Brain-e-News

FALL 2021

TeleRehab Demonstration Project

Delivering rehabilitation services virtually offers a solution to some of the barriers to access to care. It provides an opportunity for individuals who are unable to attend sessions in the clinic to receive treatment and allows therapist to work with clients in their home environments in a unique way. Providing treatment remotely has been particularly necessary during the COVID-19 pandemic which placed limits on meeting in person.

MRRI partnered with the Pennsylvania Department of Health and the Brain Injury Association of Pennsylvania to study the feasibility and satisfaction with cognitive rehabilitation services delivered through a video-conference platform. This project, led by Dr. Amanda Rabinowitz, included twenty-seven individuals with traumatic brain injury enrolled in the Pennsylvania Head Injury Program. After 6 months of treatment, they provided feedback through surveys of usability of the TeleRehab system and satisfaction with treatment received through TeleRehab. Therapists also rated the system usability and reported on how the TeleRehab platform supported their delivery of various aspects of treatment.
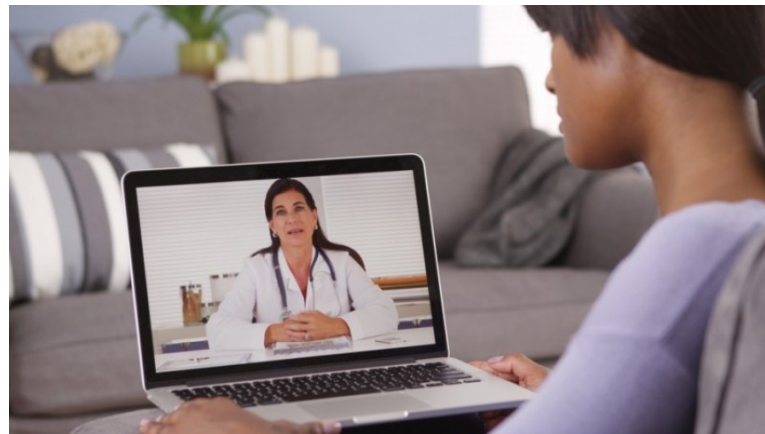

The project concluded in July of 2021, and findings support the feasibility and potential benefits of Cognitive Rehabilitation provided via remote delivery. Most participants were able to connect to the video conference platform with only minimal technical assistance. Both clients and therapists found the TeleRehab easy to use. In fact, therapists indicated that they were able to accomplish even *more* than they expected during TeleRehab sessions. Client satisfaction with TeleRehab was also highly rated. Our findings offer strong support for the use of TeleRehab as a cost-effective alternative to home visits, which could expand service access to remote areas.

MossRehab
EINSTEIN HEALTHCARE NETWORK

Chat Bot

Imagine if a virtual coach to help you achieve your goals was always just a text message away? TBI Model System Project Director, Dr. Amanda Rabinowitz, along with Dr. George Collier of the Shepherd Center, are developing a technology that would do just that—a chatbot designed to help people with TBI engage in rewarding activities to reduce depression and promote participation.
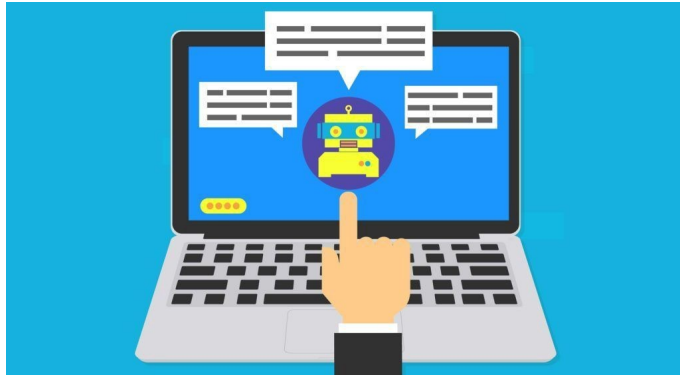
A chatbot is a piece of software that can carry on a conversation with a user. Virtual assistants like Siri and Alexa are chatbots that you can communicate with by speaking. RehaBot uses text-messages instead voice to help support users in carrying out their planned activities.

