Telerehabilitation Clinical and Vocational Applications for Assistive Technology: Research, Opportunities, and Challenges

White Paper Authors:

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Richard M. Schein, MS is a doctoral student in the School of Health and Rehabilitation Sciences within the Department of Rehabilitation Science and Technology at the University of Pittsburgh. He has been working within the Rehabilitation Engineering Research Center on Telerehabilitation, where his doctoral work has focused on remote wheelchair prescription and consultation via telerehabilitation. He is also pursuing a second masters in public health part-time concentrating in health policy and management at the University. He has been involved in clinical research for the past five years in areas such as seating and wheeled mobility, telerehabilitation, and funding and policy as it relates to assistive technology.
Michael McCue, PhD is Associate Professor and Vice-Chair of the Department of Rehabilitation Science and Technology at the University of Pittsburgh and is Director of the Rehabilitation Counseling Program. Dr. McCue has undertaken extensive research and demonstration activities in assessment and rehabilitation of individuals with disabilities. He is Co-Director of the University of Pittsburgh’s Rehabilitation Engineering Center on Telerehabilitation. He is also Project Director of the Cognitive Skills Enhancement Program and Learning Technology Program projects funded by the Commonwealth of Pennsylvania’s Hiram G. Andrews Rehabilitation Center. He has directed over 20 national research, demonstration and training programs in rehabilitation assessment and intervention and has published over 40 articles, chapters and abstracts related to rehabilitation of cognitive disability.

Kendra Betz, MSPT, ATP is a Physical Therapist and RESNA certified Assistive Technology Practitioner (ATP) who has worked for the Veterans Health Administration (VA) since 1993 specializing in Spinal Cord Injury, wheelchairs and seating, and adaptive sports. Kendra is currently the Prosthetics Clinical Coordinator for the VA Prosthetics and Sensory Aids Service in Washington DC. In this position, she provides clinical oversight for all adaptive equipment issued to American Veterans. Kendra is also the Director of Training for a Paralyzed Veterans of America (PVA) Education Foundation surrounding upper limb preservation in wheelchair users.

Expert Panel Members:

Suzanne Paone, MBA is a Director, Division of Information Services at the University of Pittsburgh Medical Center Health Systems. She has twenty years experience in the Health Care industry including work in industrial health and safety and laboratory medicine, with fifteen years experience in applied health care information technology practice. Her present position is Project Director of e-Health in the Division of Information Services for the University of Pittsburgh Medical Center Health Systems. She is actively involved in the development of the business and technology strategy for eHealth including referral management, patient portals and customer relationship management. She is also actively involved in the national eHealth community.
Paul Wehman, PhD is Professor of Physical Medicine with joint appointment in the Department of Special Education at Virginia Commonwealth University. He helped to development supported employment at VCU in the early 1980s. He has published over 200 articles and authored or edited 39 books. He is a recipient of the Kennedy Foundation Award in Mental Retardation in 1990 and President’s Committee on Employment for Persons with Disabilities in 1992. Dr. Wehman was recognized as one of the 50 most influential special educators of the millenium by the Remedial and Special Education journal in December, 2000.

Barbara Demuth, RN, MSN is the Director of the Center of Excellence for Remote and Medically Under-Served Areas (CERMUSA) telehealth program in Pennsylvania, Barbara Demuth R.N., M.S.N., directs the development and implementation of all telehealth/telerehabilitation research activities. Under her guidance, the Telehealth Department of CERMUSA, because of its community involvement, research orientation and public exposure, has become a respected entity on a state, regional, national and international level for its efforts and ability to improve healthcare delivery and educational services through the implementation of technological solutions. Her supervision of a proof-of-concept telerehabilitation research study conducted with the Hiram G. Andrews Center in Johnstown, Pennsylvania, resulted in multi-million dollar funding to establish a National Telerehabilitation Service System (NTSS). The development of the NTSS resulted in a robust IT (information technology) research test bed to investigate emerging technologies to improve accessibility to quality comprehensive rehabilitation services for people with disabilities.

Steven Dahling, ATS has over fifteen years of experience at the Rusk Institute of Rehabilitation Medicine in New York as a Senior Rehab Technician and Assistive Technology Coordinator. In this position, he is responsible for all assistive technology equipment for inpatients and outpatients in both the adult and pediatric services. He is the current Vice-chair of Rehab Engineers and Technologists within the Professional Specialty Groups and current Vice-chair of the Telerehabilitation Special Interest Group both within the Rehabilitation Engineering and Assistive Technology Society of North America.
Christine Woo works for the Cleveland Spinal Cord Injury/Disorders (SCI/D) Center. In 2004, she was hired by the Cleveland VA Spinal Cord Injury Service to set up a clinic-to-clinic telehealth program in Ohio. Since then, she has been an active participant on several national telehealth groups, including the VHA Telerehabilitation field work group and the General Telehealth Development Advisory Committee. She was involved with developing the Telerehabilitation Toolkit, the General Telehealth Foundations course and more recently the SCI Telehealth Curriculum course. Locally, she collaborates with Primary Care Service to conduct training sessions on setting up and developing home telehealth programs. Christine has extensive work experience with the set-up, development and administration of clinical programs and research studies, and manages both roles in her current position. She was recently asked to coordinate the development of a national clinic and home based Spinal Cord Injury telehealth program in the Veterans Health Administration.