The mission of the National Institute on Disability and Rehabilitation Research is to generate new knowledge and promote its effective use to improve the abilities of people with disabilities to perform activities of their choice in the community, and also to expand society’s capacity to provide full opportunities and accommodations for its citizens with disabilities.

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## Contents

Introduction ............................................................................................................... i

*Research and Development:*
- Employment ................................................................................................... 1
- Health and Function ......................................................................................... 2
- Technology for Access and Function ............................................................... 3
- Participation and Community Living ................................................................. 4
- Disability Demographics ................................................................................ 5

*Knowledge Translation*
- Knowledge Translation ................................................................................... 6
- ADA Technical Assistance ................................................................................ 7

*Capacity Building*
- Capacity Building for Rehabilitation Research Training ............................... 8

*Indices*
- Subject ............................................................................................................ A
- Grantees .......................................................................................................... B
- Project by State ............................................................................................... C
- Principal Investigators .................................................................................... D
- Projects by Program Type .............................................................................. E
- Model System and Collaborative Projects .................................................... F
The mission of NIDRR is to generate new knowledge and promote its effective use to improve the abilities of people with disabilities to perform activities of their choice in the community, and also to expand society’s capacity to provide full opportunities and accommodations for its citizens with disabilities. NIDRR conducts comprehensive and coordinated programs of research and related activities to assist in the achievement of the full inclusion, social integration, employment, and independent living of people with disabilities. This edition of the NIDRR Program Directory lists all projects funded by NIDRR during the 2011 fiscal year.

The contextual paradigm of disability and rehabilitation research, originally described in NIDRR’s Long Range Plan, 1999-2003, continues to frame the NIDRR research agenda. This paradigm overcomes the limitations imposed by a medical model of disability. It maintains that “disability is a product of the interaction between characteristics of the individual (e.g., conditions or impairments, functional status, or personal and social qualities) and the characteristics of the natural, built, cultural, and social environments.” (NIDRR Long-Range Plan 1999-2003.)

NIDRR’s Research Program

Under the Long Range Plan 2005-2009, NIDRR-funded research activities fall within three strategic arenas: Research and Development, Capacity Building, and Knowledge Translation. Most NIDRR grantees are universities or organizations of rehabilitation or related services. NIDRR makes awards through several program mechanisms including ADA National Network Projects, Advanced Rehabilitation Research Training Projects, Disability and Rehabilitation Research Projects, Mary E. Switzer Research Fellowships, Model Systems, NIDRR Contracts, Rehabilitation Engineering Research Centers, Rehabilitation Research and Training Centers, and Small Business Innovative Research. Program descriptions are provided below.

ADA National Network Projects

NIDRR funds the ADA National Network to provide information, training, and technical assistance related to the Americans with Disability Act (ADA) to businesses, agencies, and the public, as well as conducting ADA-related research. Presently, ten ADA regional centers and one ADA knowledge translation center are funded under this program.

Advanced Rehabilitation Research Training Projects

The Advanced Rehabilitation Research Training (ARRT) Program provides research training and experience at an advanced level to individuals with doctorates, or similar advanced degrees, who have clinical or other relevant experience. ARRT projects train rehabilitation researchers, including researchers with disabilities, with particular attention to research areas that support the implementation and objectives of the Rehabilitation Act of 1973, as amended (Act), and that improve the effectiveness of services authorized under the Act.

Grants are made to institutions to recruit qualified persons, and to provide a training program that includes didactic and classroom instruction, is multidisciplinary, emphasizes scientific research methodology, and may involve collaboration among institutions.
Disability and Rehabilitation Research Projects

The Disability and Rehabilitation Research Projects (DRRP) program funds projects that include a range of activities including research, demonstration, training, knowledge translation, and technical assistance. These projects may develop methods, procedures, and rehabilitation technology to assist in achieving the full inclusion and integration into society, employment, independent living, family support, and economic and social self-sufficiency of individuals with disabilities, especially individuals with the most significant disabilities, or to improve the effectiveness of services authorized under the Rehabilitation Act.

Mary E. Switzer Research Fellowships

Research Fellowships, named for the late Mary E. Switzer, give individual researchers the opportunity to develop new ideas and gain research experience. There are two levels of fellowships: Distinguished Fellowships and Merit Fellowships. Distinguished Fellowships go to individuals who have seven or more years of research experience in subject areas, methods, or techniques relevant to rehabilitation research and must have a doctorate, other terminal degree, or comparable academic qualifications. Merit Fellowships are given to individuals who have either advanced professional training or independent study experience in an area that is directly pertinent to disability and rehabilitation but who do not meet the qualifications for Distinguished, usually because they are in earlier stages of their careers. The fellowship supports one year of independent research activities.

Model Systems

NIDRR administers programs that have become world-renowned model systems of care for persons with spinal cord injuries, burns, and traumatic brain injuries. The Model Systems establish innovative projects for the delivery, demonstration, and evaluation of comprehensive medical, vocational, and other rehabilitation services. The work of the Model Systems begins at the point of injury and ends with successful re-entry into full community life. These projects collect and contribute data on patient characteristics, diagnoses, causes of injury, interventions, outcomes, and costs to a uniform national database; conduct research, both independently and collaboratively with other Model System centers; and coordinate research efforts with other related grant recipients. Beginning in 2006, NIDRR funded a Model Systems Knowledge Translation Center (MSKTC) to support knowledge translation activities of all three Model Systems.

NIDRR Contracts

Through its contracts, NIDRR seeks improved methods, systems, products, and practices to enhance its work. The contracts are for specific activities related to management, research, and information dissemination.

Rehabilitation Engineering Research Centers

Rehabilitation Engineering Research Centers (RERCs) conduct programs of advanced research of an engineering or technical nature designed to apply advanced technology, scientific achievement, and psychological and social knowledge to solve rehabilitation problems and remove environmental barriers. Each center is affiliated with one or more institutions of higher education or nonprofit organizations. Involved at both the individual and systems levels, RERCs seek to find and evaluate the newest technolo-
gies, products, and methods that ultimately can benefit the independence of persons with disabilities and the universal design of environments for all people of all ages. The centers also exchange technical and engineering information worldwide and engage in technology transfer activities to maximize the use of new technology in producing end-user products, both commercialized and non-commercialized, that are readily available for public consumption. Since 2008, NIDRR has funded the Knowledge Translation for Technology Transfer (KT4TT) Center to assist RERC grantees in their technology transfer efforts.

Rehabilitation Research and Training Centers

NIDRR’s Rehabilitation Research and Training Centers (RRTCs) conduct coordinated and integrated advanced programs of research targeted toward the production of new knowledge, which may improve rehabilitation methodology and service delivery systems, alleviate or stabilize disabling conditions, or promote maximum social and economic independence for persons with disabilities. Operated in collaboration with institutions of higher education or providers of rehabilitation or other appropriate services, RRTCs serve as centers of national excellence in rehabilitation research. Also, they are national or regional resources for research information for individuals with disabilities and the parents, family members, guardians, advocates, or authorized representatives of the individuals. These centers also conduct related training programs, including graduate, pre-service and in-service training. The centers also disseminate and promote the utilization of research findings.

Small Business Innovation Research

Small Business Innovation Research (SBIR) grants help support the production of new assistive and rehabilitation technology. This two-phase program takes a product from development to market readiness.

NARIC and the NIDRR Program Directory

The Program Directory is compiled by the National Rehabilitation Information Center (NARIC). NARIC functions as a specialized library, providing the public with disability- and rehabilitation-related information and services to help locate those materials and resources. Since 1977, NARIC has been the primary source of rehabilitation and disability information about and information generated by NIDRR-funded projects.

NARIC also produces REHABDATA, an index of disability and rehabilitation literature produced by NIDRR grantees as well as commercial publishers. Grantees submit copies of NIDRR-supported research products to NARIC and they are added to the reference collection and REHABDATA database. Information about holdings is available online at http://www.naric.com.

Neither NARIC nor NIDRR assumes liability for the Directory’s contents or the use thereof. NARIC does not evaluate or certify the programs or products of the organizations listed in the Directory.

This Directory is not intended for use as a fiscal document to show how NIDRR funds are allocated; its purpose is to display the range of programs that NIDRR supports. This listing is current as of January 30, 2012. This directory may include projects that have passed the indicated extension date.

