Realizing telehealth as a powerful tool in delivering physical therapy in a changing healthcare environment.

Webinar sponsored by HPA The Catalyst
the Health Policy & Administration Section of the American Physical Therapy Association
www.aptahpa.org

Christopher Peterson, DPT, Cert. MDT, Clinical Coordinator,
Hartford Hospital Rehabilitation Network.

Learners can expect to gain an understanding of:
- Basic telehealth terminology
- What a parity law is and how it relates to physical therapists using telehealth
- Licensure portability and Licensure Compacts
- Early lessons in billing, coding and reimbursement of telehealth services
- Key uses of store and forward applications used in physical therapy practice to enhance patient care, and care coordination.
- Key federal regulations governing electronic transmission of data and how they relate to appropriately selecting and implementing store and forward applications into physical therapy practice.
- Case based applications that demonstrate HIPAA compliance and attention to privacy and security when selecting store and forward applications to be incorporated into physical therapy practice.
- Case Based clinical scenarios that demonstrate different applications of TH technologies in physical therapy practice.

Learning Objectives
Not every patient will be a good candidate for physical therapy services.

Telehealth is just another way to deliver physical therapy services.

Ethical and legal guidelines should always be followed just as we follow them in clinical settings.

**Elephant in the Room**

“I'm right there in the room, and no one even acknowledges me.”
Innovations: VA Virtual Medical Center

The age of supercomputers and machine learning has arrived! The way we conduct healthcare is changing AND FAST....
Big Picture: Innovation and the Triple Aim

Population Health
Patient Engagement
Cost Management
Telehealth Terminology

- Telehealth
- Telemedicine
- Telerehabilitation

Telehealth, Telemedicine, Telerehabilitation?
**Telehealth: Commonly Used Terms**

To better understand telehealth, it's suggested to gain an understanding of its basic terminology. These definitions are provided by the American Telemedicine Association.

**Telemedicine:**
Telemedicine is the use of medical information exchanged from one site to another via electronic communications to improve a patient’s clinical health status. Telemedicine includes a growing variety of applications and services using two-way video, email, smart phones, wireless tools and other forms of telecommunications technology. Learn more.

**Telehabilitation:**
Telehabilitation refers to the delivery of rehabilitation services via information and communication technologies. Clinically, this term encompasses a range of rehabilitation and habilitation services that include assessment, monitoring, prevention, intervention, supervision, education, consultation, and counseling. Learn more.

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**Telehealth Terms**

Interactive video connections that transmit information in both directions during the same time period. Learn more.

**Asynchronous:**
Term describing store and forward transmission of medical images and/or data because the data transfer takes place over a period of time, and typically in separate time frames. The transmission typically does not take place simultaneously. This is the opposite of synchronous. Learn more.

**Distant or Hub site:**
Site at which the physician or other licensed practitioner delivering the service is located at the time the service is provided via telecommunications system. Learn more.

**Originating or Spoke site:**
Location of the Medicaid patient at the time the service being furnished via a telecommunications system occurs. Telepresenters may be needed to facilitate the delivery of this service. Learn more.

Last Updated: 1/6/2014
Telehealth Terms

Synchronous ↔ Live Video

Asynchronous ↔ Store and Forward

Terminology

HUB (Provider Location)

Spoke (Patient Location)
Terminology

- Originating Site (Patient Location)
- Distant Site (Provider Location)

Literature Review

- PubMed Search “Telerehabilitation” = 341 results on 07/07/15
  (was 224 on 02/04/14)
Literature Review

VETERANS HEALTH ADMINISTRATION (VHA)

TELEREHABILITATION TOOLKIT

March 2005

Developed by the:
VHA Telerehabilitation Field Work Group
Cathy Cruise, MD Chair

TBI, SCI, MS, Frail Elderly
Effects of Telerehabilitation on Physical Function and Disability for Stroke Patients: A Randomized, Controlled Trial

Neale R. Chumbler, Patricia Quigley, Xinli Li, Miriam Morey, Dorian Rose, Jon Sanford, Patricia Griffiths and Helen Hoening

Stroke, published online May 24, 2012.
Stroke is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2012 American Heart Association, Inc. All rights reserved.
Print ISSN: 0039-2499. Online ISSN: 1524-462X

Conclusions—The STeRe intervention significantly improved physical function, with improvements persisting up to 3 months after completing the intervention. STeRe could be a useful supplement to traditional stroke rehabilitation given the limited resources available for in-home rehabilitation for stroke survivors.

