Telehealth Best Practices: Assessment

National Academy of **Neuropsychology**

October, 2018

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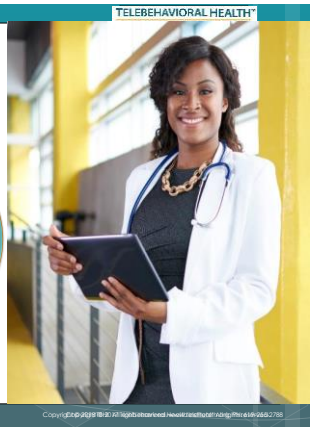
Telebehavioral Health Institute

Start-up Consultation and Staffing

Competencies & Best Practices

CEs & CMEs Online & In-Person

www.Telehealth.org



Disclaimer/Disclosure

- GOAL: My goal is educational only. No warranty, guarantee, or representation is made as to the accuracy or sufficiency of the information contained in my workshop for your individual circumstance.
- YOUR PART: You are encouraged to seek practice-specific advice from your legal, regulatory, ethical and malpractice bodies before offering any digitized services or programs. Get all relevant opinions in writing, and have your informed, local, legal counsel review them for their full significance.
- I have no financial relationships to disclose with any groups identified in today's workshop.

Optimizing Your Learning

- Consider this training to be an introduction / orientation / resource guide
- Slides are available for your later review but not downloadable. (Screenshots are not intended for you to read from your handout. Font is sometimes teeny. Please focus on headlines.)
- Keep your handouts for future reference
- Download them here: telehealth.org/NAN

Please hold your questions for the Q&A session at the end of today's program

Slides and Handouts

telehealth.org/nan2018

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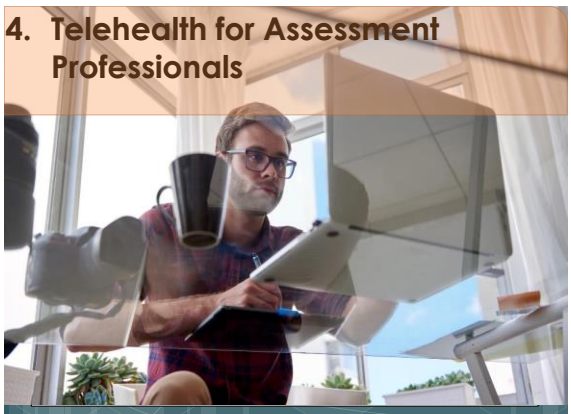
Learning Objectives/Outcomes

1. Outline at least two key federal or state legal issues of direct relevance to telehealth
2. Outline at least two key ethical issues of direct relevance to telehealth
3. Identify several leading researchers in technology-related neuropsychological assessment
4. Intelligently discuss at least one foundational outcome study of direct relevance to neuropsychological assessment using telehealth

1. Terminology & Research

2. Legal Issues

3. Ethical & Clinical Issues



4. Telehealth for Assessment Professionals

5. Safety

Definitions

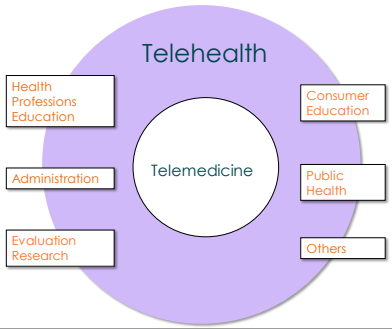
- Telebehavioral Health
- Telemental Health
- Behavioral Telehealth
- Ehealth
- Telehealth
- Telemedicine
- Digital Health
- Electronic Health Delivery

Definitions

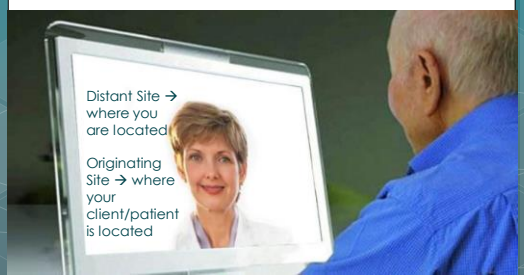
Telehealth vs. Technology?

- Telepsychology
- Distance Counseling
- Online Therapy
- mHealth
- Telecounseling
- E-therapy

Telehealth vs. Telemedicine



Sites



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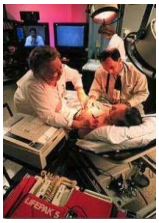
Real Time Telemedicine

Remote doctor examines a patient's inner ear from a "distant site."



Patient in rural ER (originating site) gets benefit of local care plus remote consultation with specialists.

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Size of Telebehavioral Evidence Base

- More than 4,000 references used in creating the training at the Telebehavioral Health Institute (TBHI)
- Free list of 1000+ searchable telebehavioral health references:

www.telehealth.org/bibliography

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Benefits of Video-Based Telehealth*

- Increased client satisfaction
- Decreased travel time
- Decreased travel, child & elder-care costs
- Increased access to underserved populations
- Improved accessibility to specialists

* Maheu, Pulier, Wilhelm, McMenamin & Brown-Connolly. (2004). The mental health professional and the new technologies. Erlbaum, New York.

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Benefits of Video-Based Telehealth*

- Reduced emergency care costs
- Faster decision-making time
- Increased productivity / decreased lost wages
- Improved operational efficiency
- Decreased hospital utilization
- Efficacy is on par with in-person care for many groups

* Maheu, Pulier, Wilhelm, McMenamin & Brown-Connolly. (2004). The mental health professional and the new technologies. Erlbaum, New York.

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Caution – Consider Context

Online Norm vs. Standard of Care

- No Contact with Other Treating Clinicians
- No Authentication of Consumer / Professional
- No Emergency Backup Procedures
  - Misunderstanding of Clinical Processes (suicide)
  - Operating w/o Needed Research for Unsupervised Settings

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Caution – Consider Context

Online Norm vs. Standard of Care

- Mostly Email / Chat vs. Video
- Anonymity / No Patient Records
- Avoid Responsibility w/ Website Disclaimers
- No Clear Channels for Mandated Reporting

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Benefits of Traditional Video-Based Telehealth*

- Hub-and-spoke model
  - Only work with previously identified clients
  - Originally for patients who have had an in-person assessment (changing)
  - Detailed and documented referral requests
  - Detailed health record at fingertips of clinician

* Maheu, Pulier, Wilhelm, McMenamin & Brown-Connolly. (2004). The mental health professional and the new technologies. Erlbaum, New York.

