

## Knowledge and Skills



# Knowledge and Skills Needed by Audiologists Providing Clinical Services via Telepractice

## ASHA Telepractice Working Group

### *About this Document*

This knowledge and skills document is an official statement of the American Speech-Language-Hearing Association. It is required that individuals who independently provide clinical services via telepractice hold the Certificate of Clinical Competence in Audiology and abide by the ASHA Code of Ethics, including Principle of Ethics II, Rule B, which states “Individuals shall engage in only those aspects of the profession that are within their competence, considering their level of education, training, and experience.”

This knowledge and skills statement was developed by the ASHA Telepractice Working Group. Members of the committee included Mark Krumm (chair), Gregg Givens, Amy C. Georgeadis, Pauline A. Mashima, John M. Torrens, Janet Brown (ASHA staff liaison) and Pamela Mason (ASHA audiology staff consultant). Roberta B. Aungst, vice president for professional practices in audiology (2004–2006), served as monitoring vice president. This document was approved by ASHA’s Legislative Council in April 2005.

## Background

According to the Agency for Healthcare Research and Quality (2001), telemedicine is “the use of telecommunications technology for medical diagnostic, monitoring, and therapeutic purposes when distance separates the users.” In the past, telemedicine dealt exclusively with medical applications by physicians using advanced technology. In the 1997 Comprehensive Telehealth Act, the broader term *telehealth* was used to refer to services delivered by nonphysician as well as physician providers. Telehealth is the expansion of telemedicine to include applications across the full spectrum of the health sciences, including, but not limited to, audiology, speech-language pathology, nursing, occupational therapy, physical therapy, pharmacy, physical education and health promotion, and dentistry and dental hygiene, in addition to medicine (Bashshur, Reardon, & Shannon, 2000; Books, Sun, Boal, Poropatich, & Abbot, 2002; Burgess et al., 1999; Eikelboom, Atlas, Mbaio, & Gallop, 2002; Hassol et al., 1996; Mun & Turner, 1999). The term *telepractice* was adopted by ASHA in 2001 to encompass a range of services provided through telecommunications technology that are not exclusively health related, including clinical services for communication enhancement, and education and supervision. In 2004 ASHA developed position statements and technical reports on the use of telepractice for clinical service delivery for audiologists and speech-language pathologists (ASHA, 2004a, 2004b, 2004d, 2004e).

## Assumptions About Telepractice

The ASHA position statement *Audiologists Providing Clinical Services via Telepractice* (ASHA, 2004a) affirms that telepractice technology is within the scope and practice of audiologists. However, this position statement indicates that audiology services provided over a telepractice medium must be comparable in

quality to face-to-face services. Therefore, the clinician intending to conduct telepractice services should have detailed knowledge and skills in telepractice models resulting in an appropriate implementation of technology for assessment and intervention. Also, clinicians providing services via telepractice must have in-depth knowledge and skills regarding cultural/linguistic variables, use of support personnel, evaluation of service effectiveness, and documentation of services. Finally, professional issues must be understood by audiologists in order to provide telepractice services. These issues include licensure, liability, malpractice, privacy consistent with current state and federal regulations, and reimbursement for services provided over a telepractice medium. Telepractice is a constantly evolving tool. Although the knowledge and skills presented in this document are essential for high quality services, ongoing education and training will be required in order to maintain expertise and familiarity with changes in technology and potential clinical applications.

## Uses of Technology

### Role 1.0:

To understand and apply appropriate models of technology to deliver services via telepractice.

### Knowledge:

#### 1.a. Synchronous (or real time) applications:

- allow the clinician and the consumer to communicate with each other in real time using interactive video to create a “face-to-face” experience similar to that achieved in a traditional encounter,
- allow the clinician to provide/supervise appropriate aural habilitation and rehabilitation through interactive video, and
- allow the clinician to directly provide/supervise diagnostic testing or to adjust programmable amplification devices through remote control computer applications.

#### 1.b. Store and forward (or asynchronous) technology transmits previously obtained clinical data to a distant professional for interpretation. Examples include the following:

- written documents (e.g., medical records),
- test protocols (e.g., audiograms),
- client data (e.g., test protocol results and treatment performance),
- still pictures,
- video clips (e.g., clinical observation or instrumental assessment), and
- audio clips.

#### 1.c. Self-monitoring/testing, in which the client provides data collected from home or a residential care facility (e.g., from self-assessment or significant other assessment questionnaires) to the clinician without an on-site facilitator.

### Skills:

- 1.1. Conduct a needs assessment to determine whether the telepractice model adequately matches needed services at any potential site.

## Types of Technology

### Role 2.0:

To understand the appropriate specifications and operations of technology used for telepractice.