Telerehabilitation and recovery of motor function: a systematic review and meta-analysis

Michela Agostini¹, Lorenzo Moja², Rita Banzi², Vanna Pistotti³, Paolo Tonin¹, Annalena Venneri²,³ and Andrea Turolla¹,⁴

Conclusive evidence on the efficacy of telerehabilitation for treatment of motor function, regardless of pathology, was not reached. Nevertheless, a strong positive effect was found for patients following orthopaedic surgery, suggesting that the increased intensity provided by telerehabilitation is a promising option to be offered to patients. More and higher quality research is needed in this field especially with neurological patients.
Remote Diagnosis of musculoskeletal disorders

<table>
<thead>
<tr>
<th>Primary clinical diagnosis</th>
<th>Validity</th>
<th>Intra-rater reliability</th>
<th>Inter-rater reliability</th>
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<tr>
<td>Exact</td>
<td>30</td>
<td>42</td>
<td>28</td>
</tr>
<tr>
<td>Similar</td>
<td>12</td>
<td>5</td>
<td>17</td>
</tr>
<tr>
<td>Different</td>
<td>5</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

| % exact agreement          | 64%      | 89%                     | 60%                     |
| % similar agreement        | 89%      | 100%                    | 96%                     |

<table>
<thead>
<tr>
<th>System diagnosis</th>
<th>Observed agreement</th>
<th>Chi-square</th>
<th>p-value</th>
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<tbody>
<tr>
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<td>85%</td>
<td>68.3</td>
<td>&lt;0.001</td>
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<tr>
<td></td>
<td>96%</td>
<td>103.6</td>
<td>&lt;0.001</td>
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<tr>
<td></td>
<td>87%</td>
<td>88.4</td>
<td>&lt;0.001</td>
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</tbody>
</table>

Cost Analysis of In-Home Telerehabilitation for Post-Knee Arthroplasty

Conclusions
To our knowledge, this is the first study of the actual costs of in-home telerehabilitation covering all subcosts of telerehabilitation and distance between the health care center and the patient’s home. The cost for a single session of in-home telerehabilitation compared to conventional home-visit rehabilitation was lower or about the same, depending on the distance between the patient’s home and health care center. Under the controlled conditions of an RCT, a favorable cost differential was observed when the patient was more than 30 km from the provider. Stakeholders and program planners can use these data to guide decisions regarding introducing telerehabilitation as a new service in their clinic.
Patients’ Satisfaction of Healthcare Services and Perception with In-Home Telerehabilitation and Physiotherapists’ Satisfaction Toward Technology for Post-Knee Arthroplasty: An Embedded Study in a Randomized Trial

Michel Toupin, P.T., Ph.D.,1 Patrick Boily, K.I.N., Ph.D.,2 Hélène Moftet, P.T., Ph.D.,2 Hélène Cormier, P.T., Ph.D.,1 François Cobene, M.D.,2 François Marquis, M.D.,1 and Jessica Simard, M.P.T.1

Introduction
The senior population in need of home care is growing. Healthcare institutions providing home care services currently have a hard time meeting the demand for such ser-

Rehabilitation after total knee replacement via low-bandwidth telemedicine: the patient and therapist experience