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Benefits of Traditional Video-Based Telehealth*

- Hub-and-spoke model (cont.)
  - Client/patient is at the "originating site"
  - Clinician is at the "distant" site
  - Community collaborator is available
- Client/patient is pre-trained by staff
- Technology is stable
  - IT staff is available during entire time of connection to client/patient

* Maheu, Pulier, Wilhelm, McMenamin & Brown-Connolly. (2004). The mental health professional and the new technologies. Erlbaum, New York.

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Free Access

The Empirical Evidence for Telemedicine Interventions in Mental Disorders

Bashshur Rashid L., Shannon Gary W., Bashshur Noura, and Yellowlees Peter M.

Published Online: 27 Jan 2016 | https://doi.org/10.1089/tmj.2015.0206

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Abstract

AbstractProblem and Objective:This research derives from the confluence of several factors, namely, the prevalence of a complex array of mental health issues across age, social, ethnic, and economic groups, an increasingly critical shortage of mental health professionals and the associated disability and productivity loss in the population, and the potential of telemental health (TMH) to ameliorate these problems. Definitive information regarding the true merit of telemedicine applications and intervention is now of paramount importance among policymakers, providers of care, researchers, payers, program developers, and the public at large. This is necessary for rational policymaking, prudent resource allocation decisions, and informed strategic planning. This article is aimed at assessing the state of scientific knowledge regarding the merit of telemedicine interventions in the treatment of mental disorders (TMH) in terms of feasibility/acceptance, effects on medication compliance, health outcomes, and cost.Materials and Methods:We started by casting a wide net to identify the relevant studies and to examine in detail the content of studies that met the eligibility criteria for inclusion. Only studies that met rigorous methodological criteria were included. Necessary details include the specific nature and content of the intervention, the research methodology, clinical focus, technological configuration, and the modality of the intervention. Results: The published scientific literature on TMH reveals strong and consistent evidence of the feasibility of this modality of care and its acceptance by its intended users, as well as uniform indication of improvement in symptomology and quality of life among patients across a broad range of demographic and diagnostic groups. Similarly, positive trends are shown in terms of cost savings. Conclusion: There is substantial empirical evidence for supporting the use of telemedicine interventions in patients with mental disorders.

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Results: The published scientific literature on TMH reveals strong and consistent evidence of the feasibility of this modality of care and its acceptance by its intended users, as well as uniform indication of improvement in symptomology and quality of life among patients across a broad range of demographic and diagnostic groups. Similarly, positive trends are shown in terms of cost savings. **Conclusion:** There is substantial empirical evidence for supporting the use of telemedicine interventions in patients with mental disorders.

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Bashshur, R. L., Shannon, G. W., Bashshur, N., and Yellowlees, P. M. (2016). The Empirical Evidence for Telemedicine Interventions in Mental Disorders. *Telemedicine and e-Health.*

http://doi.org/10.1089/tmj.2015.0206

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More Supporting Research

Hilty, Ferrer, Parish, Johnston, Callahan & Yellowlees – 2013

- Reviewed 755 studies and included 85 studies
- Results: *Telemental health is effective for diagnosis and assessment across many populations (adult, child, geriatric, and ethnic) and for disorders in many settings (emergency, home health) and appears to be comparable to in-person care. In addition, this review has identified new models of care (i.e., collaborative care, asynchronous, mobile) with equally positive outcomes.*

Hilty, D. M., Ferrer, D. C., Parish, M. B., Johnston, B., Callahan, E. J., & Yellowlees, P. M. The effectiveness of telemental health: A 2013 review. *Telemedicine and Ehealth.* 19(6):444-54. doi: 10.1089/tmj.2013.0075.

Supporting Research

- Godleski, Darkins & Peters reported in April of 2012 that hospital utilization in psychiatric populations at the Veterans Administration were decreased by an average of 25% since the use of telehealth.

Godleski, L. Darkins, A. & Peters, J. Outcomes of 98,609 U.S. Department of Veterans Affairs patients enrolled in telemental health services, 2006–2010. Psychiatric Servcies, 63(4). 383-385.

Supporting Research

- It is worthy of note, however, that:
  - *This study focused on clinic-based, high-speed videoconferencing and did not include any home telehealth encounters. Mental health patients were referred for telecare by clinicians. Typically, telemental health services were provided remotely at community-based outpatient clinics by mental health providers of all disciplines located at larger parent VA hospital facilities.*
  - *Equipment consisted of either room or personal desktop videoconferencing units*

Godleski, L. Darkins, A. & Peters, J. Outcomes of 98,609 U.S. Department of Veterans Affairs patients enrolled in telemental health services, 2006–2010. Psychiatric Servcies, 63(4). 383-385.

2. Legal Issues

Laws, Ethical Standards, Guidelines, & Competencies

- All refer to privacy and confidentiality

All Existing Legal and Ethical Rules Apply

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Informed Consent

- Legal Issue
- Ethical Issue
- Static vs. Dynamic

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Informed Consent Discussion VS Just Signing a Document

IC Represents a "meeting of the minds"

- Information transfer is influenced by many factors, including:
  - Client/Patient's capacity for absorbing information
  - Time Limits
  - Clinician's schedule

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Informed Consent Discussion VS Just Signing a Document

- Subject matter is often too complex and technical
- Clinician thinks she is speaking English but some words are not understood
- Client/Patient may be under stress (or may assert so later)
- Mental illness

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Informed Consent Discussion VS Document

- Specific statutes govern informed consent in telehealth
- Who's state/provincial law controls?
  - Solution: assume that the law of the client/patient's location will most likely be applied
  - More conservative approach is to determine the law in both your and your client/patient's state/province and follow mandates of the more stringent law

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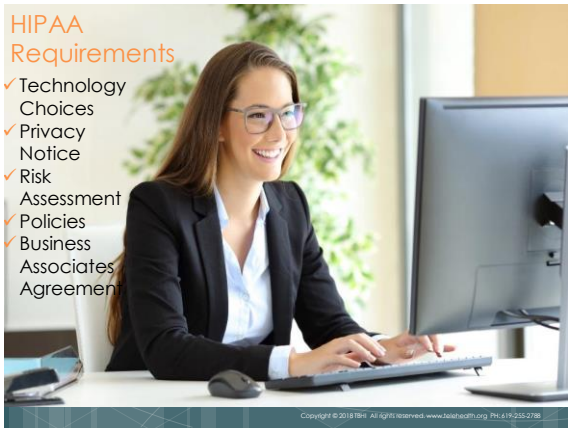
Other Documents

