Successes and Barrier of Implementing Telehealth Models of Rehabilitation with Children and Adults

Andrew Persch, PhD, OTR/L
Division of Occupational Therapy
The Ohio State University

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Andrew Persch, PhD, OTR/L
andrew.persch@osumc.edu

Assistant Professor
Division of Occupational Therapy
The Ohio State University

andrew.persch@osumc.edu
andrewpersch.com
614-685-9217 (O)
Biases/ Disclosures

1. Technology has the potential to improve practice, workflow, and outcomes when used thoughtfully

2. AOTA Technology Special Interest Section

3. Various technologies used within research context

4. No financial COI
Session Learning Objectives

1. Understand the terminology related to telehealth/telerehabilitation
2. Describe evidence-based clinical applications of telehealth in OT
3. Discuss how the use of telehealth technologies may contribute to a world of health and well being

Presentation adapted with permission from:

Cason, J. (2014). Telehealth and Occupational Therapy: Integral to a World of Health and Wellbeing. OT4OT.com
Telehealth

“Telehealth is the use of information and communication technologies (ICT) to deliver health-related services when the provider and client are in different physical locations.” (WFOT, 2014, p. 1)
Telehealth

“...the application of evaluative, consultative, preventative, and therapeutic services delivered through telecommunication and information technologies” (AOTA, 2013, p. S69)

Image from USDA.gov (http://www.flickr.com/photos/usdagov/5485711368/)

Image from T. Richmond (www.go2care.com)
Deciphering the Terminology

- Telemedicine
- Telehealth
- Telerehabilitation/Telerehab
- Teleoccupational therapy
- Telepractice
- Telecare

- e-health (i.e. apps, blogs, health info., gaming technologies)
- m-health - “mobile health”

- Terms describing the service: Tele-intervention, tele-monitoring, tele-evaluation, tele-supervision, tele-mentoring

## Overview of Telehealth Technology

<table>
<thead>
<tr>
<th>Synchronous</th>
<th>Asynchronous</th>
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<tr>
<td>Videoconferencing</td>
<td>Recorded video</td>
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<td>Real-time monitoring devices</td>
<td>Recorded data from monitoring devices</td>
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<td>Interactive virtual reality devices</td>
<td>Digital photographs</td>
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<td>Electronic communication</td>
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Successes in Telehealth
Growing evidence on the efficacy and effectiveness of telerehabilitation shows that telerehabilitation leads to similar or better clinical outcomes when compared with conventional interventions. Further information on resource allocation and costs is needed to support policy and practice. (p. 119)

Comparative Effectiveness

**Interventions to support participation in ADLs**
Taber-Doughty, Shurr, Brewer, & Kubik, 2010

**Home, wheelchair & mobility assessment**
(Barlow, Liu, Sekulic, 2009; Schein, Schmeler, Holm, Pramuka, Saptono, & Brienza, 2011)

**Occupational therapy evaluation using a variety of OT assessments**

**Inter-professional pediatric diagnostic evaluations**
(Harper, 2006)

**Prescription of adaptive equipment environmental modifications**
(Hoffmann & Russell, 2008)

**Systematic review of clinical outcomes**
(Kairy, Lehoux, Vincent, & Visintin, 2009; Steel, Cox, & Garry, 2011)
Use of Telehealth within Occupational Therapy: Models of Care

Evidence Supports Tele-evaluation

Evaluation areas

- **Wheelchair prescription**
  - Barlow, Liu, & Sekulic (2009)
  - Schein, Schmeler, Holm, Saptono, & Brienza, 2010; Schein, Schmeler, Holm, Parmuka, Saptono & Brienza (2011)

- **Neurological assessment**

- **Adaptive equipment prescription and home modification**
  - Sanford et al. (2007)

- **Ergonomic assessment**
  - Baker & Jacobs (2013)

Evaluation Tools

- **Functional Reach Test and European Stroke Scale**
  - Palsbo, Dawson, Savard, Goldstein, & Heuser (2007)

- **Kohlman Evaluation of Living Skills and the Canadian Occupational Performance Measure**
  - Dreyer, Dreyer, Shaw, & Wittman (2001)

- **Functional Independence Measure, Jamar Dynamometer, Preston Pinch Gauge, Nine Hole Peg Test, and Unified Parkinson’s Disease Rating Scale**
Evidence Supports Tele-consultation

Definition

- A virtual consultation for the purpose of obtaining and sharing medical information or advice between:
  - Expert provider and client
  - Expert provider and local provider with the client present
  - Expert provider and local provider without client present

Key Studies

- Play performance in children with special needs (Wakeford, 2002)
- Veterans with traumatic brain injury (Girard, 2007)
- Wheelchair seating consultations between distant and local providers (Schein, et.al, 2008)

AOTA (2013)
Evidence Supports Tele-intervention

Interventions
- Evidence supports the use of telehealth to deliver OT interventions in the areas of:
  - Children and Youth
  - Productive Aging
  - Mental Health
  - Rehabilitation and Participation
  - Health and Wellness
  - Work and Industry