Trevor G Russell1, Peter Buttrum2, Richard Wootton2, and Gwenda Jull3

1Division of Physiotherapy, University of Queensland, Brisbane; 2Department of Physiotherapy, Queen Elizabeth II Jubilee Hospital, Brisbane; 3Centre for Online Health, University of Queensland, Brisbane, Australia

Disability and Rehabilitation

Assistive Technology

RESEARCH PAPER

Expanding stroke telerehabilitation services to rural veterans: a qualitative study on patient experiences using the robotic stroke therapy delivery and monitoring system program

Colleen O'Brien Cherry1, Nele R. Chambler2, Kimberly Richards2, Amber Huff3, David Wu4, Laura M. Tilghman5, and Andrew Butler2

1Center for Global Health, University of Georgia, Athens, GA, USA; 2Department of Health Policy and Management, University of Georgia, Athens, GA, USA; 3College of Health and Human Services, Department of Public Health, Western Kentucky University, Bowling Green, KY, USA; 4Department of Physical Therapy, School of Nursing and Health Professions, Georgia State University, Atlanta, GA, USA; 5Institute of Development Studies, Brighton, UK; 6Department of Social Sciences, Plymouth State University, Plymouth, NH, USA; and 7Atlanta Veterans Affairs Medical Center, Rehabilitation Research and Development Center of Excellence, Decatur, GA, USA
Validation of a Kinect-based telerehabilitation system with total hip replacement patients

David Antón1, Mark Nelson2, Trevor Russell3, Alfredo Goñi1 and Arantza Illarramendi1

Telehealth Ethics

David A. Fleming, M.D.1, Karen E. Edison, M.D.2,3,4 and Hon Pak, M.D.2

1MU Center for Health Ethics and 2Missouri Telehealth Network
University of Missouri School of Medicine, Columbia, M

Abstract

The ethical implications of telehealth go well beyond providers’ obligations to ensure privacy and confidentiality. The ethical conundrum of telehealth realizes the uniquely positive impact that telehealth can have on patients, providers, and clinical outcomes, as well as the potential for harm and abuse that may ensue. This article explores telehealth as one of many evolving information technologies that have ethical questions extending well beyond the confines of privacy and confidentiality. Providers and systems who utilize telehealth should also consider how it influences relationships with patients, access to healthcare, capacity for equitable treatment, cost, and quality of life. The ability to respond to these concerns will be important to the future development and deployment of this important technology as one means by which to improve access and quality of healthcare for all members of our society.
Research Summary

- Telerehabilitation should investigate cost analysis (ROI), patient safety, & innovative models (ACOs, Medical Homes, Private Insurance)
- Collaborations (Corporate, NIH/RERC, Military/TATRC, Telehealth Networks/OAT, interdisciplinary)
- Virtual networks (PTNow.org)
How do we do it?

- Usability
- Acceptability
- Therapists
- Patients

Modes of Care Delivery
Which Tool do I use and when?

- Store and Forward
- In-Person Visit
- Synchronous Visit
- Avatars, Robotic s, etc
Store and Forward Features
- Sketch Images
- Photographic Images
- Video Content Flow Sheet
- Clinical Education Modules
- Mobile Technology Access
- Interactive Features
- Calendar Integration
- Provider/Client Interface
- Social Media Component
- Integration with EMR
- Integration with Biometric/Gaming Interfaces

Store and Forward Examples
- Sketch line pictures complete with instructions
- Program allows clinician to save programs
- Programs are printable

**Physiotec: https://www.physiotec.ca/exercises.php**

- Sketch line, still picture and video available
- Program allows clinician to save programs and email
- Programs can be accessed through email and on incapable device by clients
- Modifications can be made remotely

**Wellpepper: http://wellpepper.com/product**

- Videos and pictures taken and uploaded, no database
- Program allows clinician to save programs and email to client
- Features care plan and outcomes tracking tools
Look our for Emerging technologies!
On 07/07/2015

A 49 year old business man suffers a CVA and is confined to his home. His mobility does not allow him to leave his home independently and his family/caregivers can only manage to bring him to clinic based PT once a week. Upon discharge from acute rehabilitation the physical therapist recommends ongoing outpatient PT. Homecare Physical Therapy is an option but the wait time is 4 weeks for and evaluation.