- Intake
- Progress note
- Termination note
- Referral slips
- Risk assessments
- Internal policies and statements

HIPAA Requirements

- ✓ Technology Choices
- ✓ Privacy Notice
- ✓ Risk Assessment
- ✓ Policies
- ✓ Business Associates Agreement



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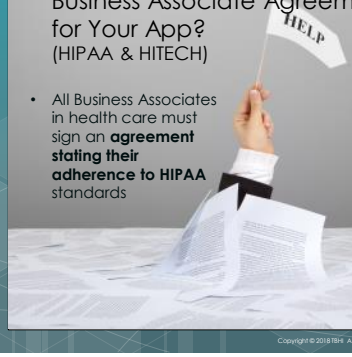
Business Associate Agreements for Your App?
(HIPAA & HITECH)

- All Business Associates in health care must sign an **agreement stating their adherence to HIPAA** standards



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What makes you a HIPAA "covered entity"?

- Engaging in "electronic covered transactions"
- Filing electronic insurance claims

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HIPAA Policies

- Document policies
  - Security & privacy policies
    - Repairs
    - Staff training
    - Breach notification, etc.
- Use HIPAA compliant "compatible" *technology*
- Develop written *processes*

Practicing Over Provincial or National Borders

Inter-jurisdictional Practice

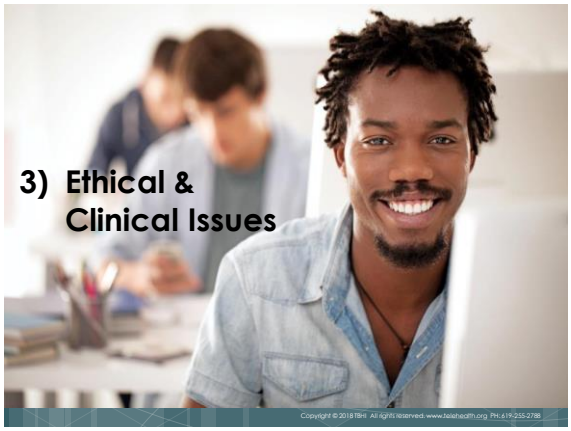
- Licensing Boards that may assert jurisdiction:
- The one in the professional's state(s) of licensure
- The one in the client/patient's state of location **at the time of contact**
- Both

Inter-jurisdictional Practice

- **Safest Practice:**
- Provide services only where licensed
- Require client/patient to attest to his or her location at every contact

Duty to Report / Duty to Warn

- (v) Failing to comply with the child abuse reporting requirements of Section 11166 of the Penal Code.
- (w) Failing to comply with the elder and adult dependent abuse reporting requirements of Section 15630 of the Welfare and Institutions Code. CA Business and Professions Code Sections 4989.54 (cont.)



3) Ethical & Clinical Issues

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Telebehavioral Health Standards & Guidelines

- American Association of Marriage and Family Therapy. (2015). Code of Ethics.
- American Medical Association. (2000). Guidelines for Patient-Physician Electronic Mail
- American Counseling Association. (2013). ACA Code of Ethics, Section H
- American Mental Health Counselors Association. (2016). Code of Ethics of the American Mental Health Counselors Association, Section 6
- American Psychological Association. (2010). Ethical principles of psychologists and code of conduct
- American Psychological Association. (2013). Guidelines for the Practice of Telepsychology

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Telebehavioral Health Standards & Guidelines

- American Telemedicine Association. (2009). Evidence-Based Practice for Telemental Health
- American Telemedicine Association. (2009). Practice Guidelines for Videoconferencing-Based Telemental Health
- American Telemedicine Association. (2013). Practice Guidelines For Video-Based Online Mental Health Services.
- Association for Addiction Professionals. (2016). NAADAC Code of Ethics
- Australian Psychological Society. (2004). Guidelines for Providing Psychological Services and Products on the Internet
- British Psychological Society. (2009). The Provision of Psychological Services via the Internet and Other Non-direct Means

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Telebehavioral Health Standards & Guidelines

- National Association of Social Workers. (2017). NASW, ASWB, CSWE, & CSWA Standards for Technology in Social Work Practice
- National Board for Certified Counselors and Center for Credentialing and Education, (2016). Policy regarding the Provision of Distance professional Services
- New Zealand Psychologists Board (2012). The Practice of Telepsychology
- Ohio Psychological Association. (2010). Telepsychology Guidelines
- Canadian Psychological Association. (2006). Ethical Guidelines for Psychologists Providing Psychological Services via Electronic Media

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Clinical & Safety Issues

- Lean to gauge your own effectiveness as a clinician through a camera
  - Lean forward to show engagement
  - Be aware of visual screen
  - Avoid showing top of your head through most of session
- Encourage pause or reflection to modify a pattern of shifts in technology- facilitated or specific boundaries

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CORRECTION

Correction to: An Interprofessional Framework for Telebehavioral Health Competencies

Marlene M. Maheu[1] · Kenneth P. Drude[2] · Katherine M. Hertlein[3] · Ruth Lipschutz[4] · Karen Wall[5] · Donald M. Hilty[6]

Published online: 5 March 2018

Introduction

In 2001, the Institute of Medicine (IOM) released a report that highlighted the inadequacies of health care professions education and assessment of ongoing proficiency to advance patient care and safety (IOM [2001](#)). The IOM's subsequent *Health Professions Education Summit* (HPES) then identified objectives for educational reform for the following health professionals in the United States: nurses, pharmacists, physician assistants, physicians, and allied health professionals, including, for example, psychologists, counselors, and social workers (IOM HPES [2003b](#)). The IOM thereby identified *a set of simple, core competencies that all health clinicians should possess, regardless of their discipline, to meet the needs of the twenty-first-century health care system* (p. 43). These included the ability to:

- Provide patient-centered care.
- Work in interdisciplinary teams.
- Employ evidence-based practice.
- Apply quality improvement.
- Use information technology (IOM [2003a](#), p. 45)

