MEASURING RT OUTCOMES DURING & AFTER CIVILIAN AND MILITARY REHABILITATION
Learning outcomes for the session:

1. Identify 3 empirical articles that support Recreational Therapy in rehabilitation.

2. Identify and practice 3 outcome measurement tools that can be used by Recreational Therapy clinicians.

3. Discuss at least 3 steps of data collection to evaluate the outcomes of Recreational Therapy.
OUTCOME DEFINITIONS

- **What is an outcome?**
  - The *desired benefits* of healthcare efforts (Heinemann, 2005)

- **What is an outcome measure?**
  - A standardized *tool* that assesses the desired benefit

- **Why measure patient outcomes using standardized instruments?**
  - Documentation in electronic records
  - Use in clinical information systems
  - Development of clinical knowledge and professional education
  - Resource allocation and accountability
Why is it important to document outcomes?

- Quality improvement
- Meeting client needs and priorities
- Ensuring civil rights to fully participate in society post-rehab, as mandated within the Americans with Disabilities Act
- Responding to growing call for activity and participation outcome document by funders and service deliverers
New way of thinking about outcomes
WHO 2001

Health Condition (disorder or disease)

Body Function & Structures

Activity

Participation

Personal Factors

Environmental Factors
<table>
<thead>
<tr>
<th>Level of Analysis or Domain</th>
<th>Body Function/Body Structure</th>
<th>Activity</th>
<th>Participation</th>
<th>Environmental Factors</th>
<th>Quality of Life</th>
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<tbody>
<tr>
<td>Definition</td>
<td>Physiological function of body systems or anatomical parts such as organs, limbs, brain (ICF)</td>
<td>The capacity to perform a task or action by an individual (ICF)</td>
<td>Individuals actual doing /involvement in life situations (ICF)</td>
<td>The physical, social and attitudinal environment in which people live and conduct their lives (ICF)</td>
<td>Health-related quality of life</td>
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<tr>
<td>Measurement Constructs</td>
<td>•Motor control •Motor Planning •Vision •Audition •Mood •Language •Executive Control •Memory •Verbal Fluency •Visuo-spatial function •Strength •Gait •Posture •Flexibility (Range) •Grasp/Pinch •Problem Solving •Executive Function •Attention •Awareness •Speech •Learning •Hearing •Seeing •Sleep</td>
<td>•Standing •Stair Climbing •Walking •Mobility •Lift/Carry •Sitting •Dressing •Eating •Grooming/Hygiene •Bathing •Bowel and Bladder Management •Money Management •Cooking /meal preparation •Laundry •Cleaning •Driving •Tasks associated with leisure interests •Communicating, •Medication management •Health self -management</td>
<td>•Home management •Education •Work •Recreation •Leisure •Religious/Spiritual •Civic Life •Parenting •Child Care •Community Activities</td>
<td>•Social Support of friends and families •Social Capital •Assistive Technology •Policy •Workplace Accommodations •Community Receptivity •Access to Services and information •Natural environment •Built environment •Attitudes •Systems</td>
<td>•Physical •Psychological •Social •Spiritual •Role functioning •General well being</td>
</tr>
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</table>
Using outcomes in RT practice -
Assessing outcomes across ICF Domains

- Health Condition
  (disorder or disease)

- Body Function & Structures

- Activity

- Participation

- Personal Factors

- Environmental Factors

Current Medical System
Assessing outcomes across ICF domains

Health Condition (disorder or disease)

Body Function & Structures

Activity

Participation

Personal Factors

Environmental Factors

Happening Now: A Blended Medical and Community Health System
What is evidence-based practice?
- Using research evidence to help inform your RT practice

What is practice-based evidence?
- Research conducted through your RT practice
  - E.g., using what you do already in practice and performing a research study to evaluate outcomes
WHO CARES ABOUT OUTCOME MEASUREMENT?

✓ Practitioners
  - RT practitioners – helps build better programs/interventions
  - Other therapists, nurses, doctors, etc.

✓ Administrators
  - RT managers
  - Mid to upper level administrators

✓ Accrediting organizations
  - JCAHO
  - CARF

✓ Policy makers
  - CMS
  - Governmental committees that affect policy
OUTCOME MEASUREMENT APPROACHES

- Program-based
  - What are the outcomes of this program?

- Intervention-based
  - What are the outcomes of this intervention?

- Typically pre-test, post-test, follow-up outcome measurement
** EXAMPLES OF OUTCOMES DURING REHAB **

- **Stroke rehabilitation (Williams et al, 2007)**
  - **Title:** Effects of Recreational Therapy on Functional Independence of People Recovering From Stroke
  - **Program:** Inpatient rehab unit, pts. recovering from stroke
  - **Purpose:** To determine the effects of RT, and other therapies, on functional independence of people recovering from stroke.
  - **Outcome measure:** *Functional Independence Measure (FIM)*
  - **Design:** Retrospective analysis of electronic documentation records, specifically: 1) # of tx units provided and 2) change in FIM scores from admission to discharge
    - Analysis of 5 years of records
  - **Findings:** Units of RT predicted improvement in motor FIM scores and total FIM scores, therefore helped to improve functional independence from pre-to post-test.
SCI rehabilitation (Hawkins et al, 2015)