NARIC operates under U.S. Department of Education contract ED-OSE-10-0074.
Employment

NIDRR’s employment research focuses on the lifelong challenges to and opportunities presented by transitions in employment experienced by people with disabilities. Employment research addresses methods to integrate the unique needs of employers and disability populations to improve employment outcomes across the life span. NIDRR’s research agenda in the area of employment is designed to strengthen the scientific basis of disability and rehabilitation-related research and practice by increasing the availability of validated theories, measures and methods to: (1) improve measurement, data sources, and estimates; and (2) enhance identification, evaluation, and prediction of the factors that facilitate successful labor force participation and work-related transitions across the life span. This research agenda is also designed to strengthen the scientific basis of disability-related employment policy, practice, and research by providing valid and reliable information and analyses designed to: (1) improve understanding of employment trends; individual labor force participation; and school-to-work transitions; and (2) enhance knowledge of the broader societal developments that affect employment opportunities and outcomes across the life span.

Contents

Rehabilitation Research and Training Centers (RRTCs) ..........................................................3
Disability and Rehabilitation Research Projects .................................................................14
Field Initiated Projects (FIPs) .........................................................................................20
Rehabilitation Research and Training Centers (RRTCs)
Massachusetts

Rehabilitation Research and Training Center on Vocational Rehabilitation Research

University of Massachusetts Boston
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100 Morrissey Boulevard
Boston, MA 02125-3393
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www.vr-rrtc.org

Principal Investigator: Susan Foley, PhD
Public Contact: 617/287-4317

Project Number: H133B070001
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: Phillip Beatty, PhD
NIDRR Funding: FY 07 $649,999; FY 08 $649,999; FY 09 $650,000; FY 10 $650,000; FY 11 $650,000
Other Funding: FY 10 $150,000 Supplemental from NIDRR

Abstract: The Rehabilitation Research and Training Center (RRTC) on Vocational Rehabilitation Research provides a comprehensive description of the vocational rehabilitation (VR) program, collects best practices, and addresses the need for information to assist administrators, researchers, and advocates in making data driven policy and practice decisions. It conducts systematic research literature reviews modeled after the Evidence for Policy and Practice Information and Coordinating Centre in the United Kingdom that provide a comprehensive platform for research activities of the RRTC and for other researchers and policy-makers. Project activities include: (1) collecting descriptive data from a wide range of sources including existing administrative datasets and official documents; (2) launching the RRTC survey of state VR agencies, state mental retardation/developmental disabilities agencies, state mental health agencies, state welfare agencies, and community rehabilitation providers to develop state by state profiles of employment services and the context of VR service delivery; (3) interviewing VR directors of all 80 VR agencies to collect descriptive information about key characteristics related to operational and programmatic decisions, policies, and practices; (4) using the Delphi Method to identify, evaluate, and describe best practices in the implementation of (a) Order of Selection policies and the prioritization of individuals with the most significant disabilities for VR services, (b) employment services for individuals with developmental disabilities, and (c) employment services for individuals with mental illnesses; (5) instituting a training and technical assistance agenda that uses community-of-practice mechanisms to create interactive, participant-driven opportunities for translation, information sharing, and policy development; and (6) disseminating products, curricula, and knowledge throughout the VR and employment services system, and to a wide array of disability and advocacy organizations. A supplemental project investigates the nature of post closure supported employment and extended employment services through surveys and case studies. Additionally, this project develops a knowledge-base on VR which is beneficial to policy and practice at the federal, state, and local levels, encouraging data-based decision-
making, and resulting in the development of a research base that future investigators can use to analyze the consequences and outcomes of variations in the internal arrangements and operations of state VR agencies, document best practices in detail, identify their key features, and investigate their transferability into other contexts. The RRTC Vocational Rehabilitation Research is a partnership of the Institute for Community Inclusion at the University of Massachusetts Boston, the Center for the Study and Advancement of Disability Policy, and InfoUse.
Rehabilitation Research and Training Centers (RRTCs)
Massachusetts

Improved Employment Outcomes for Individuals with Psychiatric Disabilities

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Project Number: H133B090014
Start Date: October 01, 2009
Length: 60 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 09 $849,535; FY 10 $850,000; FY 11 $847,289; FY 12 $850,000; FY 13 $848,218

Abstract: This project develops and tests innovative interventions, identifies barriers to and facilitators of effective partnerships among providers of employment services, and develops and tests adaptations of evidence-based employment interventions for individuals with psychiatric disabilities from traditionally underserved groups. Additionally, this project incorporates research findings into practice and policy by developing, evaluating, and implementing strategies to increase utilization of research findings; and conducts training, technical assistance, and dissemination activities (TDTA) with the same purpose. TDTA projects are organized into programmatic areas which together focus on the development and implementation of practices and services to improve employment outcomes. Using the knowledge transfer framework, TDTA projects produce usable, new technologies for improving employment outcomes.
Rehabilitation Research and Training Centers (RRTCs)
Massachusetts

Learning and Working During the Transition to Adulthood

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CMHSR/Department of Psychiatry
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labs.umassmed.edu/transitionsRTC

Principal Investigator: Maryann Davis, PhD
Public Contact: 508/856-8718; Fax: 508/856-8700

Project Number: H133B090018
Start Date: October 01, 2009
Length: 60 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 09 $800,398; FY 10 $800,398; FY 11 $800,392; FY 12 $800,380; FY 13 $800,388

Abstract: This project focuses on school-to-work transitions and develops an integrated research program examining this developmental stage for individuals with severe psychiatric disabilities. The transition to adulthood is a critical life stage when the learning that occurs, both in school and in the larger world, lays an important foundation for individuals’ future work life. Severe psychiatric disability issues can disrupt the school-to-work pathway and contribute to school dropout, psychiatric hospitalization, homelessness, and jail. The Learning and Working During the Transition to Adulthood Rehabilitation Research and Training Center provides national leadership to researchers, policymakers, practitioners, and consumers and their families on the school-to-work transition of transition-age youth and young adults with serious mental health conditions. The Center develops and translates knowledge from state-of-the-art rigorous research on education and work experiences for 14-30 year olds. The research is informed by consumer and family input and is carried out in real world settings. This project contributes to new knowledge about interventions for this population who are from disadvantaged backgrounds, and improves coordination between child and adult mental health services. The translation of this knowledge speeds capacity building for service providers and the movement of findings into practice and policy.
RRTC on Employment Outcomes for Individuals Who Are Blind or Visually Impaired

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Research and Training Center on Blindness & Low Vision
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Mississippi State, MS 39762
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www.blind.msstate.edu

Principal Investigator: Michele Capella McDonnall, PhD; Mary-Kay Belant; Brenda Cavenaugh, PhD; Adele Crudden; Marty Giesen; B.J. LeJeune; William Sansing
Public Contact: Michele Capella McDonnall, PhD 662/325-2001

Project Number: H133B100022
Start Date: October 01, 2010
Length: 60 months
NIDRR Officer: Hugh Berry, EdD
NIDRR Funding: FY 10 $850,000; FY 11 $850,000; FY 12 $850,000; FY 13 $850,000; FY 14 $850,000

Abstract: The overall purpose of this project is to improve competitive employment outcomes for persons who are blind or visually impaired (B/VI). Project 1 involves developing, implementing, and evaluating a Customized Transportation Intervention through a state-federal vocational rehabilitation agency. Project 2 involves modifying an existing Business Mentoring Program for college seniors. Project 3 evaluates existing practices used by vocational rehabilitation (VR) agencies to interact with employers, with a focus on their use of the model of business development. Project 4 involves an evaluation of the Randolph-Sheppard Program that includes evaluating managerial skills, training needs, and recruitment strategies. Project 5 evaluates the VR service delivery process and outcomes for B/VI consumers who are SSDI beneficiaries. Project 6 involves evaluating the accessibility and usability of two important workplace devices that have known accessibility issues for persons who are B/VI: multifunctional document centers and business internet telephone systems. Training, technical assistance, and dissemination activities flow from the results of the six research projects and include a State of the Science conference held in year four. A large number of outputs and outcomes emanate from this project. Example of outputs are a minimum of 13 peer-reviewed publications, 18 conference presentations, 2 intervention manuals, 2 evidence-based practice guidelines, and 7 training webinars. Important overall project outcomes resulting from these outputs include increased knowledge about the effectiveness of existing practices and new interventions, utilization of research findings in the development of rehabilitation practices and policies, and improved employment outcomes for persons who are B/VI.
Rehabilitation Research and Training Centers (RRTCs)
Montana

Rehabilitation Research and Training Center on Disability in Rural Communities

University of Montana
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A Center for Excellence in Disability Research, Education and Services
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Principal Investigator: Tom Seekins, PhD 406/243-2654
Public Contact: Nancy Arnold 888/268-2743 (V); 406/243-5467 (V); 406/243-4200 (TTY); Fax: 406/243-2349

Project Number: H133B080023
Start Date: October 01, 2008
Length: 60 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 08 $850,000; FY 09 $850,000; FY 10 $850,000; FY 11 $850,000; FY 12 $850,000

Abstract: Research and Training Center on Disability in Rural Communities (RTC:Rural) at the University of Montana conducts research that advances a science of rural disability and rehabilitation, improves the health of rural Americans with disabilities, and increases their opportunities for employment and community integration. The research and training program provides contextually appropriate, evidence-based solutions that rely on resources available in most rural communities, while respecting their diversity and values. The project: (1) conducts detailed statistical analyses of state vocational rehabilitation (VR) data to identify promising, evidence-based rural service practices; (2) develops and evaluates telecommunications protocol for providing rural VR services; (3) conducts a longitudinal study to determine why rural VR clients might exit services prematurely, and to evaluate retention strategies; (4) evaluates rural health promotion strategies that could lead to improved employment outcomes; (5) conducts a randomized controlled trial to evaluate ways to improve rural consumers’ use of health care services; (6) conducts a randomized controlled trial to evaluate a mental health peer support model for rural individuals with mobility or sensory impairments; and (7) identifies strategies to improve rural transportation.