Since then, educational reform related to competencies has made significant advances. In fact, the above-mentioned competencies are now often considered a foundation for workforce development. They provide indicators

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Telebehavioral Health Competencies

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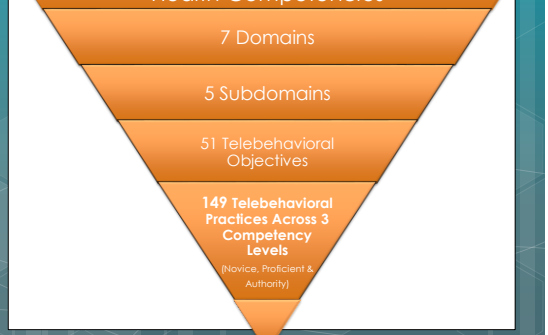
Competencies

CTiBS Interprofessional Framework for Telebehavioral Health Competencies



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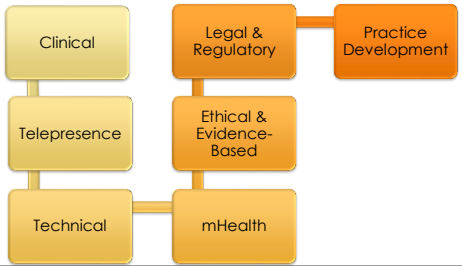
7 CTiBS TBH Competency Domains



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Competency Levels

- **Domain and Subdomains** are organized according to **competency level**
  - Novice – advanced students, interns or residents
  - Proficient – licensed professional, teaching faculty, supervisor
  - Authority - advanced practitioner, specialist

NOVICE	PROFICIENT	AUTHORITY
I.A SUBDOMAIN -- Assessment and Treatment	**I.A SUBDOMAIN -- Assessment and Treatment**	**I.A SUBDOMAIN -- Assessment and Treatment**
I.A.1 Identifies factors related to clients'/patients'[0001] appropriateness for TBH services and considers that some clients/patients may not be appropriate.	I.A.1 Systematically assesses and identifies clinical, diagnostic, setting, population and other factors that would preempt, complicate or exclude a technology e.g., prisons may not allow use of Internet; adaptive devices may be needed for special populations. Identifies and resolves conflicting administrative, clinical and other barriers.	I.A.1 Develops, researches and disseminates peer-reviewed and when possible, evidence-based procedures to address complex clinical, setting, population and other factors that would otherwise preempt, complicate or exclude TBH service. Investigates conflicting administrative, clinical and other barriers.

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CLINICAL EVALUATION AND CARE (TBH Domain I)

Evaluation & Treatment
(Subdomain I.A)

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Intake Process Summary

- Conduct a formal intake – no shortcuts
- For complex cases, consider meeting in-person first, when possible, identify geographic location, organizational culture take full history, medications and medical conditions, mental status and stability, use of substances stressors, treatment history, support system, use of other technology, suicide/homicide intent
- Consider previous diagnoses

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TBH COMPETENCIES -- CLINICAL EVALUATION & CARE – Subdomain 1.A: Evaluation & Treatment

1. Assesses for client/patient appropriateness for TBH services
2. Assesses and monitors client/patient comfort with TBH
3. Applies/adapts in-person clinical care requirements to TBH

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TBH COMPETENCIES -- CLINICAL EVALUATION & CARE – SUBDOMAIN 1.A: Evaluation & Treatment

4. Implements and adapts a TBH service plan with policies/procedures adjusted accordingly
5. Monitors therapeutic engagement related to each TBH modality
6. Establishes and maintains professional boundaries
7. Provides training, supervision and/or consultation to others (for Proficient and Authority)

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Intake Process Summary

- Decide *if*, then *which* technology is appropriate / Assess technical competence / ability to arrange appropriate setting
- Obtain names of all other key providers, get appropriate releases
- Verify contact information (address, phone, email)
- Develop emergency plan in writing
- Explain & sign informed consent

Assessment in Telepractice

Screen for client/patient needs

Assessment in Telepractice

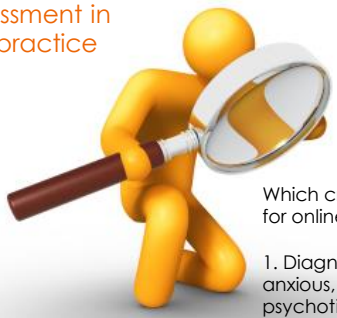
Systematically assess and identify clinical, diagnostic, setting, population, and other factors that would preempt, complicate or exclude use of a technology with a client/patient

Assessment in Telepractice

Pre-screening of clients is key. How are you organized to do so?

1. In-person assessment?
2. Referral from professional?
3. Validated online assessment system?

Assessment in Telepractice



Which criteria to use for online screening?

1. Diagnosis: highly anxious, depressed, psychotic, chemically dependent, acting out clients are not good candidates.

Assessment in Telepractice

Criteria to use for online screening?

2. Setting: For difficult clients/patients, settings are crucial to consider. Prisons, in-patient units, other treatment facilities provide support

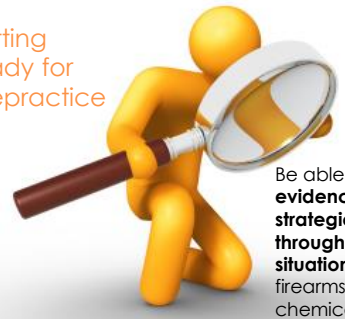
Assessment in Telepractice

Identify and resolve other conflicting barriers that are clinical or administrative (e.g. disruptive children, need for frequent emergency contact, etc.)

Getting Ready for Telepractice

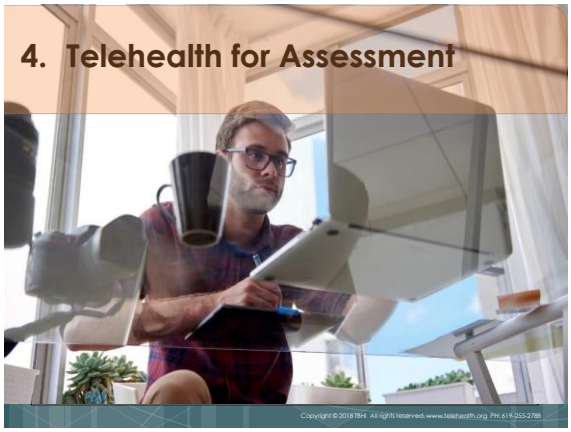
Be able to articulate evidence-based strategies to work through **your own powerlessness** (e.g. domestic violence, self-mutilation, aggression, un-invited visitors, premature termination)

Getting Ready for Telepractice



Be able to articulate **evidence-based strategies to work through dangerous situations** (e.g. firearms in the home, chemically dependent adults, disruptive children)

4. Telehealth for Assessment



Forensic competency evaluations via videoconferencing: A feasibility review and best practice recommendations.