Let's Get Practical!
Case Study Part 1
• Is telehealth an option?
  ◦ It may be a helpful model to coordinate some TR training with the patient and caregiver while the patient in the acute rehab facility. (This assumes that the TR care will be delivered by the same organization).
  ◦ Absolutely, patients should be assessed in a safe environment. Caregivers to assist with guarding, technology management etc.

Case Study Part 1 Questions

Regulatory Considerations
Question: How do I know if I can practice physical therapy using telehealth technologies in my state?

General Rule
- If a physical therapy state practice act is silent on telehealth than the prudent thing to do is to contact your licensing agency and ask for guidance.
- Before contacting your agency, review medicaid policy in your state, as well as whether your state has any parity laws in place.

Answer
Resource: State Policy Overview of PT/OT Regulations

KRS 327.200 – Duty of treating physical therapist utilizing telehealth to ensure patient's informed consent and maintain confidentiality – Board to promulgate administrative regulations – Definition of “telehealth.”

(1) A treating physical therapist who provides or facilitates the use of telehealth shall ensure:
   a. That the informed consent of the patient, or another appropriate person with authority to make the health care treatment decision for the patient, is obtained before services are provided through telehealth; and
   b. That the confidentiality of the patient’s medical information is maintained as required by this chapter and other applicable law. At a minimum, confidentiality shall be maintained through appropriate processes, practices, and technology as designated by the board and that conform to applicable federal law.

(2) The board shall promulgate administrative regulations in accordance with KRS Chapter 13A to implement this section and as necessary to:
   a. Prevent abuse and fraud through the use of telehealth services;
   b. Prevent fee-splitting through the use of telehealth services; and
   c. Utilize telehealth in the provision of physical therapy and in the provision of continuing education.

(3) For purposes of this section, “telehealth” means the use of interactive audio, video, or other electronic media to deliver health care. It includes the use of electronic media for diagnosis, consultation, treatment, transfer of health or medical data, and continuing education.

Retrieved from:
http://pt.ky.gov/StatutesRegulations/Documents/KRS%20KAR%20c
omeplate.pdf

On 07/07/2015

PT State Practice Act Examples: KY
What is a parity law?

Parity laws mandate coverage for medical services to be reimbursed when provided by telehealth as they would be when provided in person.

Resource:
ATA State Telemedicine Toolkit
Improving Access to Covered Services for Telemedicine


Source: American Telemedicine Association
Question: What if I want to practice PT with a patient located in another state using telehealth technologies?

A: At this time you are required to be licensed in both the state where you are located and the state where the patient is located.

Coming Soon: Licensure Compact

Federation of State Boards of Physical Therapy

Telehealth in Physical Therapy

Policy Recommendations for Appropriate Regulation

On 07/07/2015
1. PHYSICAL THERAPY LICENSURE COMPACT (DRAFT)

2. SECTION 1. PURPOSE
3. The purpose of this Compact is to facilitate interstate practice of physical therapy with the goal of improving public access to physical therapy services. The practice of physical therapy occurs in the state where the patient/client is located at the time of the patient/client encounter. The Compact preserves the regulatory authority of states to protect public health and safety through the current system of state licensure.

Retrieved From: https://www.fsbpt.org/Portals/0/documents/free-resources/LicensureCompactDraft_20150429.pdf
On 07/07/2015

Licensure Compact for PTs: Coming Soon!

Federal Legislation
• Section 3022: Medicare Shared Savings Program/ACO shall define processes to promote evidence based medicine and patient engagement, report on quality and cost measures, and coordinate care, such as through the use of telehealth, remote patient monitoring, and other such enabling technologies.

