State of the Science Conference

http://www.livewellrerc.org/sos-conference

Venue: RehabWeek – June 25-26, 2019 (*workshops listed under RESNA and ACRM*)

Title: LiveWell RERC State of the Science Conference: The Future of mHealth and mRehab for People with Disabilities

Abstract: The growth in mobile health and mobile rehab technologies and programs in recent years have produced rising expectations among consumers/patients, clinicians and healthcare delivery organizations. Concerns have been raised that the proliferation of mHealth could increase health disparities if it disproportionately benefits advantaged populations and leave vulnerable populations behind, including people with disabilities. Meanwhile, mRehab solutions are relatively less mature than mHealth solutions, and must confront critical challenges of dosing, efficacy, acceptance by consumers and other stakeholders, integration into hospitals' health information systems, and reimbursement. The LiveWell State of the Science Conference will map the current state of the art and identify critical features of an mHealth/mRehab ecosystem that serves all populations.

The current state of development of mHealth/mRehab solutions reveals numerous critical challenges and questions which must be address in order to move forward effectively:

- Clinicians lack insight into patient functioning in the home and community
- How can clinicians extend the effectiveness of therapy for patients who have limited rehab benefits (e.g., using technology for home-based therapy between visits)?
- Lack of any efficacy data about any apps and challenges of conducting efficacy studies (e.g., apps come and go so evaluation must be of common elements)
- Lack of adherence in use of apps/ technology abandonment (some of which may be acceptable, e.g., once a habit is established you don't need the app)
- Misfit between essential elements for behavior change (e.g., goal setting) and actual features of current apps/tech
- Overall user needs – differences between people with and without disabilities

Learning Outcomes/Objectives: At the conclusion of this session, attendees will be able to:
1. Distinguish between mHealth, mRehab, and Telehealth
2. Identify 3 emerging technologies that will be central to mHealth/mRehab solutions
3. Identify 3 user needs related to mHealth/mRehab technologies and programs
4. Identify 3 barriers to adoption of mHealth/mRehab technologies and programs

Session 1: The Future of mHealth for People with Disabilities (listed under RESNA)
    Tuesday, June 25, 10:45 am-12:15 pm – RESNA Hall A

Introduction to mHealth for People with Disabilities
    Frank DeRuyter, PhD, FASHA, Duke University Medical Center

mHealth: Capturing remote patient data and making it useful for clinicians
    Devin Mann, MD, Healthcare Innovations Bridging Research Informatics and Design (HIBRID) Lab, NYU Langone Health

mHealth: Technology adoption, demonstrating value to healthcare delivery organizations, clinicians and patients
    David Putrino, PT, PhD, Mt. Sinai Medical Center

mHealth: Consumer perspectives, user acceptance/adherence, and abandonment of mHealth technology solutions
    June Kailes, Disability Policy Consultant, Western University of Health Sciences

DISCUSSANT: *Mark Bayley, MD, University of Toronto / Toronto Rehabilitation Inst.*

Session 2: The Future of mRehab for People with Disabilities (listed under ACRM)
    Tuesday, June 25, 4:00-5:30 pm – ACRM Hall

Introduction to mHealth for People with Disabilities
    Mike Jones, PhD, FACRM, Shepherd Center

mRehab quality vs. quantity: Optimizing physical rehabilitation at a distance
    Catherine Lang, PT, PhD, Washington University

mRehab: Evaluating mRehab/mHealth mobile apps for usability, engagement, evidence-basis and behavior change
    Danielle Jake-Schoffman, PhD, University of Florida

mRehab: Consumer perspectives, strategies to promote engagement by patients, family, caregivers and other users of mHealth technology solutions
    Kate Lorig, PhD, Stanford University

DISCUSSANT: *Paolo Bonato, PhD, Spaulding Rehabilitation, Harvard Medical School*

Session 3: The Future of mHealth/mRehab for People with Disabilities: The Road Ahead
    Wednesday, June 26, 9:00-11:00 am – Meeting Room 205-D
    Roundtable discussion / Workshop (by invitation)

LiveWell RERC Posters (listed under ACRM)

1. Iman Khaghani-Far, Xuan Li, Maciej Kos, Christine M. Gordon, Haleigh Williams, Misha Pavel, Holly B. Jimison. NUCoach: A Customizable Coaching Platform for Designing Rehabilitation Mobile Apps.

2. Xuan Li, Nina Jolani, Thien-Tien Dao, Holly B. Jimison. Serenity: A Low-Cost and Patient-Guided Mobile Virtual Reality Intervention for Cancer Coping.

3. Leighanne Jarvis, Matthew Peterson, Erin Radcliffe, Kevin Caves. Development and validation of a walking speed measurement device.

4. Sarah Moninger, Sandy Throckmorton, Leighanne Jarvis, Juliessa Pavon, Kevin Caves. Development and testing of an accelerometer-based positional monitoring system.

5. Nicole Thompson, John Morris, Tracey Wallace, Sheehan Lauren, Souders Lauren, Mike Jones, Frank DeRuyter. Patient Needs for mHealth/mRehab Interventions and Technologies.

6. Tracey Wallace, John Morris. Development and Testing of a Technology Enhanced Intervention to Support Emotion Regulation in Military mTBI with PTSD.

7. Tracey Wallace, John Morris. Usability of Voice-Activated Smart Speakers by Military Service Members with mTBI and PTSD.

8. John Morris and Tracey Wallace. SwapMyMood: An iOS App for Problem-Solving and Emotion Regulation after TBI.

9. Erin Radcliffe, Mike Jones. Efficacy of a mobile app to support physical exercise for people with spinal cord injury.

10. Haleigh R. Williams, Lester Y. Leung, Christine M. Gordon-Davis, Eugene Tunik, Misha Pavel, Mathew Yarossi, and Holly B. Jimison. "A huge, life-changing thing:" A Qualitative Survey of the Priorities and Goals of Young Stroke Survivors.