**Knowledge:**

2.a. Appropriate specifications and operations of equipment that is used for telepractice service delivery:

- videophones,
- closed-circuit TV,
- Internet-based software with Webcams,
- personal computing devices (including assessment of personal computing devices for adequacy of use for telepractice),
- image capture devices,
- dedicated videoconferencing systems, and
- interfacing instrumentation (such as video-otoscopy or computerized audiometers) for telepractice use.

2.b. Bandwidth

- types of bandwidth and their impact on images/quality of signal, including the following transmission mediums:
  - digital subscriber lines (DSL) or asynchronous digital subscriber lines (ADSL),
  - integrated service digital network (ISDN),
  - cable,
  - satellite, and
  - plain old telephone service (POTS).
- bandwidth speed necessary to conduct application
- ensuring appropriate allocation of bandwidth and other features to optimize transmission of telepractice use within a network (i.e., quality of services [QOS])

2.c. Other technology considerations

- privacy and security applications (see Role 11.0)

2.d. Capture of video and still picture

2.e. An understanding of conducting telepractice within a network and over the Internet

**Skills**

2.1. Contacting and maintaining contact with remote sites

2.2 Using interactive video systems without interfering with service provision (e.g., desired camera characteristics, such as pan, tilt, and zoom capabilities, and camera speed and bandwidth requirements)

2.3. Determining whether the quality of telepractice technology is adequate for providing the desired service

**Client Selection for Telepractice****Role 3.0:**

To select clients who are appropriate for assessment/intervention services via telepractice.

**Knowledge and skills:**

3.a. Understand the potential impact of physical and sensory characteristics on the client's ability to

benefit from telepractice, and provide modifications or accommodations (as appropriate) for factors such as:

- hearing acuity,
- visual acuity (e.g., ability to see material on a computer monitor),
- manual dexterity (e.g., ability to operate a keyboard if needed), and
- physical endurance (e.g., sitting tolerance).

3.b. Understand the potential impact of cognitive, behavioral, and/or motivational characteristics on the client's ability to benefit from telepractice, and provide modifications or accommodations (as appropriate) for factors such as:

- level of cognitive ability,
- ability to maintain attention (e.g., a video monitor),
- ability to sit in front of a camera and minimize extraneous movements to avoid compromising the image resolution), and
- motivation/willingness of the client and family/caregiver (as appropriate) to implement treatment plans by clinicians via telepractice.

3.c. Understand the potential impact of communication characteristics on the client's ability to benefit from telepractice, and provide modifications or accommodations (as appropriate) for factors such as:

- auditory comprehension,
- literacy,
- speech intelligibility, and
- cultural/linguistic variables (e.g., availability of an interpreter).

3.d. Understand the potential impact of the client's support resources on his or her ability to benefit from telepractice, and provide modifications or accommodations (as appropriate) for factors such as:

- availability of technology,
- access to and availability of resources (e.g., telecommunications network, facilitator),
- appropriate environment for telepractice (e.g., quiet room with minimal distractions), and
- client and/or family/caregiver's ability to follow directions to operate and troubleshoot telepractice technology and transmission.

## **Selection of Assessment and Intervention Procedures**

### **Role 4.0:**

To use technology to deliver appropriate hearing assessment and intervention procedures.

### **Knowledge:**

- 4.a. Knowledge of the potential benefit of providing assessment/intervention services in the patient's natural environment
- 4.b Awareness of the potential impact on standardized tests, diagnostic procedures, and intervention strategies when administered via telepractice

### **Skills:**

- 4.1. Selection and administration of formal and informal diagnostic tools at a distance
- 4.2. Identification of supplemental tools/technology (e.g., fax machines, telephones) for clients to

receive optimal services at a distance

## Cultural/Linguistic Variables

### Role 5.0:

To be sensitive to cultural and linguistic variables that affect the identification, assessment, treatment, and management of communication disorders/differences in individuals.

### Knowledge and skills (see ASHA 2004c):

- 5.a. The influence of one's own beliefs and biases in providing effective services
- 5.b. The need to respect an individual's race, ethnic background, lifestyle, physical/mental ability, religious beliefs/practices, and heritage
- 5.c. The influence of the client's traditions, customs, values, and beliefs related to providing effective services via telepractice
- 5.d. The impact of assimilation and/or acculturation processes on the identification, assessment, treatment, and management of hearing disorders when delivered via telepractice
- 5.e. The clinician's own limitations in education/training in providing services to a client from a particular cultural and/or linguistic community
- 5.f. Appropriate intervention and assessment strategies and materials that do not violate the client's values
- 5.g. The need to refer to or consult with other service providers with appropriate cultural and linguistic proficiency, including a cultural informant/broker, as it pertains to a specific client
- 5.h. Ethical responsibilities of the clinician concerning the provision of culturally and linguistically appropriate services

## Use of Support Personnel

### Role 6.0:

To train and use support personnel appropriately when delivering services via telepractice.