EXPORT ★ Add To My List Database: PsycARTICLES Journal Article

Luxton, David D. Lexcen, Frances J.

Citation

Luxton, D. D., & Lexcen, F. J. (2018). Forensic competency evaluations via videoconferencing: A feasibility review and best practice recommendations. *Professional Psychology: Research and Practice, 49*(2), 124-131. http://dx.doi.org/10.1037/pro0000179

Abstract

The demand for pretrial forensic evaluation services is growing rapidly in the United States. The use of videoconferencing (VC) to conduct assessments has the potential to help meet this increasing demand by improving the availability and efficiency of evaluation services. However, perceived legal and practical barriers to using VC for adjudicative competency evaluations or other forensic evaluations can inhibit adoption of these capabilities. This article reviews and summarizes information regarding the use of VC for adjudicative competency evaluations in order to help to overcome these barriers and to guide optimal implementation of VC-based evaluation services. Courts, attorneys, and the professionals who conduct evaluations can benefit from the ability to conduct or attend evaluations via VC. Forensic evaluator professionals should seek the necessary training in order to become competent in conducting evaluations over VC.

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Assessment through Telebehavioral Health

- All assessment approaches have advantages and disadvantages. The clinician should balance approach selection based on balancing quality and access, with close consideration of the client/patient safety.

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Assessment through Telebehavioral Health

- Administration of diagnostic tools may be completed:
  - at the time of the evaluation
  - beforehand on paper and faxed to the telepractitioner
  - beforehand using an automated phone dialing system
  - over the internet using a secure interface
  - via an "app" on a smartphone or tablet provided at the distant telehealth site or on the client/patient's own mobile device

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GUIDELINES FOR THE PRACTICE OF TELEPSYCHOLOGY

Testing and Assessment

Guideline 7: *Psychologists are encouraged to consider the unique issues that may arise with test instruments and assessment approaches designed for in-person implementation when providing telepsychology services.*

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Online Assessment Advantages

- Less time-consuming
- Easier to achieve standardization of administration
- Less costly
- May be preferred by client/patient

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Online Assessment Advantages

- More easily scored
- More easily disseminated to large populations
- Data entry is more automated, reducing human error, minimizing missing information
- Decreased impact of social desirability

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Online Assessment Disadvantages

- Could be negatively impacted by slow Internet speed
- Variable standardization of appearance of materials depending on screen size and resolution
- Authentication of test-taker is more difficult

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Online Assessment Disadvantages

- May not be preference of test-taker
- Clinician may not be proficient with remote test administration, interpretation or discussing results = safety issues

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EB Models for Tele-Assessment

- Materials administered:
  - At the time of the evaluation via video conferencing
  - Beforehand on paper and faxed to the telepractitioner
  - Beforehand using an automated phone dialing system
  - Over the internet using a secure interface
  - Via an "app" on a smartphone or tablet provided at the distant telehealth site or on the client/patient's own mobile device

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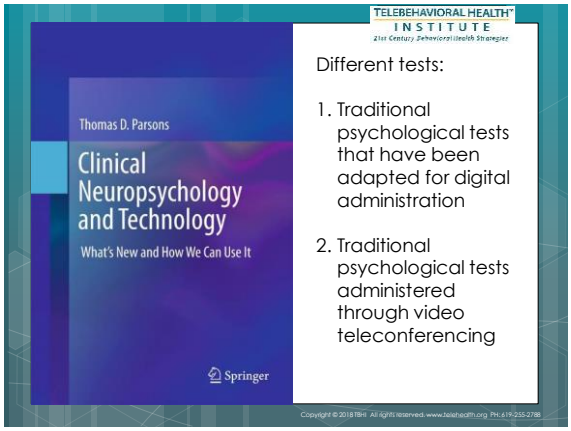
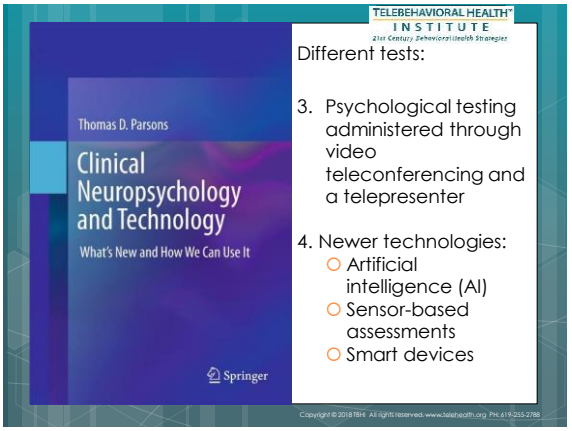
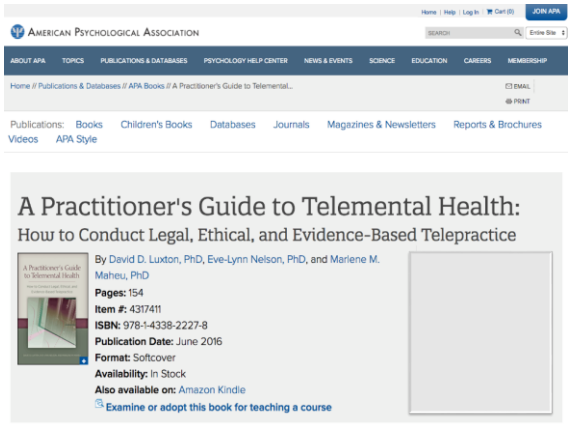
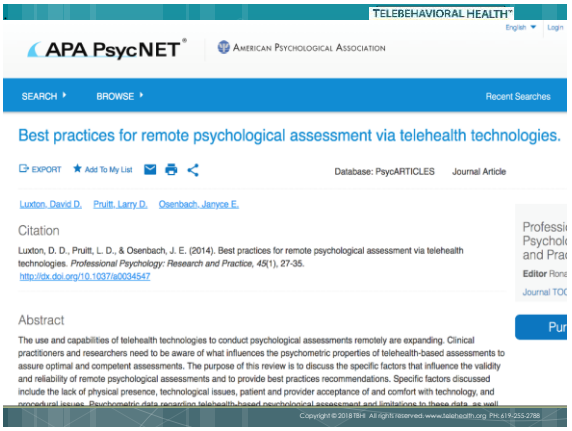
Tele-Assessment Clinician Requirements