With funding from NIDILRR and the Einstein Society, Drs. Rabinowitz and Collier have designed RehaBot to be used alongside a one-on-one therapy program based on behavioral activation, or BA. BA is based on the idea that individuals get reward and benefit from improved mood when they increase their engagement in pleasurable and fulfilling activities. In developing RehaBot, Drs. Collier and Rabinowitz relied heavily on input from outpatient brain injury therapists and focus group participants with moderate to severe TBI. A series of case studies is currently underway to evaluate the usability of RehaBot. In these trials, data is also collected on participants completion of their planned activities while they have use of RehaBot versus without RehaBot. Preliminary results from these case studies were recently presented as a poster at the American Congress of Rehabilitation Medicine's virtual meeting.

The Faces of the TBI Model System: Alissa Kerr

The TBI lab is excited to introduce Alissa Kerr, who joined us in June of 2021 as a Research Assistant. Alissa graduated from Fordham University this year with a bachelor's degree in neuroscience, concentrating in cognitive neuroscience. Alissa also worked as a research assistant during her time as an undergraduate investigating memory in older adults. She is currently involved in various studies at Moss for individuals with a history of TBI. Alissa appreciates the opportunity to work with a clinical population at Moss. During her free time, she enjoys working as a cantor for her local church and experimenting with cooking and baking.

Welcome Alissa! We're excited to have you join our team.

Exploring How to improve Memory in Traumatic Brain Injury and Depression

Umi Venkatesan, PhD, who directs the Brain Trauma and Behavior Laboratory, is Site Principal Investigator of a new study that will examine learning and memory in individuals living with traumatic brain injury (TBI) and depression. Dr. Amanda Rabinowitz, Director of the Brain Injury Neuropsychology Laboratory, will also contribute to this effort. The project represents a collaboration between scientists at Kessler Foundation (lead site; East Hanover, NJ), Montclair State University (Montclair, NJ), the University of Pennsylvania, and MRRI. The work is funded by the National Institute of Neurologic Disorders and Stroke, National Institutes of Health.

Symptoms of depression are commonly experienced by individuals with TBI and can present significant functional challenges beyond cognitive or mobility impairment. This new study will use both paper-and-pencil testing of cognitive abilities as well as advanced, non-invasive neuroimaging (MRI) methods. It will examine how individuals learn and remember information when they are living with either TBI or clinical depression, and how having both conditions at the same time impacts memory. Using specialized tasks, the research team hopes to study new ways in which we can improve memory performance when people are simultaneously experiencing the effects of TBI and depression. Ultimately, the goal is to find support for new memory treatments that could positively impact patients' quality of life.

Study planning is well underway, and recruitment at MRRI will begin within the next month. Research participation consists of an MRI scan and computerized testing at the University of Pennsylvania, followed by a research visit at MRRI for further assessment of cognitive abilities and psychological functioning. The study will run through Spring 2026, and findings will be presented in scientific journals and professional conferences, as well as in newsletters like this. This study is just the latest in MRRI's long history of productive scientific collaboration and commitment to work that matters to patients, families, and healthcare providers.

EMPOWERMENT GROUP

The Elkins Park Empowerment Group meets on the second Monday of each month from 5:00-6:30 virtually.

Please contact Debbi Eisen for more information.
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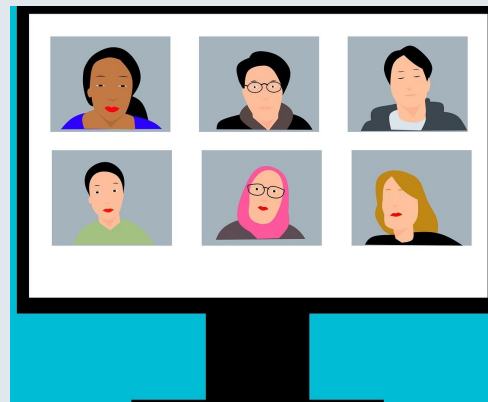
MossRehab at Elkins Park Hospital
50 E. Township Line Road
Elkins Park, PA 19027
ATTN: Lauren McLaughlin

The Moss TBI Model System

The National Institute on Disability, Independent Living and Rehabilitation Research has designated MossRehab as a Model System for traumatic brain injury since 1997. The TBI Model System program seeks to improve lives by creating and disseminating new knowledge about the course, treatment and outcomes of TBI.

The Traumatic Brain Injury Model System (TBIMS) Centers for the current funding cycle (2017-2022)