### Knowledge:

- 6.a. Guidelines for training, credentialing, use, and supervision of support personnel as described in ASHA's Code of Ethics (ASHA, 2003) and practice policy documents (ASHA, 1998)
- 6.b. State regulations regarding credentialing and supervision of support personnel
- 6.c. Information needed by support personnel about the technology and delivery of services via telepractice

### Skills:

- 6.a. Selecting clients, clinical activity, and technology that are appropriate for support personnel during telepractice service delivery
- 6.b. Providing appropriate training to support personnel in the delivery of services via telepractice (e.g., patient and family instruction, equipment check and maintenance, clinical task performance, record keeping, universal precautions)
  - appropriate training for privacy and electronic data interchange consistent with state and federal

regulations

6.c. Providing appropriate supervision to support personnel (e.g., developing an effective relationship, providing feedback, and modeling appropriate communication and ethical professional conduct)

## Evaluation of Effectiveness and Outcomes

### Role 7.0:

To be familiar with methods of evaluating the effectiveness of services provided via telepractice and measuring their outcomes.

### Knowledge:

- 7.a. Quantitative and qualitative methods to measure clinical outcomes in terms of efficacy, effectiveness, and quality of care
- 7.b. Framework of evidence-based practice (ASHA, 2004f)
- 7.c. Approaches and methods for assessing client satisfaction with telepractice services and that of family/caregiver, as appropriate
- 7.d. Approaches and methods for assessing acceptance of telepractice applications by the client and clinician
- 7.e. Appropriate models and methods for analyzing costs and benefits to measure return on investment for telepractice services

### Skills:

- 7.1. Apply appropriate criteria for determining the reliability and validity of assessment procedures performed via telepractice.
- 7.2. Apply appropriate criteria for determining how the telepractice model may affect the validity of evidence-based treatment protocols.
- 7.3. Evaluate efficacy and/or effectiveness of services provided via telepractice to ensure that methods, procedures, and techniques are consistent with best available evidence and adhere to standards of best practices.
- 7.4. Evaluate the quality of care delivered via telepractice, including access to care, timeliness of care, continuity of care, coordination of care, and comprehensiveness of care.
- 7.5. Evaluate the acceptability of care, including client and clinician perceptions of care and clinical outcomes.
- 7.6. Collect and analyze clinical outcomes data to support reimbursement for telepractice services.

## Documentation

### Role 8.0:

To manage potential risk and liability by documenting differences between telepractice encounters and traditional face-to-face encounters.

### Knowledge and skills:

- 8.a. Additional requirements for clinical services delivered via telepractice
- 8.b. Informed consent for use of telepractice

- description of the equipment
  - services to be delivered
  - how services via telepractice may differ from services delivered face-to-face
  - potential confidentiality issues
- 8.c. Documentation of the telepractice encounter
- type of equipment used
  - the identity and role of every person present
  - the location of the client and the clinician
  - the type, rate, and quality of transmission
  - client's response to services provided

## Licensure, Liability, and Malpractice

### Role 9.0:

To ensure that client and clinician are protected in the delivery of telepractice services.

### Knowledge:

- 9.a. Licensure law and requirements to practice in the states where telepractice clients reside
- 9.b. Resources for information on licensure in different states
- 9.c. Specific provisions of the clinician's current professional liability as it pertains to multistate practice

### Skills:

- 9.1. Identify resources for information on licensure, professional liability, and malpractice

## Reimbursement

### Role 10.0:

To be aware of potential sources of reimbursement for telepractice and how to obtain reimbursement.

### Knowledge:

- 10.a. Current Procedural Terminology and International Classification of Diseases codes pertaining to audiology services
- 10.b. The coding requirements for services delivered via telepractice, if any (e.g., modifiers)
- 10.c. The various reimbursement sources for telepractice services, and their payment requirements for services delivered via telepractice
- 10.d. Medicaid and Medicare regulations governing services delivered traditionally and via telepractice

### Skills:

- 10.1. Appropriate documentation of telepractice services for obtaining reimbursement

## Privacy/Security

### Role 11.0:

To ensure client confidentiality when telepractice services are used.

### Knowledge:

- 11.a. State and federal regulations pertaining to confidential transmission of client information using synchronous or store and forward technology
- 11.b. Types of technologies with privacy protections include:
  - new or evolving forms of software and hardware solutions to ensure consumer privacy (e.g., encryption, virtual private networks, firewalls).
- 11.c. State and federal regulations pertaining to electronic storage of consumer information for:
  - local computer servers and local area networks,
  - servers shared by wide area networks, and
  - servers accessible by Internet users.
- 11.d. Principles for training support and professional personnel concerning:
  - appropriate local standards for privacy of health care information of consumers.
- 11.e. Applications of virtual private network (VPN) software, including downloading and configuring VPN software for a modem, backbone, and satellite connections
- 11.f. Awareness of the need for telepractice software and hardware applications to be configured for use with encryption, VPN, or firewall applications

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