The knowledge translation program disseminates research findings and sparks the use of evidence-based rural practices by policy makers, advocates, service providers, and persons with disabilities. The project web site, which is a central component of the dissemination program, includes the first rural disability “wiki,” building a rural disability knowledge base. The project includes three focused training initiatives: (1) promoting economic development in rural southwest Texas; (2) facilitating linkages between Utah Small Business Development Centers and VR services; and (3) implementing the Living Well with a Disability health promotion program in rural South Carolina. The project also includes an innovative, web-based state-of-the-science conference on rural disability and rehabilitation.
Rehabilitation Research and Training Centers (RRTCs)
New Hampshire

RRTC on Employment Policy and Measurement

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www.iod.unh.edu/Projects/epm_rrtc/project_description.aspx

Principal Investigator: Andrew J. Houtenville, PhD
Public Contact: 603/862-4004

Project Number: H133B100030
Start Date: October 01, 2010
Length: 60 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 10 $850,000; FY 11 $850,000; FY 12 $850,000; FY 13 $850,000; FY 14 $850,000

Abstract: This project investigates the impact of government policies and programs on employment, with particular attention to the effects of program interactions; examines new ways of measuring employment outcome; and facilitates the translation of research findings into policymaking and program administration. The project includes a comprehensive set of 13 research projects, focusing on interactions among government programs and employment measurement. These projects utilize cross-sectional and longitudinal data derived from several sources: national surveys, program administrative records, administrative records linked across programs, and/or surveys linked to administrative records. The researchers at the Rehabilitation Research Training Center on Employment Policy and Measurement are conducting an integrated set of knowledge translation projects designed to convey research findings to key stakeholders and work with these stakeholders to develop research-to-policy implementation strategies.
Rehabilitation Research and Training Centers (RRTCs)
New York

Cornell RRTC on Employer Practices Related to Employment Outcomes Among Individuals With Disabilities

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Principal Investigator: Susanne M. Bruyère, PhD
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Project Number: H133B100017
Start Date: October 01, 2010
Length: 60 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 10 $800,000; FY 11 $800,000; FY 12 $800,000; FY 13 $800,000; FY 14 $800,000

Abstract: This RRTC (1) creates new knowledge of specific employer practices most strongly associated with desired employment outcomes for individuals with disabilities and the prevalence of these practices; (2) increases knowledge about how these practices relate to employer success in hiring, retention, and promotion of individuals with disabilities; and (3) increases the incorporation of these findings into practice and policy by collaborating with employer groups to develop, evaluate, or implement strategies to promote utilization of positive practices as identified by the project. Project goals are reached through a series of 13 research and 14 outreach projects. Specifically, rigorous research is conducted using (1) national survey and administrative data sets with employer variables; (2) focus groups and network-wide surveys with partner employer member organizations; (3) in-depth employer case studies in at least one private and one public employer workplace to identify barriers to best practices implementation, as well as practices that cultivate inclusive climates for people with disabilities; and finally, (4) designing and testing an online employer best practices benchmarking tool based on research results. Through research and outreach projects, this project expands the availability and accessibility of useful information on how employer practices are related to employer success in hiring, retaining, and advancing people with disabilities.
Rehabilitation Research and Training Center: Individual-Level Characteristics Related to Employment among Individuals with Disabilities

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Research Foundation of CUNY
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www.DisabilityEmploymentResearch.org

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Public Contact: 212/772-5188; Fax: 212/650-3198

Project Number: H133B100011
Start Date: October 01, 2010
Length: 60 months
NIDRR Officer: Hugh Berry, EdD
NIDRR Funding: FY 10 $850,000; FY 11 $850,000; FY 12 $850,000; FY 13 $850,000; FY 14 $850,000

Abstract: This RRTC generates new knowledge regarding the economic disparities of individuals with disabilities and the role of individual characteristics, building upon evidence-based research that improves strategies and interventions for attaining better employment outcomes for the various subpopulations of people with disabilities. This project blends the social model of disability with labor economic theory, adopting the framework of the International Classification of Functioning, Disability and Health focusing on three research domains: health conditions, personal characteristics, and environmental characteristics. The first domain, health conditions, researches the physical and mental characteristics that underlie disability. The second domain researches personal characteristics including demographic characteristics, human capital (education and training), and social capital (an individual’s family, community, and employment relationships). The third domain researches environmental characteristics including accessibility, transportation, the local economy, public policies, and geography. This project conducts research in three phases: Phase 1 - reviewing existing literature and providing comprehensive review of the vocational rehabilitation and social science literature on facilitators and barriers to employment for persons with disabilities; Phase 2 - utilizing existing data from Phase 1 and data from disability-related public programs and national and international surveys to examine the geographic and individual variation within the data supporting identification of individual, social, economic, and environmental barriers and facilitators to employment; and Phase 3 - applying new data to design, implement, and analyze the National Survey Disability and Employment.
Rehabilitation Research and Training Center on Substance Abuse, Disability, and Employment

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School of Medicine
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Principal Investigator: Dennis C. Moore, EdD
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Project Number: H133B040012
Start Date: December 01, 2004
Length: 60 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 04 $699,998; FY 05 $699,983; FY 06 $699,981; FY 07 $699,984; FY 08 $699,989; FY 09 (No-cost extension through 11/30/2010); FY 10 (No-cost extension through 11/30/2011)

Abstract: This rehabilitation research training center builds on previous findings to positively impact persons with disabilities who also experience substance use disorders, as well as the service providers upon whom they depend. The highly integrated program of research addresses the following goals and objectives: (1) Promote widespread use of substance use disorder screening among persons with disabilities who utilize disability-related employment services. This is accomplished by developing and validating a new substance abuse screener called the “SASSI-VR”. Following two stages of development and validation, the SASSI-VR is evaluated in three vocational rehabilitation (VR) programs on a statewide basis. (2) Conduct a randomized clinical trial of a model of supported employment, Individualized Placement and Support, to test its efficacy among persons with traumatic brain injury or other severe disabilities that also have a substance use disorder. The two trial sites are affiliated with rehabilitation programs in the Wright State and Ohio State medical schools. (3) Research policy and practices relative to their impact on VR services for persons with a disability and coexisting substance abuse. Serving as a critical complement to the first project, the roles of policies, statutes, guidelines, and VR service delivery practices are investigated within the larger community of public agencies. (4) Investigate factors that specifically contribute to unsuccessful case closure among consumers of VR services. This component studies recent unsuccessful closures and their VR counselors, and the study has particular sensitivity to the role of “hidden” substance abuse among unsuccessful closures.
Creating Evidence-Based Vocational Rehabilitation (VR) Service Delivery Practices

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Madison, WI 53706
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Principal Investigator: Fong Chan, PhD; John Lui, PhD
Public Contact: 608/262-2137

Project Number: H133B100034
Start Date: October 01, 2010
Length: 60 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 10 $942,082; FY 11 $918,828; FY 12 $935,201; FY 13 $929,632; FY 14 $939,710

Abstract: This project generates new knowledge related to theory-driven, evidence-based vocational rehabilitation (VR) practice to improve the effectiveness of VR service delivery practice to improve employment outcomes of subpopulations of VR customers with the lowest outcomes. The project includes three research phases. During the first phase, RSA-911 and related data are analyzed to examine organizational level variables (e.g., state unemployment rates) and individual level data (e.g., race and disability type) to determine personal and environmental interactions and their associations with quality of employment outcomes using multi-level analysis. The second phase includes in-depth case study of two exemplary VR agencies, comparing them with other VR agencies to identify promising practices. In the third phase, new data fill gaps identified in Phase 1 and 2 through collection of new data. Major Phase 3 projects include validating the International Classification of Functioning, Disability, and Health as a VR model, testing a motivational enhancement model for VR, evaluating the effectiveness of a motivational interviewing intervention, and conducting a controlled study on a counselors’ toolkit for incorporating evidence-based VR practices. In addition, Phase 3 includes a national survey to determine readiness of state VR to incorporate evidence-based interventions in service delivery practice.
Disability and Rehabilitation Research Projects
Maryland