- Chooses correct technology for the task at hand
- Is proficient with the chosen technology
- Conducts all required risk assessments
- Can trouble-shoot problems
- Consults with remote IT staff when needed
- Knows when/how to report breach to authorities
- Can properly document as per state or provincial or federal law, relevant professional guidelines, and other authorities (e.g. JCAHO, CARF)
- Knows when and how to use a telepresenter









Munro Cullum & Colleagues, 2015

Robert Kane & Colleagues, 2008

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Teleneurology in patients with multiple sclerosis: EDSS ratings derived remotely and from hands-on examination

- Compared the telemedicine assessment of 20 patients with multiple sclerosis (MS) with the findings of a hands-on examiner. The remote specialist was a neurologist with expertise in MS; the hands-on examination was performed by an experienced mid-level practitioner.
- Also compared the findings of a second specialist viewing the examination in the room with the patient.
- Agreement between the remote and local examiners was similar to that reported for different neurological examiners directly assessing the same patient using the EDSS rating system.

5. Safety

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Clinical & Safety Issues

- Assess client/patient skill/self-efficacy and preference for technology
- Consider the level of technology experience of the patient (train if needed
- Have a back-up plan if the video connection is lost
  - Telephone -- landlines are best, but cell phones are better than nothing

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Clinical & Safety Issues

- Evaluate clinical goals systematically with respect to the use of technology, and likelihood of positive/negative outcomes (e.g. continue current technology or emphasize another instead)

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Clinical & Safety Issues

- What are the client's/patient's questions / concerns?
  - Are they concerned about their privacy being violated?
  - Do they think you are recording the sessions?
  - Will their information be visible on YouTube or the television?

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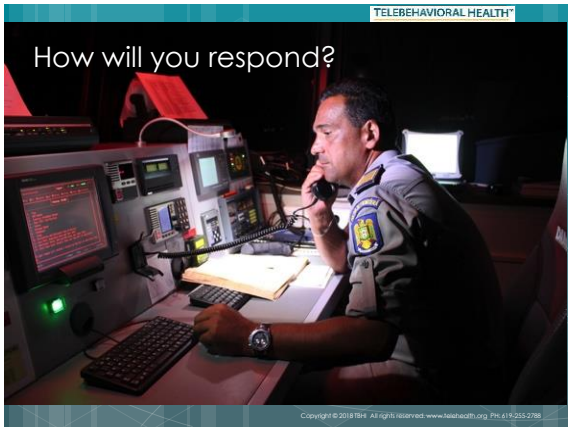
How will you respond?



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What would make it impossible for you to manage an emergency?

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ATA Guidelines - Emergencies

- *A patient site assessment shall be undertaken, including obtaining information on local regulations & emergency resources, and identification of potential local collaborators to help with emergencies.*

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Safety Planning

- Safety planning is required
  - *Safety plans* are the written steps for carrying out safety procedures
  - *Emergency protocols* define the steps to be followed during emergency situations
- Have your own basic standard safety plan

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Safety/Emergency Planning

- Screen/assess patients before initiating TBH
  - Talk with referring provider(s)when appropriate
  - Assess history (e.g., patient with history of violence towards family members at home may not be a good candidate)
  - Consider current diagnosis

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Safety/Emergency Planning

- Establish back-up communication (landline/cell phone)
- Ask for patient's physical location (if home-based)
- Firearms safety/culture sensitivity

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RESEARCH Original article

Teleneurology in patients with multiple sclerosis: EDSS ratings derived remotely and from hands-on examination

Robert L Kane*†, Christopher T Bever*†, Mary Ehrmantraut*, Alan Forte‡, William J Culpepper*† and Mitchell T Wallin§¶

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Summary

We compared the telemedicine assessment of 20 patients with multiple sclerosis (MS) with the findings of a hands-on examiner. The remote specialist was a neurologist with expertise in MS; the hands-on examination was performed by an experienced mid-level practitioner. We also compared the findings of a second specialist viewing the examination in the room with the patient. The videoconference link operated at a bandwidth of 384 kbit/s. All three examiners independently completed a standardized rating scale for neurological functions. Cronbach's α for the three raters' total expanded disability status scale (EDSS) score was 0.99 with individual correlations ranging from 0.96–0.97. Agreement between raters for individual neurological domain scores was more variable. The most consistent assessments were for optic, bowel and bladder, and cerebral functions. The least consistent were for cerebellar and brain stem functions. Agreement between the remote and local examiners was similar to that reported for different neurological examiners directly assessing the same patient using the EDSS rating system.

Introduction

There have been a number of studies assessing the feasibility of remote consultation in neurology. Some reports have been anecdotal, where remote consultation and examination were deemed to have contributed to patient management.[1–3] Other studies have compared remote and traditional hands-on examination with respect to diagnoses,[4,5] investigations undertaken,[4,5,6] and length of hospitalization and post-hospital course.[6] The general Parkinson's Disease Rating Scale for remote patient assessment.[7,8] All studies produced positive results. While the literature supports the use of telemedicine to bring expert neurological assessment to locations where it is not readily available, there has been no systematic study of the use of teleneurology for assessing patients with multiple sclerosis (MS).