- **Title**: Recreational therapy and inpatient spinal cord injury: A cost-effectiveness analysis
- **Program**: Inpatient rehabilitation, pts. recovering from SCI
- **Purpose**: To examine the effects of RT, and other therapies, on the functional independence of participants recovering from spinal cord injury.
- **Outcome measure**: *Functional Independence Measure (FIM)*
- **Design**: Retrospective analysis of electronic documentation records, specifically 1) # of tx units provided and 2) change in FIM scores from admission to discharge
  - Analysis of 7 years of documentation records
- **Findings**: 1) RT was the only predictor of improvement in motor FIM score, 2) RT and OT were predictors of improvement in cognitive FIM scores, 3) RT was the least costly to provide
RT program for injured veterans (Lundberg, et al, 2011)

- **Title:** Outcomes of adaptive sports and recreation participation among veterans returning from combat with acquired disability
- **Program:** Week long therapeutic and adaptive sport program for veterans
- **Purpose:** To examine changes in QOL, mood states, and sports-related competence.
- **Outcome measures:** WHOQOL-BREF, Profile of Mood States-Brief, Perceived Competence Scale
- **Design:** Pre-test, post-test questionnaire
- **Findings:** 1) Sig. decreases in tension, depression, and anger; 2) Sig. increases in vigor and perceived competence in sport
Community Reintegration of Injured Servicemembers Post-Rehab (Hawkins et al, 2015).

- Title: Identifying the contextual influences of community reintegration among injured servicemembers
- Program: Any rehab program
- Purpose: 1) To assess level of comm. reint. post-injury and rehab; 2) To identify contextual factors related to comm. reint.
- Outcome measure: CRIS (Community Reintegration of Injured Servicemembers)
- Design: Mixed Methods
- Findings: Injured service members continue to struggle with comm. reint. post-rehab depending upon impact of contextual factors (e.g., general self-efficacy, type of injury, and impact of environmental factors.)

- **Title:** Yoga to reduce Fear of Falling (FoF) in Individuals with Chronic Stroke
- **Program:** 8-week yoga intervention
- **Purpose:** 1) To reduce FoF (body function); 2) To increase balance (activity) and balance confidence (body function); 3) To increase participation
- **Outcome measure:** Balance Confidence; Balance; Participation
- **Design:** Multi- Methods
- **Findings:** Increased balance, balance confidence – larger improvements for fallers. Increased participation - leisure, recreation, driving, social and family roles
LET’S PLAY WITH SOME OUTCOME MEASURES

- **WHOQOL-BREF** (World Health Org. Quality of Life – Brief)
- **Neuro-QOL** (Ability to Participate in Social Roles & Activities – Short Form)
- **Neuro-QOL** (Upper Extremity Function – Short Form)
- **Neuro-QOL** (Positive Affect & Wellbeing – Short Form)
- **PHQ-9** (Patient Health Questionnaire – 9 Item)
- **VR-12** (Veterans Rand-12 Item Health Survey)
- **SF-12** (Short Form-12 Item Health Survey)
- **CIM-II** (Community Integration Questionnaire II)

*Let us know if you want these electronically!!!*
HOW CAN YOU FIND OUTCOME MEASURES?
RESOURCES FOR OUTCOME MEASUREMENT

- Rehabilitation Measures Database
  - Provides hundreds of physical, cognitive, & some psychosocial assessments
  - Provides instructions, reliability and validity info
  - Makes direct links to the ICF
  - Continually adding more assessments
  - You can even “LIKE” their Facebook page!
RESOURCES FOR OUTCOME MEASUREMENT

- NIH Toolbox
  - http://www.nihtoolbox.org/Pages/default.aspx

- NINDS TBI common data elements

- APTA Neurology Section EDGE recommendations
  - http://www.neuropt.org/professional-resources/neurology-section-outcome-measures-recommendations
  - Stroke, MS, TBI, SCI recommendations

- StrokEngine Assess
  - http://strokengine.ca/assess/

- Center for Outcome Measurement in Brain Injury
  - http://www.tbims.org/combi/
RESOURCES FOR OUTCOME MEASUREMENT

- ATRA Dementia Practice Guidelines for RT
  - RT specific resource
  - Many assessments/outcome measures including:
    - Overt Aggression Scale
    - Algase Wandering Scale
    - Apathy Evaluation Scales
    - Geriatric Depression Scales
    - Cornell Depression Scale

- Great measures determine if you are reducing dementia-related bxs in long-term care!
STRATEGIZING BARRIERS AND SOLUTIONS TO USING OUTCOMES

Common Barriers

Finding time/saving time

Administrative support to implement

Team members on board to use outcomes and share info/results

Link to evidence on effective treatment strategies to use after outcome assessment

System and funding issues interfering with outcomes such as participation in context

Others???
PLANNING SOLUTIONS TO USE OUTCOME MEASURES

- Strategizing Solutions related to...
  - Documentation
  - Training and Service Delivery
  - Equipment
  - Time to administer
FACILITATORS AND BARRIERS

- Civilian settings
- Military settings
Let’s apply this to your setting!

Find at least 2 outcome measurements that would be appropriate for use in your population.

Be ready to share:
- Name of measures
- Constructs measured
- How can you incorporate it in your practice
- Any barriers to incorporating it into your practice
WHAT DID YOU FIND?

- Usefulness in practice?
- How can outcome measures be incorporated into practice?
- Barriers?
- Strategy for overcoming barriers?
Outcomes measures can:

- Improve quality of your program
- Assist with resource justification
- Lend evidence to support your practice
- Lend evidence to support your profession

Clients, payers, accrediting bodies, policy-makers want to know outcomes of services.

Many outcome measures are readily accessible.

Outcome measures may already be in place! Use them!
INTERESTED IN GRADUATE SCHOOL?

We have new undergraduate & graduate courses in RT!

http://www.clemson.edu/hehd/departments/prtm/

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