Center for Transition to Employment for Youth with Disabilities

TransCen, Inc.
451 Hungerford Drive, Suite 700
Rockville, MD 20850-4151
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www.transcen.org/index.php

Principal Investigator: Richard G. Luecking, PhD; Paul Wehman, PhD
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Project Number: H133A100007
Start Date: October 01, 2010
Length: 60 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 10 $649,999; FY 11 $649,999; FY 12 $649,999; FY 13 $649,999; FY 14 $649,999

Abstract: This center provides a comprehensive, balanced, and rigorous view of the strategies, methodologies, and models of transition to employment for youth with disabilities contributing to ongoing analysis, policy development, and in-the-field practice for transition-to-employment services. Project activities include: (1) conducting a systematic review of promising practices for transitioning students with disabilities to employment; (2) conducting a risk modeling of the National Longitudinal Transition Study and developing a prediction model for successful transition to employment; (3) analyzing data from a standardized transition-to-employment program serving primarily minority urban youth to identify factors explaining work outcomes, and to identify demographic and service characteristics that predict employment success; (4) indentifying characteristics and perceptions of staff of a standardized national program serving primarily minority youth with disabilities that explain employment outcomes; (5) identifying factors that enable schools to effectively serve youth with intellectual and developmental disabilities preparing for and transitioning to on-going supported employment service; (6) implementing and studying a transition service model and applying this model across school districts and across categories of youth that features paid work, early vocational rehabilitation case initiation, and multi-party collaboration prior to school exit; (7) producing publications of research findings; and (8) compiling, creating, and disseminating training and technical assistance materials based on the center’s research in order to address gaps in knowledge and practice.
Research and Technical Assistance Center on Vocational Rehabilitation Program Management

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Public Contact: 617/287-4300; Fax: 617/287-4352

Project Number: H133A090002
Start Date: October 01, 2009
Length: 60 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 09 $1,500,000; FY 10 $1,500,000; FY 11 $1,500,000; FY 12 $1,500,000; FY 13 $1,500,000

Abstract: This Center uses a three-stage process to develop and test a Vocational Rehabilitation (VR) Program Management Model. In the model development stage, project staff conduct research activities that build on existing management models, integrate knowledge generated from other public systems and the private sector, and review evidence indicating associations between management practices and organizational outcomes. In the second stage, model verification and transfer, staff coordinate three research projects that emphasize the collection and evaluation of knowledge generated directly by the VR program, translate findings from the development phase into actionable management strategies, and finalize the VR Program Management Model. In the third stage, the management practices laboratory, the VR Program Management Model, its implementation, and validation are studied at seven partnering state VR agencies. An Advisory Committee ensures the VR Program Management Model is technically sound, relevant, and functional for the VR system. Training and technical assistance (TA) activities are integrated into the research agenda and designed for replication and distribution by the VR TA Network. Tools developed by the Center promote effective and efficient VR management practices leading to improved organizational performance and high quality employment outcomes for people with disabilities.
Demand-Side Employment Placement Models

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Project Number: H133A060033
Start Date: July 01, 2006
Length: 60 months

NIDRR Officer: Shelley Reeves

NIDRR Funding: FY 06 $500,000; FY 07 $500,000; FY 08 $500,000; FY 09 $500,000; FY 10 $500,000; FY 11 (No-cost extension through 07/31/12)

Abstract: This project sets out scientifically rigorous and evidence-based methods to develop, identify, and evaluate employment demand-side models. It translates the findings into valid and practical tools for large and small businesses in different market sectors to improve employment outcomes. It evaluates the relative efficacy of these tools alongside supply-side research outcomes. Americans with disabilities have significantly lower levels of employment than their peers without disabilities. Prior study of employment rates among people with disabilities generally has relied on a “supply-side” approach, analyzing how personal characteristics predict employment and earnings. These models have not sufficiently analyzed variables related to employer demand (and the interaction of employer demand/supply and the environment) as predictors of employment outcomes for people with disabilities. Thus, there is a need to systematically understand demand characteristics for qualified workers with disabilities, particularly as work requirements change over time. The project is a nationwide collaboration of economists, statisticians, and leading experts in law, public and disability policy, corporate culture, applied life studies, technology, and education as applied to disability employment policy and law. Project leadership includes disability scholars from universities around the country, with combined decades of research, training, and knowledge dissemination experience. The project builds fresh partnerships among disability policy and law experts, the business community, researchers, and national disability organizations such as the National Organization on Disability and the National Council on Independent Living. The project generates new knowledge to better understand market-driven workforce trends in large and small firms and different market sectors, and to inform employment practices to prepare individuals with disabilities for the present and future workforce. The project has a systematic plan and logic model for knowledge translation and dissemination aimed at providing employers best practice and practical tools to improve employment outcomes of people with disabilities.
Center on Effective Delivery of Rehabilitation Technology by Vocational Rehabilitation Agencies

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Project Number: H133A090004
Start Date: October 01, 2009
Length: 60 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 09 $499,630; FY 10 $499,455; FY 11 $499,601; FY 12 $499,492; FY 13 $499,969

Abstract: This Center uses quantitative and qualitative research methods to identify and document indicators of effective rehabilitation technology (RT) service delivery. Effectiveness is defined by quality indicators incorporating variables of structure, policy, decision making processes, and costs related to outcomes and counselor and consumer satisfaction. The Center also analyzes supports necessary for effective RT delivery, including counselor education, assessment tools and measures, information management, consumer education, quality assurance mechanisms, and public and private sector relationships. Selection and analysis of “effective RT service delivery models” takes into account variances related to urban versus rural areas, different types of disabilities, and programs administered within and outside state vocational rehabilitation (VR) agencies. The Center’s research team conducts in-depth evaluation of six state VR programs and six outside programs. The goal of the Center is to develop a new validated instrument and system of measurement to improve RT service delivery and reduce RT non-use and poor employment outcomes. The tool is accompanied by an interactive training program for VR counselors to build knowledge of RT solutions and an improved assessment process, including a set of exemplars, tools, and guidance that VR agencies and other programs can use to improve RT service delivery.
Disability and Rehabilitation Research Projects  
Texas  

SEDL’s Vocational Rehabilitation Service Models for Individuals with Autism Spectrum Disorders  

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Project Number: H133A080007  
Start Date: October 01, 2008  
Length: 60 months  
NIDRR Officer: Leslie J. Caplan, PhD  
NIDRR Funding: FY 08 $350,000; FY 09 $350,000; FY 10 $350,000; FY 11 $350,000; FY 12 $350,000  

Abstract: For this project, SEDL partners with the Center for Autism and Related Disabilities at the University of Central Florida (UCF CARD) to create a knowledge translation initiative to address the growing need for improvement in vocational rehabilitation (VR) and transition services for persons with autism spectrum disorders (ASDs). SEDL and UCF CARD conduct a multifaceted set of research activities to identify and document VR and transitional behavior management practices that are linked to employment successes for people with ASDs, to identify factors that are strongly predictive of such success, to study the activities and impact of a statewide VR service provider network, and to document examples of success among individuals with ASDs in long-term employment placements. Research activities include conducting two major systematic reviews, implementation of a rigorous process for identifying and validating VR best practices, a study of the university-based statewide network of CARD centers in Florida, and case studies of individuals with ASDs and their families. Additionally, this project develops and disseminates an array of information products to inform both policy and practice, and to support implementation of best practices in VR settings throughout the US with existing national VR, service provider, advocacy, and research networks. This project is guided by a national advisory panel comprised of representatives from NIDRR-funded research initiatives addressing ASDs, VR professionals, ASDs service providers, and people with ASDs and/or their family members. The project outcomes include new knowledge and understanding, and allow for on-the-ground changes within the VR system, increasing employment among persons with ASDs.
Disability and Rehabilitation Research Projects
Virginia

Vocational Rehabilitation Service Models for Individuals with Autism Spectrum Disorders (VCU ASC Career Links)

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Project Number: H133A080027
Start Date: October 01, 2008
Length: 60 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 08 $350,000; FY 09 $350,000; FY 10 $350,000; FY 11 $350,000; FY 12 $350,000