We therefore compared the assessment made by a specialist viewing the neurological examination remotely with the findings of a hands-on examiner. To simulate conditions under which telemedicine would probably

Robert Kane & Colleagues, 2008

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Teleneurology in patients with multiple sclerosis: EDSS ratings derived remotely and from hands-on examination

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Summary of TBH Risk Management Strategies

- Practice within the scope of your expertise
  - Clinical, legal, ethical and technical competence
  - Follow the evidence base
  - Follow all professional association standards (required) and guidelines (aspirational or "suggested")

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Summary of TBH Risk Management Strategies

- Practice within the scope of your expertise
  - Cover all practice bases with proper intake/assessment, screening, informed consent, safety planning and emergency
  - Read and comment on new standards and guidelines when they are released – these can determine your fate

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Safety Issues to Consider

- Identify and use of a local collaborator such as a family member or close friend of a patient
  - Enter name and contact information into informed consent document
  - Stipulate under which conditions these people will be contacted
  - Outline emergency procedures and when collaborator will be notified
  - Clearly define expected roles and responsibilities of local collaborators
  - Consider discussing these issues with local friends/family members directly

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Safety Issues to Consider

- Local collaborator can be helpful for:
  - providing information about the patient's history
  - monitoring mood and behavior
  - assisting with treatment planning and coordination
  - coordination with local 911 service when needed

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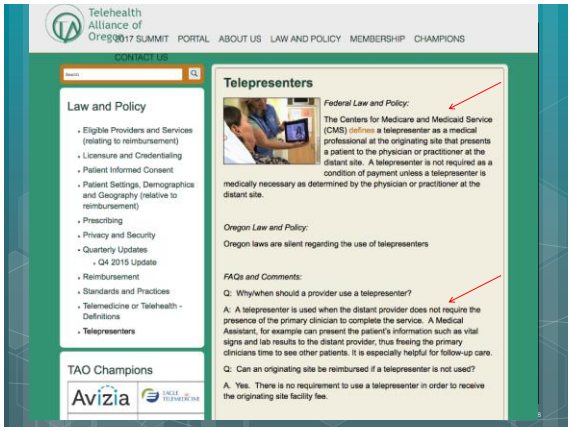
Safety Issues to Consider

- Local collaborator can:
  - provide an additional mechanism for contacting patients if a connection becomes lost
  - provide on-site technical assistance
  - provide support to a patient during emergency situations



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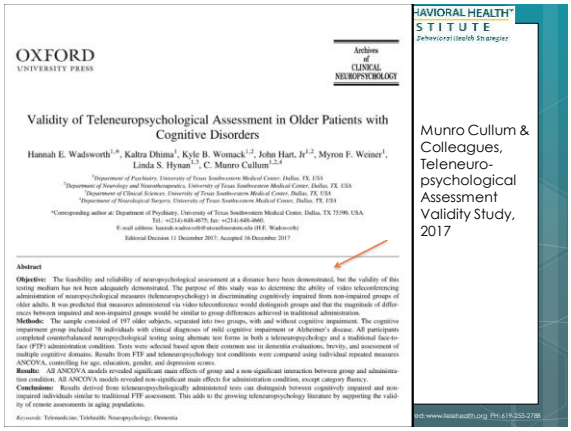
Telepresenter

- The **telepresenter** is an assistant who is trained to aid a professional by being at the originating site in telehealth
- He or she can aid with setting up the client/patient with the technology, following instructions from the professional, who may be miles away
- The telepresenter might also be involved in the room with the patient, in re-positioning the camera so that a distant neurologist can see a patient's feet for a gait analysis, or in placing blocks or other test items in front of the client/patient in neuropsychology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Archives of CLINICAL NEUROPSYCHOLOGY

Validity of Teleneuropsychological Assessment in Older Patients with Cognitive Disorders

Hannah E. Wadsworth[1,*], Kaltra Dhima[1], Kyle B. Womack[1,2], John Hart, Jr[1,2], Myron F. Weiner[1], Linda S. Hynan[1,3], C. Munro Cullum[1,2,4]

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Editorial Decision 11 December 2017; Accepted 16 December 2017

Abstract

Objective: The feasibility and reliability of neuropsychological assessment at a distance have been demonstrated, but the validity of this testing medium has not been adequately demonstrated. The purpose of this study was to determine the ability of video teleconferencing administration of neuropsychological measures (teleneuropsychology) in discriminating cognitively impaired from non-impaired groups of older adults. It was predicted that measures administered via video teleconference would distinguish groups and that the magnitude of differences between impaired and non-impaired groups would be similar to group differences achieved in traditional administration.

Methods: The sample consisted of 197 older subjects, separated into two groups, with and without cognitive impairment. The cognitive impairment group included 78 individuals with clinical diagnoses of mild cognitive impairment or Alzheimer's disease. All participants completed counterbalanced neuropsychological testing using alternate test forms in both a teleneuropsychology and a traditional face-to-face (FTF) administration condition. Tests were selected based upon their common use in dementia evaluations, brevity, and assessment of multiple cognitive domains. Results from FTF and teleneuropsychology test conditions were compared using individual repeated measures ANCOVA's, controlling for age, education, gender, and depression scores.

Results: All ANCOVA models revealed significant main effects of group and a non-significant interaction between group and administration condition. All ANCOVA models revealed non-significant main effects for administration condition, except category fluency.

Conclusions: Results derived from teleneuropsychologically administered tests can distinguish between cognitively impaired and non-impaired individuals similar to traditional FTF assessment. This adds to the growing teleneuropsychology literature by supporting the validity of remote assessments in aging populations.

Keywords: Telemedicine; Telehealth; Neuropsychology; Dementia

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Munro Cullum & Colleagues, Teleneuro-psychological Assessment Validity Study, 2017

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Validity of Teleneuropsychological Assessment in Older Patients with Cognitive Disorders

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14 Special Considerations in Conducting Neuropsychology Assessment over Videoteleconferencing

C. Munro Cullum and Maria C. Grosch

University of Texas Southwestern Medical Center at Dallas, Dallas, TX

Background and Scope

There has been an explosive growth in telemedicine technology applications over the past decade. Modern telecommunications and videoteleconferencing (VTC) provide greatly enhanced audiovisual transmission and real-time interactions as compared with earlier technology, and increasingly reduced costs of VTC provide for more ready access in a variety of settings. Significant advances have been made in the field of telemedicine applications since the term "telemedicine" was introduced by Dwyer in 1973, and there are now at least four journals that focus on telemedicine and telehealth. One of the largest growth areas in telehealth applications has been in telepsychiatry (Wootton & Craig, 1999; Wootton, Yellowlees, & McLaren, 2003), which is used widely in mental health programs across the world, including major telemental health initiatives in the VA Hospital system (Darkins, 2006). A recent literature search of Medline, PsychInfo, and PubMed using the terms "telepsychiatry" and "telemental" resulted in a total of 233 citations since 1973, reflecting a three- to fourfold increase over the past 10 years. Telestroke programs are also growing rapidly (156 citations over the past 5 years), allowing specialists to see and examine patients in remote settings that might not have access to specialty care. In comparison, the terms "teleneuropsychology," "telecognitive assessment," and "neuropsychology" combined with "telemedicine," "telehealth," or "videoconference" resulted in only three references. Nevertheless, application of neuropsychological assessment procedures in the VTC context is growing, although only a handful of tests have undergone psychometric investigation when administered in traditional face-to-face versus VTC fashion, as reviewed below.