• Section 10328: Part D Pharmacy Program
• Section 10333: Community/Colloborative
• Section 10410: Centers for Excellence

ACA
(Cason J. 2015 PMID 2612676)

• Currently in proposal phase

• Seeks to expand Medicare Coverage of TH Services
  ◦ 3 phase roll out over 4 years
  ◦ Includes expansion of services to include PT, OT, SLP, Audiology

Medicare Parity Act
Telehealth: Modes of Delivery
How Can Telehealth be used by physical therapists?

- Direct patient care
- Teleconsultation
- Telesupervision
- Telementoring
- Scheduled appointments
- Ad-hoc
- Individual therapy sessions
- Group Therapy sessions

Billing and Coding
Bottom Line:

We need more evidence and practical examples!

There are no telehealth-specific CPT codes for physical therapy. Before using traditional 97000 physical therapy/rehabilitation codes to bill a private payer for telehealth services, check with your payer. Many of the traditional codes (97000 series) specify "direct 1-on-1 patient contact," which by strict definition would exclude telehealth unless you and your payer have agreed to include these services. ALWAYS USE A MODIFIER.
Other important Points to clarify

- Synchronous or Asynchronous?
  - Asynchronous Examples:
    - Avatar, Robotics, Remote Patient Monitoring, Fitness Applications

 Billing and Coding

- ATA Reimbursement Survey 2014-2015 (Richmond, Peterson, Cason)
- Telerehabilitation services are being provided across all traditional allied health professions (small sample, only 3/20 delivering TH based services were PTs)
- Telerehabilitation services are being provided in all models of care including assessment, intervention, supervision, education, monitoring
- Reimbursement methodologies (billing/coding) for telerehabilitation services are the same as in person services

Are Physical Therapists Getting paid for telehealth?
Are Physical Therapists being paid for Telehealth?

Reimbursement rates for telerehabilitation services from respondents reporting as receiving payment were the same as traditional in-person services.
Health Information Regulations:

- Freedom of Information Act
- Privacy Act of 1974
- Drug Abuse Prevention, Treatment, and Rehabilitation Act of 1974
  and Comprehensive Alcohol Abuse and Alcohol Prevention,
  Treatment, and Rehabilitation Act of 1970
- Medicare Conditions of Participation
- Family Educational Rights and Privacy Act (FERPA)
- Americans with Disabilities Act (ADA)
- Genetic Information Nondiscrimination Act (GINA)
- HIPAA
- ARRA/HITECH
- State Laws
- Accrediting and Certifying Bodies, Professional Ethics,
  Organizational Policy

Courtesy of Valerie Watzlaf
Other Regulations

- **FDA**—Food and Drug Administration—oversight to mobile medical apps that are *medical devices*; whose functions pose risk to a patient's safety if the mobile app did not function as intended. FDA intends to exercise enforcement discretion for certain mobile apps that are a lower risk e.g. Mobile apps that use video for patients to do their physical therapy exercises at home.

- **FTC**—The Federal Trade Commission protects consumers from *unfair or practices or claims* such as data security, identity theft, mHealth company claims about effectiveness of apps. Has jurisdiction over health data breaches for non-HIPAA-covered entities. The FTC collaborates closely with both the FDA and FCC on areas where there is jurisdictional overlap.

- **FCC**—The Federal Communications Commission regulates *communication devices* that utilize electromagnetic spectrum or broadcast devices. With potential overlapping jurisdictions, the FCC and FDA entered into a Memorandum of Understanding, where they would collaborate with each other within the areas of their respective agencies.