Abstract: VCU ASD Career Links conducts evidence-based research on vocational rehabilitation (VR) service models for individuals with autism spectrum disorders (ASDs). The project is based at Virginia Commonwealth University (VCU) and is a collaborative initiative between VCU and the Virginia Department of Rehabilitative Services (DRS). The scope of research covers four areas: (1) the impact of intensive, community-based work experiences on the employment outcomes of youth with ASDs; (2) the postsecondary school participation and ultimate employment of college students with ASDs; (3) the impact of personal digital assistants on the employment outcomes of individuals with ASDs; and (4) a longitudinal analysis of VR service delivery and employment outcomes among DRS clients with ASDs. While the primary target population is persons with ASDs, there is an emphasis on youth and young adults who are unemployed, under-employed, or under-served in postsecondary education. Additionally, this project targets persons from traditionally under-represented populations with diverse racial and ethnic backgrounds. This project works collaboratively with four local school districts in the Richmond area and the Faison School for Autism to enroll youth with ASDs into the project. The project also works with colleges and universities throughout the Commonwealth of Virginia. Dissemination activities include web casts, fact sheets, evidence-based journal articles, and a toolkit on how to enhance VR employment models for youth with ASDs.
Field Initiated Projects (FIPs)
Arkansas

Beyond Hearing Aids: Training Resources to Improve the Capacity of VR Professionals Serving Consumers who are Hard of Hearing and Late Deafened

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Project Number: H133G090170
Start Date: October 01, 2009
Length: 36 months

NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 09 $199,769; FY 10 $199,869; FY 11 $199,145

Abstract: This development project produces training resources designed to meet needs expressed by vocational rehabilitation (VR) professionals and consumers for increased knowledge and capacity to improve services to a growing population of 30.6 million persons with hearing loss. This project includes four steps: (1) empirically prioritize training content, (2) develop a multimedia training resource, (3) field-test its efficacy, and (4) train and disseminate the resource to a workforce of over 15,000 general and specialized counselors as well as approximately 1,100 annual graduates of over 85 rehabilitation counselor training programs. The developed materials enhance the knowledge of general and specialized rehabilitation counselors who serve working age consumers who are hard of hearing or late deafened. The project collaborates with the Council of State Administrators of Vocational Rehabilitation and content experts (VR providers, educators, consumers, and advocates) for the target population to produce and evaluate needed resources.
Field Initiated Projects (FIPs)
Illinois

Evaluating the Efficacy of an Occupational Intervention Targeting Young Adult Brain Tumor Survivors

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Project Number: H133G110289
Start Date: October 01, 2011
Length: 36 months

NIDRR Officer: Pimjai Sudsawad, ScD
NIDRR Funding: FY 11 $162,659; FY 12 $200,000; FY 13 $196,441

Abstract: The goal of this project is to evaluate the efficacy of an occupational development and work adjustment program for young adult brain tumor survivors to increase their participation in educational, vocational, or occupational settings; their social involvement and community integration; and overall psychological functioning. This project implements a state of the art, theoretically-grounded occupational development and work adjustment program through the Children’s Brain Tumor Foundation (CBTF) in New York City. CBTF offers patient education and supportive care services to over 1,000 brain tumor survivors and their families annually. Although the program is implemented at CBTF, the State/Federal Vocational Rehabilitation program is a collaborative partner with the program both through the service delivery process and advisory committee. In order to examine the sustained impact of the intervention, the program and outcomes of interest are evaluated at 6,12, and 18 months.
Field Initiated Projects (FIPs)
Illinois

A Supported Employment Program for People with HIV/AIDS

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Project Number: H133G110108
Start Date: October 01, 2011
Length: 36 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 11 $198,849; FY 12 $199,393; FY 13 $199,365

Abstract: This project implements and evaluates a supported employment (SE) program adapted from the evidence-base for people with HIV/AIDS. The focal goal of the project is to evaluate and provide empirical evidence for an SE intervention, the Increase Individual Income and Independence (iFOUR) program; iFOUR is designed to promote independence and overall quality of life for people living with HIV/AIDS by entering/re-entering the workforce. Unemployment rates for individuals with HIV/AIDS range from 40 to 70 percent. Yet with the advent of more advanced treatments, people with HIV/AIDS are experiencing significant improvements in recovery, making many of their employment and return to work goals possible. SE provides rigorous research evidence for vocational services which lend a blueprint for adapting the SE model to address the needs of other novel populations with disabilities, co-morbidities, and chronic health conditions such as people with HIV/AIDS.
The Nexus of Employment, Health and Disability: A Study of Health Status and Quality of Life among Medicaid Buy-In Participants

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Project Number: H133G100082
Start Date: October 01, 2010
Length: 36 months
NIDRR Officer: Hugh Berry, EdD
NIDRR Funding: FY 10 $197,361; FY 11 $198,067; FY 12 $90,988

Abstract: This project is an in-depth, longitudinal study of participants in Working Healthy, the Kansas Medicaid Buy-In work program, to document long-term outcomes associated with increased work efforts and earnings as compared to a similar group of individuals not enrolled. Low-income people with disabilities represent a significant, and growing, health disparity population. Unemployment rates for this group are much higher than for the general population, at least in part because increased employment can jeopardize individuals’ federal disability cash benefits and health care coverage through Medicare and/or Medicaid. Medicaid Buy-In programs allow people with disabilities to work, accumulate assets, and get or maintain Medicaid coverage. This project aims to understand health and quality of life changes related to work and, in particular, participation in a Medicaid Buy-In work incentive program. This project studies disparities in the health among enrollees and non-enrollees in Working Healthy and addresses the following research questions: (1) What disparities exist among selected social determinants of health for Working Healthy participants (enrollees) and a comparable sample of low-income Kansas Medicaid beneficiaries with disabilities (non-enrollees)? (2) What is the relative health status of enrollees and non-enrollees, based on health care utilization patterns and costs over time; inpatient, outpatient, and emergency department use; co-morbidities; and overall costs? (3) What differences exist between adjusted gross incomes and earnings of enrollees and non-enrollees? (4) What is the relative effect of Working Healthy on health and quality of life outcomes for low-income, working age people with disabilities compared to people who may be eligible for but not enrolled in Working Healthy? and (5) Which of the selected social determinants best predict health outcomes and overall quality of life for low-income, working age people with disabilities? Project findings provide a greater understanding of the nexus of health, disability, and work interaction allowing for these particular social determinants of health disparity to be addressed at the federal, state, and local levels through the development of specific policy recommendations.
Field Initiated Projects (FIPs)
New Hampshire

Development of an Employment Consultation Staff Training Model for Workplace Inclusion

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Project Number: H133G100176
Start Date: October 01, 2010
Length: 36 months
NIDRR Officer: Hugh Berry, EdD
NIDRR Funding: FY 10 $200,000; FY 11 $200,000; FY 12 $200,000

Abstract: This project develops an innovative evidence-based training and technical assistance model for implementation of job support interventions to enhance the inclusion of employees with significant disabilities into the culture of the workplace. The project follows an iterative user-centered development process consisting of four phases. During Phase 1 an online module is developed to train community rehabilitation program (CRP) staff, including job coaches and employment specialists, in analyzing workplace cultures using a standardized tool, and in using a set of strategies for employment consultation based on workplace culture analysis and research on facilitating natural supports in the workplace. In phase 2, the process is field tested and evaluated through a multi-method study with CRP staff working in a diverse cross-section of CRPs in three states. Sixty CRP staff complete the training module and implement the consultation strategies with a CRP consumer with a significant disability who begins a supported or competitive job in an individualized community work setting. Additional survey data is collected from employers and employees and analyzed to examine employee workplace inclusion, job retention, and job satisfaction outcomes. Focus groups with participating CRP staff are used to evaluate the clarity and usability of the process and to revise the training module, assessment tool, and technical assistance process. Phase 3 consists of additional testing for final refinement of content and usability, to produce a scalable product that meets the needs of the target population. In Phase 4 the final revised training module is made available to vocational rehabilitation programs and their associated CRP partners throughout Rehabilitation Services Administration Region I in collaboration with the New England Technical Assistance and Continuing Education (TACE) Center, and to additional TACE centers through the national TACE network. Project outcomes result in a low-cost training for CRP staff in evidence-based strategies that improves both the job retention and satisfaction of employment service consumers with significant disabilities and the capacity of employers to support a diverse workforce.
Sustainable Implementation of Family-Centered Transition Planning for Young Adults with Autism Spectrum Disorders

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Project Number: H133G110158
Start Date: October 01, 2011
Length: 36 months
NIDRR Officer: Hugh Berry, EdD
NIDRR Funding: FY 11 $200,000; FY 12 $200,000; FY 13 $200,000

Abstract: This project develops a sustainable process for implementing a Family-Centered Transition Planning model for youth and young adults with autism spectrum disorders. Based on research demonstrating the effectiveness of Family-Centered Transition Planning in increasing student and parent expectations for adult life, student career decision-making, and student participation in employment and postsecondary education, this project develops an implementation package to embed this method of independent transition planning into the existing service and funding system on a long-term basis across multiple states. The planning model includes three components: (1) structured group information/training sessions for families related to post-high-school options, support funding, and planning; (2) development of individual support networks and person-centered planning meetings to develop a post-school plan and implement structured career exploration activities; and (3) ongoing social networking across families for information sharing and peer support.
Field Initiated Projects (FIPs)
New Hampshire