Key Studies
- Early intervention services
- Older adults
  - Bendixen, Horn, & Levy (2007); Harada et. al (2010); Hori, Kubota, Kihara, Takahashi, & Kinoshita (2009)
- Stroke
  - Chumbler et al. (2010a; 2010b); Hermann et al. (2010)
- Work space modifications
  - Bruce & Sanford (2006)
- Chronic Diseases
  - Darkins et al. (2008); Steel, Cox & Garry (2011)
Evidence Supports Tele-monitoring

**Definition**
- Use of telecommunication technology to:
  - Monitor a client’s adherence to an intervention program
  - Monitor and facilitate progressive therapy program
  - Monitor and support client in natural environments (i.e. home, work, community)

**Key Studies**
- **ADLs (Smartphones)**
  - Venables (2000)
- **Home exercise programs**
  - Popescu, Burdea, Bouzit, & Hentz (2000)
- **Chronic disease management**
  - Darkins, et.al. (2008)

(AOTA, 2013)
Evidence Supports Tele-supervision

Supervision

- Tele-supervision requires consideration of:
  - State licensure laws
  - Institution specific guidelines
  - AOTA Guidelines for Supervision, Roles, and Responsibilities During the Delivery of Occupational Therapy Services (AOTA, 2009)
  - Occupational Therapy Code of Ethics and Ethics Standards (AOTA, 2010)

Key Studies

- Telehealth technologies can be used to support students and practitioners working in isolated or rural areas, and nontraditional fieldwork placements that cannot offer on-site supervision
  - Hubbard (2000)
In the US, telehealth is utilized widely in the Veterans Administration (VA) health system with positive outcomes.
Occupational Therapy and Telehealth’s Contributions to Health and Wellbeing

- Positively influence social and physical environments;
- Establish healthful habits and routines to promote positive health practices;
- Enhance individuals’ capacity and coping skills;
- Mitigate behavioral risk factors and improve quality of life for individuals, groups and populations;
- Promote patient activation for self-management of chronic diseases and behavioral health;
- Implement depression screening programs, care coordination, and development of health and wellness plans in conjunction with primary healthcare providers.

(AOTA, n.d.; Cason, in press)
Pediatric Case Study

- Intensive RTP can improve UE fx in children with CP
- Motivation to use impaired UE critical to intensive RTP
- GBR can increase self-efficacy, volition, playfulness, UE fx in CP
  - Benefits include low-cost, ecological validity, and data capture
- GBR tasks are:
  - Grounded in data-based assessment (performance/progress)
  - Adjustable in terms of difficulty level
  - Capable of repetitive and hierarchical administration to user
  - Capable of providing feedback to user
  - Relevant to real-world functional activities
  - Capable of motivating user engagement
- Data used to monitor and adjust a client’s POC
WFOT Position Statement on Telehealth

“Telehealth can be an appropriate service delivery model for occupational therapy and may improve access to occupational therapy services”

(WFOT, 2014, p. 3).

Challenges and strategies

- Licensure/Registration
- Collaboration with Local Occupational Therapists
- Client Selection
- Consent to Treat
- Professional Liability Insurance
- Confidentiality
- Personal and Cultural Attributes
- Provider Competence/Standard of Care
- Reimbursement/Payer Guidelines
- Authentic Occupational Therapy Practice

WFOT Position Statement on Telehealth
Available at: [http://www.wfot.org/ResourceCentre.aspx](http://www.wfot.org/ResourceCentre.aspx)
Barriers to Telehealth
Barriers

- **Licensure**
  - Ad Hoc Committee on Licensure Portability To the Representative Assembly

- **Reimbursement**
  - Yes - DoD, VA
  - Some states Medicaid, insurance, schools, etc
  - No Medicare

- **Ethics**
  - Is efficacy established?
Telehealth Resources
Telerehabilitation Special Interest Group

Mission: To enhance access to rehabilitation services through the use of telehealth technologies.

http://www.americantelemed.org/members/ata-member-groups/special-interest-groups/telerehabilitation#.VEF-QfIdWSo
• Open access
• Peer-reviewed
• PubMed indexed
• Published bi-annually

http://telerehab.pitt.edu/ojs/index.php/telerehab
Telehealth Resources

- World Federation of Occupational Therapists (WFOT) Telehealth Position Statement

- American Occupational Therapy Association (AOTA)
  [http://www.aota.org/telehealth](http://www.aota.org/telehealth)

- Canadian Association of Occupational Therapists (CAOT)

- Social Media – Facebook (OTinTelehealth)/Twitter (@OTinTelehealth)
In Closing…

- Telehealth is an emerging service delivery model within healthcare
- Research supports telehealth as a viable service delivery model for OT
- Opportunities exist for practitioners to incorporate telehealth within all OT practice settings

Image from http://www.infanthearing.org/ti-guide/
Thank You!!

Questions?

andrew.persch@osumc.edu
References


References