Privacy Versus Security

- **HIPAA (Privacy)**
  - Develop a staff training program
- **HITECH (Security)**
  - Choose HIPAA compliant partners

Courtesy of Valerie Watzlaf
Privacy

- Accessibility
- Amendments
- Retention
- Requests
- Sharing
- Business Associate or Data Use Agreement

Security

- Encryption
- User Procedures
  - Anti-Virus protection
  - Security risks discussed/informed consent
  - Mobile device: remote wiping, firewalls, security software, research mobile apps before downloading, not use public Wi-Fi, maintain physical control of mobile device.
  - Audit System Activity
    - Audit Trails
    - Access Controls
    - User identification
    - Employee education and training on privacy and security
    - Outside security evaluation
• NO SESSION INFORMATION IS RETAINED ON EXTERNAL SITES
• Choose vendors that perform third party accreditations and perform security audits
• Store only event detail (non PHI) information to be used for billing and reporting.
  • Therapist name, length of session

Data Storage

Spotlight on Mobile Security: Best Practices

• Encrypt devices
• Enable passwords
• Enable remote wiping
• DON’T STORE PATIENT DATA ON DEVICES
• Install or enable firewalls
• Enable screen lock after device has been inactive for a period of time
Spotlight on Mobile Security: Best Practices

- NO PUBLIC Wi-Fi
- Disable file sharing application
- Update software regularly
- Research applications before downloading
- Delete all PHI before re-using devices
- Maintain Physical control of your devices

A “business associate” is a person or entity, other than a member of the workforce of a covered entity, who performs functions or activities on behalf of, or provides certain services to, a covered entity that involve, access by the business associate to protected health information.
“Under HIPAA, certain information about a person’s health or healthcare services is classified as Protected Health Information (PHI). Google Apps customers who are subject to HIPAA and wish to use Google Apps with PHI must sign a Business Associate Agreement (BAA) with Google.”

- HIPAA Compliance is not just about purchasing/choosing the correct software!
- Establish Policies and Procedures
- Establish a structured process for review of these policies and procedures (e.g. annual review)
Case Study Part 2

- 45 year old patient with diagnosis of CVA causing R hemiparesis. Patient is ambulatory with modified walker but unable to find reliable transportation to the home.

- Is telehealth an appropriate means to improve access to care for this patient?
Concluding Thoughts

Telehealth Resources: APTA

APTA: Telehealth Toolkit: http://www.apta.org/Telehealth/

FIRST: Genomics, Regenerative Rehabilitation, Bioengineering, telehealth (PT In Motion Aug 2014)
Monthly "Open Mic" Conference calls, often held Wednesdays 5:30PST, 8:30EST

Topics include telehealth but expand to all aspects of use of technology in PT practice

APTA Resources: HPA Section

Telerehabilitation SIG

The Telerehabilitation Special Interest Group's mission is to enhance access to rehabilitation services through the use of telehealth technologies. The Telerehabilitation SIG includes rehabilitation engineers, assistive technologists, rehabilitation physicians, occupational therapists, physical therapists, speech-language pathologists, educators, rehabilitation nurses, neuropsychologists, and telehealth and disability policy specialists involved in applying computer-based technologies and telecommunications to improve access to rehabilitation services and support independent living. The Telerehabilitation SIG works to develop innovative systems "tools" to be used for telerehabilitation, to collect data of evidence-based outcomes of telerehabilitation clinical applications and acts as a resource for reimbursement issues.

ATA Members
Login to access PUb content from this member group

Quick Links
- SIG Goals 2013-2014
- SIG Leadership
- SIG Communications
- SIG Products
- Join this SIG

Telehealth Resources: ATA
Telehealth Resources: Federal

- PTs are starting to use telehealth
- Contact your payer before billing for telehealth
- Approach telehealth Thoughtfully!
- Collect great data
  - (satisfaction, clinical outcome, cost)

**Key Takeways**

- Know your state regulations before starting a telehealth based service
- Define who telehealth does and does not work for
- Share your work!
Future Projections

- Medicare will reimburse for PT services delivered via TH technologies (eventually)
- More RCTs and SRs will be generated
- Precedent will be more clearly defined for how to bill for PT services
- Interstate Compact will be enacted via FSBPT effort
- Standards and best practices for training and implementing TH based PT will be developed
- Better definition of who, when and where TH based service is optimal.

Questions?