Cognitive Remediation, Illness Self-Management, and Supported Employment in Severe Mental Illness

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Project Number: H133G090206
Start Date: October 01, 2009
Length: 36 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 09 $198,738; FY 10 $199,955; FY 11 $199,152

Abstract: The goal of this project is to test the effectiveness of a bundle of services, including supported employment, cognitive rehabilitation (Thinking Skills for Work [TSW] program), and illness self-management (Illness Management and Recovery program), on improving employment outcomes and satisfaction of individuals with severe mental illness. The plan of evaluation is multidimensional with six parts that include assessing: (1) stated objectives, (2) two interventions being implemented with high fidelity to their models, (3) effectiveness of the TSW program on cognitive functioning, (4) recovery intervention having intended effect on improving illness and self-management, (5) long term effects on improving employment outcomes, and (6) perceived consumer experience. Assessment occurs throughout the project with the first already in place due to the implementation of a current piloted program. Project outcomes include: (1) knowledge that leads to improved work outcomes for consumers with severe mental illness who are enrolled in a supported employment programs; and (2) improvement of cognitive functioning and illness self-management skills in people with severe mental illness who are participating in supported employment program, in order to help them achieve their vocational goals and more effectively integrate into the community.
A Randomized Controlled Trial of Two Vocational Models for Individuals with Psychiatric Disabilities and Criminal Justice Involvement

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Project Number: H133G100110
Start Date: October 01, 2010
Length: 36 months
NIDRR Officer: Hugh Berry, EdD
NIDRR Funding: FY 10 $199,844; FY 11 $199,844; FY 12 $199,844

Abstract: This study compares the effectiveness of the Individual Placement and Support (IPS) to the Work Choice vocational models in assisting consumers in obtaining meaningful competitive employment outcomes and integrating into mainstream society. Both models share similar characteristics but differ in program philosophy. IPS emphasizes rapid job search with the assistance of an employment specialist who helps clients find jobs matching their preferences, skills, and work history. Work Choice emphasizes preparation in resume writing and interviewing, self-directed job search and referral services, peer mentoring, and ongoing peer support. This study conducts a 12-month randomized controlled trial involving 80 clients with psychiatric disabilities and criminal justice involvement, assigned to either IPS or Work Choice. Clients are recruited from two recovery centers located on the north and south sides of Chicago, which are part of Thresholds, a comprehensive psychiatric rehabilitation agency with a long tradition of providing vocational services. Participants are then stratified according to type of conviction (felony vs. misdemeanor) within site and randomized accordingly. Study participants include both clients newly enrolled to Thresholds and current clients who have not received Thresholds vocational services. Participants in both conditions receive a full range of other services consistent with their individualized recovery plans, including housing, wellness management and recovery, financial counseling, and integrated dual disorders treatment.
Field Initiated Projects (FIPs)
New Hampshire

A Prospective National Study of Sustaining IPS Through Vocational Rehabilitation and Mental Health Collaboration

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Project Number: H133G110161
Start Date: October 01, 2011
Length: 36 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 11 $199,811; FY 12 $199,981; FY 13 $198,937

Abstract: This project conducts a prospective study of the sustainability of evidence-based vocational services, a two-year prospective study of programs in the Individual Placement and Support (IPS) learning collaborative. The project examines the barriers and facilitators to sustaining IPS in collaboration with the mental health and vocational rehabilitation systems in the 13 participating states. At the program level, researchers conduct telephone interviews with IPS program leaders at baseline and again at two-year follow-up using a structured interview developed in prior research. These interviews document the rates of sustaining IPS for the overall collaborative and for different subgroups within the collaborative. At the state level, researchers conduct site visits during the second year, interviewing key leaders from state vocational rehabilitation agencies, mental health authorities, and Medicaid offices. The aim is to identify practical, malleable factors leading to the continuation versus the discontinuation of IPS services.
Organizational Practices to Increase Employment Opportunities for People with Disabilities: The Power of Social Networks

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Project Number: H133G110219
Start Date: October 01, 2011
Length: 36 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 11 $200,000; FY 12 $200,000; FY 13 $200,000
Abstract: The purpose of this study is to identify workplace policies and practices which present barriers and also facilitate maximal inclusion of people with disabilities in the workplace, with a focus on how leadership, informal climate, and social networks shape workforce participation, engagement, and success for persons with disabilities. The target population is people with disabilities, specifically individuals employed in the U.S. federal workforce. Project outcomes include: design and implementation of a survey measuring the impact of workplace policies, practices, climate, leadership, and social networks on the inclusion and employment success of people with disabilities; production of a final report to be shared with federal agency partners, and the Office of Personnel Management, Office of Disability Employment Policy, and the Equal Employment Opportunity Commission; and information to inform ways to improve employment outcomes for people with disabilities in the federal sector.
Field Initiated Projects (FIPs)
Pennsylvania

Evaluation of a Training Program to Enhance Clinical Supervision of State Vocational Rehabilitation Supervisors

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Project Number: H133G100234
Start Date: October 01, 2010
Length: 36 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 10 $200,000; FY 11 $200,000; FY 12 $200,000

Abstract: This research study uses a multiple analysis of variance repeated measures, within-between interaction design to examine the effectiveness of a training program to increase supervisory knowledge, self-efficacy, supervisory working alliance, and helpful supervisory behavior. Using a mixed-methods approach to evaluate program effectiveness, researchers examine changes in clinical supervision behavior from both supervisor and counselor perspectives. A stratified random sample of supervisors (100 selected to participate; 100 not selected to participate) is used to examine how changes in supervisor knowledge, self-efficacy, and working alliance as a result of the training program intervention impacts helpful clinical supervision behavior. The intervention involves a hybrid learning approach that includes an initial three-day, on-site (synchronous) training program followed up with 12 bi-weekly contact (synchronous and asynchronous) training sessions (90 minutes each session). This training program is repeated for six state vocational rehabilitation agencies over the three-year period. The goal of this research project is developing of an effective supervisory training program that offers to significantly impact rehabilitation counselor performance and ultimately improve vocational rehabilitation outcomes for persons with disabilities.
Field Initiated Projects (FIPs)
Virginia

Enhancing Outcome-Based Performance Measures for the Public Vocational Rehabilitation Program: Developing Return on Investment Models

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Project Number: H133G100169
Start Date: October 01, 2010
Length: 36 months
NIDRR Officer: Hugh Berry, EdD
NIDRR Funding: FY 10 $197,359; FY 11 $197,359; FY 12 $197,359

Abstract: This project tests the wider applicability of valid and methodologically sound processes for assessing the “return on investment” (ROI) within individual state vocational rehabilitation (VR) agencies, using models developed in Virginia. Additionally, this project expands on the preliminary work of the collaboration between the Virginia Department of Rehabilitation Services (DRS) and the Bureau of Disability Economics Research (BDER) at the University of Richmond. Having established a longitudinal data repository for the purpose of conducting long-term employment outcome evaluations, the DRS and BDER repository contains data on VR program participants from the administrative records of both DRS and the state. Project development includes several major components: (1) developing and testing a ROI model used in identifying the necessary components for a sound ROI model for VR, using Virginia data to develop VR-specific outcome models, and validating these models with other state VR agencies, including the Virginia Department for the Blind and Vision Impaired and the Maryland Division of Rehabilitation Services, using data from those states’ administrative records; (2) developing model interagency agreements and protocols for accessing employment and earnings data from existing state administrative records and from Social Security Administration, testing those models with the partner states, and providing technical assistance in their use; and (3) developing and testing guidance documents, and providing technical assistance to partner state VR agencies, to conduct ROI analyses with their own states’ administrative data.
Field Initiated Projects (FIPs)
Wisconsin

Improving Work Ability Among Breast Cancer Survivors

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Project Number: H133G110003
Start Date: October 01, 2011
Length: 36 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 11 $200,000; FY 12 $200,000; FY 13 $200,000

Abstract: The purpose of this project is to determine the feasibility and effect of the WISE (Work ability Improvement through Symptom management and Ergonomic education), a web-based, survivor-centered intervention, on work ability in breast cancer survivors (BCS). Many BCS who continue to work report decreased ability to perform work activities. Not all BCS want to return to work; yet for those who do the inability to do so can have dramatic consequences on financial stability and access to health insurance. The primary aims are to: (1) refine and pilot test the WISE, (2) determine the feasibility of the WISE, and (3) determine the short-term effects of the WISE on work ability. A secondary aim is to explore individual and workplace factors among BCS at risk for work disability. To accomplish these aims, BCS and health care providers evaluate the usability and feasibility of the WISE and a two-arm randomized controlled trial is used to evaluate the effect of the WISE on work ability. This project uses an innovative approach by applying a work systems model that focuses on improving work ability through optimizing the relationship between the work system and the work capacity of the individual. This is the first study to target both symptom management of BCS as it relates to work activities, and modifiable workplace risk factors to minimize work disability. The long-term goal is to develop effective interventions that improve employment outcomes, reduce work-related disability, and mitigate the economic impact of surviving cancer.
Maximizing health and function among people with disabilities is critical to the achievement of NIDRR’s mission and the associated higher-order goals of employment and community participation. Functional ability reflects the complex interaction between individuals and the environments in which they live. Accordingly, NIDRR conceptualizes and examines issues of health and function at the individual and systems levels. Individual level research focuses on the development and testing of new interventions that improve functional and health outcomes for individuals. At the systems level, NIDRR-supported research focuses on the organization, and delivery of health care and medical rehabilitation services.

