "(IV) physical therapist; or
- "(V) speech language pathologist.".

TeleaAdiology codes

- Modifiers
- Modifiers related to telepractice—available through both the CPT coding system and the Health Care Common Procedure Coding System (HCPCS)—are appended to CPT codes to indicate mode of service delivery. Audiologists should check with each payer to verify appropriate use of modifiers to reflect telepractice services.
- *HCPCS*
- GQ Telehealth service rendered via asynchronous telecommunications system
- GT Telehealth service rendered via interactive audio and video telecommunications system
- *CPT*
- 95 Synchronous telemedicine service rendered via a real-time interactive audio and video telecommunications system
- Note: Modifier 95 was created through the CPT system for 2017 and can be appended to CPT codes to reflect services that were provided via real-time telecommunication systems. This code does not replace the existing GQ and GT modifiers that were created through the HCPCS by the Centers for Medicare & Medicaid Services (CMS). Clinicians should check with individual payers regarding implementation and use of telepractice-related modifiers on the claim form for 2017.

TeleAudiology codes

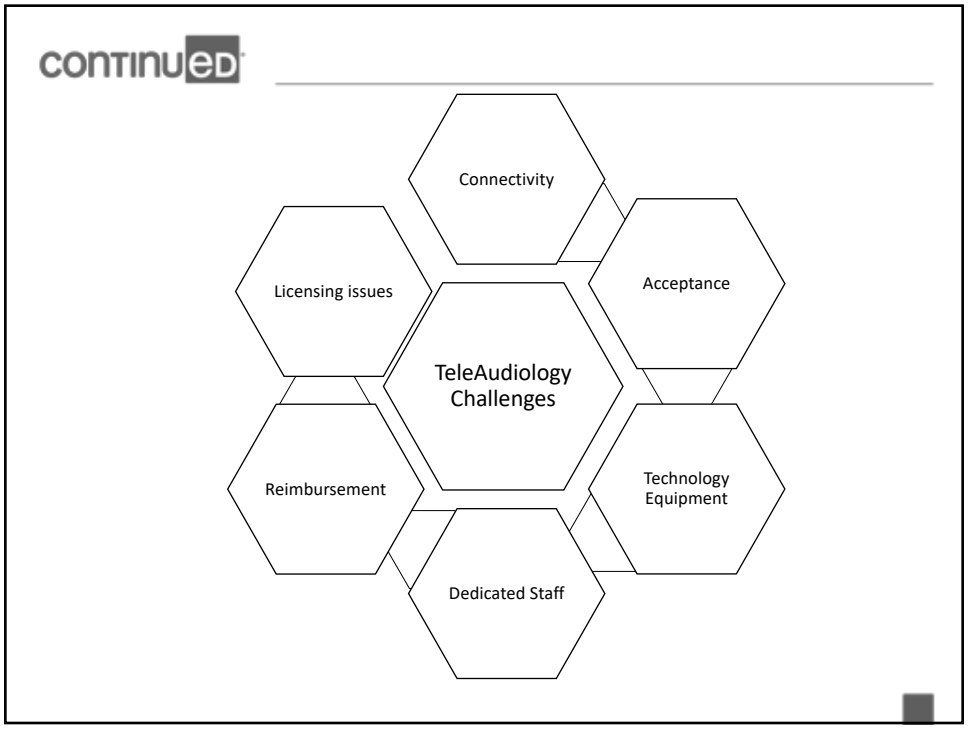
- Place of Service Codes
- Place of service codes are used on claims to indicate the specific type of location where services were provided. Clinicians should verify with individual payers regarding implementation and use of the POS code for telepractice, listed below. More information on POS codes is available on the CMS website.
- 02 The location where health services and health-related services are provided or received through a telecommunication system.