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Cullum & Grosch, 2013

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Opening Protocol* & Documentation

- Identify yourself and your geographic location
- Ask your client/patient to do the same (as needed)
- Audio/video check (e.g. *Do you hear & see me clearly?)*
- *Is there anyone in your room or within ear-shot today?* (Agree on safety code words, signals or phrases)
- *Is there anything else I might notice and find of interest if I were in the same room with you today?*

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Opening Protocol* & Documentation

- Ask if anyone is in the room, and state if anyone is in the room with you
- If you hear noises, stop and ask, *Has someone entered your room?* More times than not, patients won't tell you if someone has entered the room
- Mention that the session is or is not being recorded and verify whether they are recording it in any way

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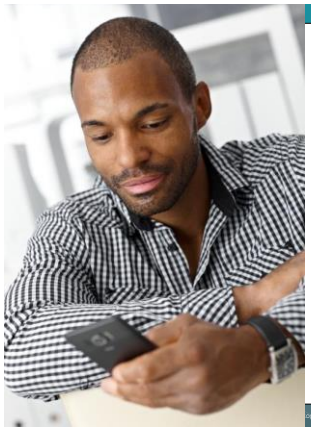
Opening Protocol* & Documentation

- Conduct a quick audio and visual assessment and make adjustments as necessary (e.g., are window blinds causing a glare? Is there something interfering with the microphone? Is someone vacuuming in the next room?)



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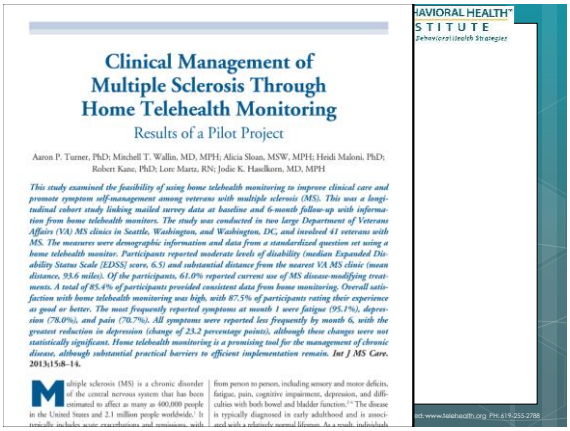
Opening Protocol

Set the stage, depending on client/patient:

"My door is locked, no one else is here. I'll show you my room and would like you to do the same with me using your camera."



Clinical Management of Multiple Sclerosis Through Home Telehealth Monitoring

Results of a Pilot Project

Aaron P. Turner, PhD; Mitchell T. Wallin, MD, MPH; Alicia Sloan, MSW, MPH; Heidi Maloni, PhD; Robert Kane, PhD; Lore Martz, RN; Jodie K. Haselkorn, MD, MPH

This study examined the feasibility of using home telehealth monitoring to improve clinical care and promote symptom self-management among veterans with multiple sclerosis (MS). This was a longitudinal cohort study linking mailed survey data at baseline and 6-month follow-up with information from home telehealth monitors. The study was conducted in two large Department of Veterans Affairs (VA) MS clinics in Seattle, Washington, and Washington, DC, and involved 41 veterans with MS. The measures were demographic information and data from a standardized question set using a home telehealth monitor. Participants reported moderate levels of disability (median Expanded Disability Status Scale [EDSS] score, 6.5) and substantial distance from the nearest VA MS clinic (mean distance, 93.6 miles). Of the participants, 61.0% reported current use of MS disease-modifying treatments. A total of 85.4% of participants provided consistent data from home monitoring. Overall satisfaction with home telehealth monitoring was high, with 87.5% of participants rating their experience as good or better. The most frequently reported symptoms at month 1 were fatigue (95.1%), depression (78.0%), and pain (70.7%). All symptoms were reported less frequently by month 6, with the greatest reduction in depression (change of 23.2 percentage points), although these changes were not statistically significant. Home telehealth monitoring is a promising tool for the management of chronic disease, although substantial practical barriers to efficient implementation remain. Int J MS Care. 2013;15:8–14.

Multiple sclerosis (MS) is a chronic disorder of the central nervous system that has been estimated to affect as many as 400,000 people in the United States and 2.1 million people worldwide.[1] It typically includes acute exacerbations and remissions, with from person to person, including sensory and motor deficits, fatigue, pain, cognitive impairment, depression, and difficulties with both bowel and bladder function.[2–4] The disease is typically diagnosed in early adulthood and is associ-

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Clinical Management of Multiple Sclerosis Through Home Telehealth Monitoring

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6. Client/Patient Training

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How to Educate?

- Use variety of education methods such as:
  - Discussion
  - In-office demo
  - Hands-on training
  - Home or video visit by an assistant
  - Demo via remote control of patient's desktop or laptop
  - Video instruction
  - Handouts
  - Instructions on your clinical practice website
  - Online training program
  - Frequently Asked Question resources

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Client/Patient Training

- Preferences (Email /Texting/Telephone/Video)
- Skills
- Concerns / resistance
- File exchanges via email, text or websites
- What will happen if someone else sends clinician information
- How someone else can easily intercept information
- Social networking – social media policy

7. Risk Management & Malpractice

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Risk Management

- Practice within the scope of your license
- Practice within the scope of your expertise
  - Clinical, legal, ethical and technical competence
  - Evidence base
- Carry adequate malpractice insurance

Liability (Malpractice) Insurance

- Likely to be nullified if practitioner is practicing criminally (e.g., w/o proper license or improper billing practices, depending on state)
- For benefits to apply, must have:
  - a formal client agreement for clinician to be considered as providing professional services
- Often can have "coaching" added to policy for additional fee if certified by recognized group

Liability (Malpractice) Insurance

- Write to your malpractice carrier and describe your proposed service before investing too much time or $$
- Notify your carrier of every state you "enter" to deliver care

Slides and Handouts

telehealth.org/nan2018

Questions?

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