Contents

Rehabilitation Research and Training Centers (RRTCs) .................................................................3
Disability and Rehabilitation Research Projects ................................................................................11
Spinal Cord Injury Model Systems ................................................................................................42
Field Initiated Projects (FIPs) ........................................................................................................65
Small Business Innovation Research (SBIR), Phase I .................................................................87
Rehabilitation Research and Training Center in Neuromuscular Diseases (RRTC-NMD)

University of California at Davis
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Project Number: H133B090001
Start Date: October 01, 2009
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 09 $800,000; FY 10 $800,000; FY 11 $800,000; FY 12 $800,000; FY 13 $800,000

Abstract: The Rehabilitation Research and Training Center in Neuromuscular Diseases (RRTC-NMD) has five goals: (1) develop and test improved outcome measures for use in intervention and natural history studies in persons with neuromuscular diseases (NMDs); (2) identify or develop and test the effectiveness of new medical rehabilitation interventions, and document the effectiveness of existing interventions in persons with NMDs; (3) provide training, including graduate, pre-service, and in-service training, to help rehabilitation personnel effectively provide rehabilitation services to individuals with NMDs; (4) disseminate informational materials and provide technical assistance to individuals with NMDs, their representatives, providers, and other interested parties; and (5) serve as a national center of excellence in rehabilitation research for individuals with disabilities, their representatives, providers, and other interested parties. The RRTC-NMD conducts four research projects related to developing improved outcome measures. In Project 1, both currently used and novel clinical endpoints related to mobility and secondary conditions are studied. The clinical meaningfulness of those outcome measures are assessed in comparison to a new person-reported outcome measure (the NeuroQOL) which addresses impaired mobility, decreased self-care due to weakness, pain, and fatigue. In Project 2, the NeuroQOL instrument is further refined and validated for children 5 to 12 years of age who are commonly targeted for new interventions. Projects 3 and 4 evaluate novel and existing medical rehabilitation interventions in Duchenne muscular dystrophy (DMD). Project 3 uses a multicenter prospective natural history study of 347 individuals with DMD to evaluate existing medical rehabilitation interventions designed to enhance mobility and reduce the severity of secondary conditions. Project 4 examines the uses of a first-in-class medication to maintain or improve function in patients with DMD who have a premature stop codon mutation. Project 4 also focuses on individuals severely affected with DMD who are non-ambulatory and evaluates ataluren and its effects on mobility/upper extremity function, secondary conditions, and health-related quality of life.
Rehabilitation Research and Training Centers (RRTCs)
District of Columbia

Rehabilitation Research and Training Center on Secondary Conditions in Spinal Cord Injury

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Project Number: H133B090002
Start Date: October 01, 2009
Length: 60 months
NIDRR Officer: Pimjai Sudsawad, ScD
NIDRR Funding: FY 09 $799,995; FY 10 $799,998; FY 11 $799,998; FY 12 $799,999; FY 13 $800,000

Abstract: This RRTC focuses on the frequent and costly complications of obesity such as cardiometabolic syndrome (inclusive of obesity, insulin resistance, hypertension, dyslipidemia, and inflammation), and pressure ulcers among people with spinal cord injury (SCI), with a specific focus on the underserved. Utilizing novel diagnostic and therapeutic practices this RRTC addresses three major secondary conditions that lead to significant health decay in people with SCI. This RRTC includes three research (R1-R3) and training (T1-T3) projects. Project R1 determines the degree to which obesity is related to cardiometabolic health, cardiometabolic risk (CMR) factors, and atherosclerotic burden. Those requiring intervention based on CMR profile and atherosclerotic burden in R1 are selected to participate in Project R2, a randomized control trial examining impact of an omega-3 dietary supplement intervention. Project R3 determines the physiologic response of sacral and ischial skin to sitting and pressure relief. A behavioral self-management program is assessed to ensure future recommendations can be evidence-based. These research findings feed into three training activities that include culturally sensitive consumer education: T1 emphasizes underserved populations, T2 emphasizes professional training and education of rehabilitation and non-rehabilitation professionals utilizing online media, and T3 emphasizes dissemination through a state-of-science research and training conference.
Rehabilitation Research and Training Centers (RRTCs)
Illinois

Rehabilitation Research and Training Center on Enhancing the Functional and Employment Outcomes of Individuals Who Experience a Stroke

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Project Number: H133B080031
Start Date: October 01, 2008
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 08 $849,813; FY 09 $849,514; FY 10 $849,582; FY 11 $849,263; FY 12 $849,981

Abstract: This project studies rehabilitation interventions and assessments focused on improved mobility and secondary conditions that have been designed with the intent of promoting efficient function in the workplace or at home. It also looks at the barriers and facilitators for return-to-work from the perspective of stroke survivors who are seeking employment. As new and better stroke treatments have become available, the number of stroke survivors living in the community has increased. Therefore, not only is there a need for further research on promising new interventions that promote health and function, but also a growing need for interventions that can be delivered in home and community settings. The Center’s research projects include: (1) a study of the effectiveness of stretching as hand therapy for sub-acute hemiparesis; (2) development of a low-cost, non-mechanized gait retraining device; (3) testing a self-management approach to community living, participation, and employment; (4) examining the barriers and enablers for return-to-work from the perspective of the individual who experienced the stroke; and (5) development of a return-to-work vocational assessment using virtual reality technology. For this project, the Rehabilitation Institute of Chicago has partnered with Northwestern University, the University of Illinois at Chicago, Washington University at St. Louis, Marquette University, and Archeworks, Inc., as well as the National Stroke Association, and the National Aphasia Association.
Rehabilitation Research and Training Center on Interventions for Children and Youth with TBI

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Project Number: H133B090010
Start Date: October 01, 2009
Length: 60 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 09 $799,337; FY 10 $799,915; FY 11 $799,884; FY 12 $799,542; FY 13 $799,682

Abstract: This project addresses the need for interventions for children and youth with traumatic brain injury (TBI). Interventions designed for this population must: (a) target the continuum of service delivery; (b) address the changing needs of the population; and most importantly, (c) include tools, training activities, and dissemination mechanisms for all of the “everyday” people who support children and youth. Project research identifies a reliable and valid measurement battery for assessing functional improvements arising from TBI interventions; and initiates a national, shared database of TBI outcomes data. This RRTC: (1) evaluates specific interventions to improve cognitive, behavioral, and psychosocial outcomes with a range of children and youth with TBI through randomized clinical trials; (2) evaluates the effectiveness of the validated interventions in natural settings; and (3) uses multi-method evaluations of the efficacy of training, technical assistance, and dissemination activities to verify the utility of the final products.
Rehabilitation and Training Center on Secondary Conditions in Individuals with SCI

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Project Number: H133B090005
Start Date: October 01, 2009
Length: 60 months
NIDRR Officer: Pimjai Sudsawad, ScD
NIDRR Funding: FY 09 $794,504; FY 10 $797,646; FY 11 $791,037; FY 12 $794,494; FY 13 $786,639