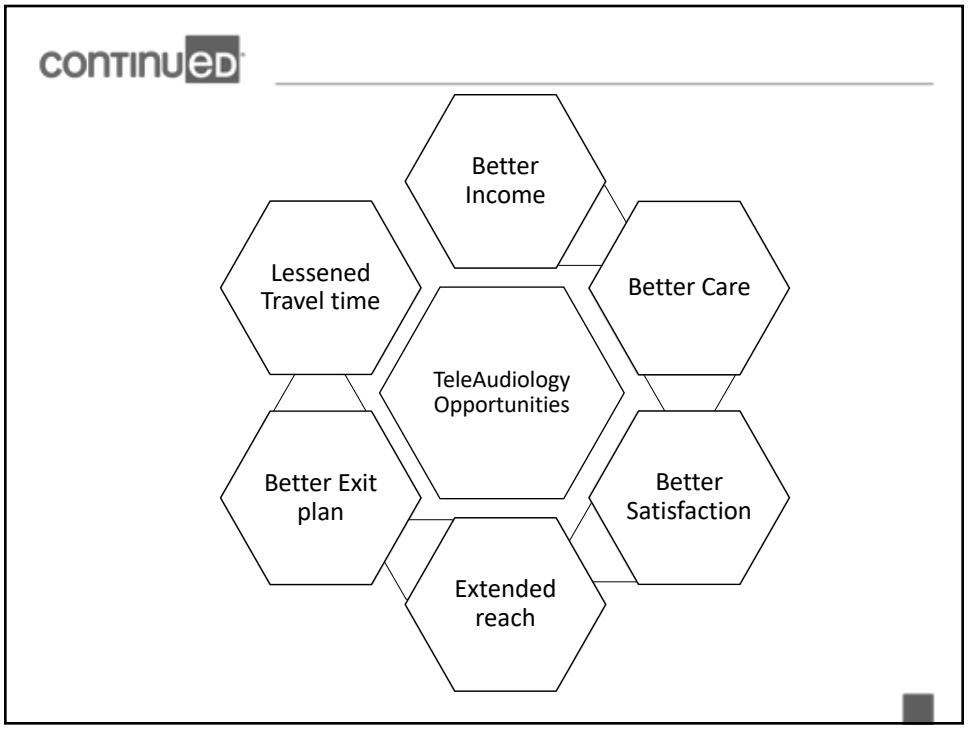
Teleaudiology

- Video Demonstration of teleaudiology practice
- Interacoustics RAS Video.mp4
- RASTT_SoundRoom_IA.mp4
- RAS_QuiteRoom_IA.mp4

Teleaudiology

- Opportunities and Challenges


Connectivity
Licensing issues
Acceptance
TeleAudiology Challenges
Reimbursement
Technology Equipment
Dedicated Staff


Better Income
Lessened Travel time
Better Care
TeleAudiology Opportunities
Better Exit plan
Better Satisfaction
Extended reach

Global Needs
World Health Organization (WHO)
Key Facts

- 360 million people worldwide have disabling hearing loss *(1)* (328 million adults and 32 million children).
- Hearing loss may result from genetic causes, complications at birth, certain infectious diseases, chronic ear infections, the use of particular drugs, exposure to excessive noise, and ageing.
- 60% of childhood hearing loss is due to preventable causes.

Global Needs
World Health Organization (WHO)
Key Facts

- 1.1 billion young people (aged between 12–35 years) are at risk of hearing loss due to exposure to noise in recreational settings.
- Unaddressed hearing loss poses an annual global cost of 750 billion dollars. Interventions to prevent, identify and address hearing loss are cost-effective and can bring great benefit to individuals.
- People with hearing loss benefit from early identification; use of hearing aids, cochlear implants and other assistive devices; captioning and sign language; and other forms of educational and social support.

TeleAudiology

Summary

- TeleAudiology work has reduced patient wait time in NM.
- Patients are satisfied with teleaudiology compared to face to face meeting.
- Increased revenue
- Can be duplicated without significant increase in expenses as long we have appropriate protocol.

TO CONCLUDE

- The question is not will teleaudiology happen (it will) but how soon will it happen? What can we do to ensure that it provides the desired outcome for practitioners and patients.
- There remains a need to change hearing health behavior so that we access many avenue to reach patients and provide the best care that we can at any given time.

Q & A

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505-385-5601

Thank you for your participation