Abstract: This Rehabilitation Research and Training Center combines an integrated program of research to identify risk and protective factors for secondary conditions in spinal cord injury (SCI) with a systematic program of education, training, dissemination, and technical assistance. This program allows new knowledge to be directly translated into prevention strategies at the policy, rehabilitative, clinical, community, and individual consumer levels. The key to prevention of secondary conditions is to first identify to whom they occur and why, then to widely educate and disseminate new knowledge to professionals and consumers in a format they can directly use in the prevention of secondary conditions. Through three research studies, integrating two theoretical models of risk of secondary conditions, the project identifies the risk and protective factors that put the greatest number of individuals at risk for the greatest number of conditions. Study 1 is a longitudinal follow-up of 1,755 participants who completed an extensive assessment of risk and protective factors for secondary conditions that include adverse events (e.g., pressure ulcers, hospitalizations), chronic conditions (e.g., pain, fatigue), and psychosocial conditions (e.g., depressive disorder). The study examines the stability of secondary conditions and identifies psychological, environmental, and behavioral predictors of future episodes of secondary conditions. Study 2 identifies the association of access to health services, including initial rehabilitation services (i.e., inpatient, outpatient only, no rehabilitation), with presence of secondary conditions. By using a population-based cohort, this study identifies the role of access to services among those with the fewest resources as they are at greatest risk for secondary conditions. Study 3 utilizes a 17-year follow-up among 845 participants from Rancho Los Amigos National Rehabilitation Center to investigate the stability of metabolic syndrome over time and its relationship with secondary conditions including pain, fatigue, and a depressive disorder.
Rehabilitation Research and Training Centers (RRTCs)
Washington

Multiple Sclerosis Rehabilitation Research and Training Center

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Project Number: H133B080025
Start Date: October 01, 2008
Length: 60 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 08 $850,000; FY 09 $850,000; FY 10 $850,000; FY 11 $850,000; FY 12 $850,000

Abstract: This project conducts a comprehensive program of research on issues critical to individuals living with multiple sclerosis (MS) in the areas of outcomes measurement, improved medical and community interventions, and improved employment outcomes. The project includes three coordinated core areas of research designed to enhance function and employment in individuals with MS. Program I: The Outcomes Measurement core includes a longitudinal study of 400 people with MS of secondary conditions such as pain, fatigue, depression, and cognitive impairment, and outcomes such as participation including employment. This program uses modern psychometric techniques to evaluate measures of these and other secondary conditions, develop cross-walking tables to allow comparison of scores across measures, and compare levels of pain, fatigue, and depression in MS to norms of the general population and other disability groups. Program II develops improved medical or community rehabilitation interventions by conducting a randomized controlled trial of individualized self-management training delivered by telephone to reduce secondary conditions such as fatigue and pain with a generic psychoeducational intervention for control. This program evaluates the impact on participation, including employment, in addition to evaluating reduction in interference from secondary conditions. Program III improves employment outcomes of persons with MS by examining the national Rehabilitation Services Administration’s RSA-911 database to identify process and outcome variables associated with successful vocational rehabilitation (VR) closures. Qualitative interviews are conducted with federal and state VR counselors to understand their perspectives on VR services and MS. Longitudinal data on employment is analyzed to evaluate changes in employment status over time. Researchers conduct follow-up surveys about the impact of accommodation services on employment with 200 recipients of services from MS Employment Assistance Service. The result is best practices and recommendations for improved employment services.
Rehabilitation Research and Training Centers (RRTCs)
Washington

Rehabilitation Research and Training Center on Aging with a Physical Disability: Reducing Secondary Conditions and Enhancing Health and Participation, Including Employment

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Project Number: H133B080024
Start Date: October 01, 2008
Length: 60 months
NIDRR Officer: Margaret Campbell, PhD
NIDRR Funding: FY 08 $850,000; FY 09 $850,000; FY 10 $850,000; FY 11 $850,000; FY 12 $850,000

Abstract: The goal of this center is to foster a better understanding of the challenges faced by those aging with a physical disability. The project focuses on four populations of persons with disabilities: persons with spinal cord injury (SCI), multiple sclerosis (MS), post-polio syndrome (PPS), and muscular dystrophy (MD). The project: (1) enhances understanding of the natural course of aging with these disabilities through a series of longitudinal surveys to examine the effects of aging in the development of secondary conditions; (2) develops and evaluates measures of key outcome domains for use with individuals aging with SCI, MS, PPS, and MD utilizing cross-population and cross-measure analyses to evaluate the psychometric properties of instruments used in disability research, and to develop better measures of depression, fatigue, participation, and pain; (3) tests the efficacy of two innovative interventions that enhance the health and participation in these populations, using remote monitoring of activity levels and a pilot intervention featuring remote prompting to enhance self-management of activity patterns; (4) enhances understanding of the experiences of individuals aging with SCI, MS, PPS, and MD in the workplace and with vocational rehabilitation and employment services through secondary data analysis and qualitative interviews; and (5) disseminates the findings from the research projects in an effective and efficient manner to individuals with disabilities, their family members, and their health care providers.
Rehabilitation Engineering Research Centers (RERCs)
California

Rehabilitation Engineering Research Center for Successful Aging with Disability: Optimizing Participation Through Technology (OPTT-RERC)

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Project Number: H133E080024
Start Date: October 01, 2008
Length: 60 months
NIDRR Officer: Margaret Campbell, PhD
NIDRR Funding: FY 08 $950,000; FY 09 $950,000; FY 10 $950,000; FY 11 $950,000; FY 12 $950,000

Abstract: The goal of this project is to enhance the lives of individuals aging with and into disability through: (1) development and delivery of cutting-edge technologies for identification, evaluation, and rehabilitation of motor processes that facilitate or impede functional performance, employment, and community participation for the intended beneficiaries; (2) employment of state-of-the-art data management, dissemination, and performance evaluation techniques to ensure that the knowledge and products emergent from the RERC are accessible for all intended beneficiaries; (3) assembly of a multidisciplinary team of experts in clinical rehabilitation, engineering, and gerontology, along with a select group of technology partners, and disability advocates to ensure that OPTT-RERC’s short- and long-term outcome goals are successfully implemented; and (4) alignment of the clinical and technological strengths of several area programs into an integrated infrastructure to provide training opportunities for future rehabilitation researchers. The Dexterous Manipulation with the Fingertips Project evaluates a clinically useful metric and rehabilitation strategy for dynamic multifinger dexterity (R1) and, in collaboration with the second project area, develops a home-use gaming system to promote retention and improvement of dexterous manipulation via immersion technologies (D1). The Virtual Reality (VR) and Gaming for Home-Based Motor Assessment and Training Project develops low cost, home-based VR toolkits (VRT) for motor assessment and rehabilitation (D2) and investigates the efficacy of the VRT games for use in both the clinic setting and the home for individuals aging with and into disability (R2). The Optimizing Mobility in the Home and Community for Manual Wheelchair Users Project identifies optimal transfer and lifting mechanics to preserve the shoulder complex (R3) and uses VRT games for targeted and progressive shoulder exercise while sitting in a wheelchair (D3). The Neuromuscular Electrical Stimulation for Mobility uses implantable wireless micro-stimulators to prevent recurrences of debilitating pressure ulcers in the middle age and older individuals with disability (D4).
University of Alabama at Birmingham (UAB) Traumatic Brain Injury Model System (UAB TBIMS)

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Project Number: H133A070039
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 07 $434,398; FY 08 $434,399; FY 09 $434,397; FY 10 $434,398; FY 11 $434,397

Abstract: This project provides rehabilitation services specifically designed to meet the special needs of individuals with traumatic brain injury (TBI) through a multidisciplinary, comprehensive model system which spans the clinical continuum from emergency services through rehabilitation and community re-entry. The project includes one collaborative research module and one in-house research project, aimed at improving the health and function, as well as the community participation, of the individuals with TBI. The collaborative research module involves examination of the risks and consequences of weight gain after TBI, which has never been explored in depth. The in-house research project focuses on an in-home training program to improve visual perceptual speed that could impact return to driving.
**Disability and Rehabilitation Research Projects**

California

**Northern California Traumatic Brain Injury Model System of Care**

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**Project Number:** H133A070038

**Start Date:** October 07, 2007

**Length:** 60 months

**NIDRR Officer:** Leslie J. Caplan, PhD

**NIDRR Funding:** FY 07 $426,720; FY 08 $426,720; FY 09 $426,720; FY 10 $426,720; FY 11 $426,720

**Abstract:** This project conducts research with a focus on fatigue in individuals with traumatic brain injury (TBI). Current studies have identified a strong association of fatigue with sleep disorders, depression, pain, and cognitive challenges; the prevalence of pituitary dysfunction is high in this group as well but the level of dysfunction is not proportional to levels of fatigue. This site specific research effort is a prospective, randomized, single-blind crossover study that evaluates the impact of a graduated physical activity program on fatigue and related factors of depression, sleep quality/daytime drowsiness, cognitive function, and general health measures.
UCHSC Burn Model System Data Coordination Center (BMS/DCC)

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Project Number: H133A070006
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 07 $300,000; FY 08 $300,000; FY 09 $300,000; FY 10 $300,000; FY 11 $300,000

Abstract: The Burn Model System Data Collection Center (BMS/DCC) provides scientific and technical support to the Burn Model Systems’ mission, which is “to conduct research that contributes to evidence-based rehabilitation and clinical interventions as well as develop practice guidelines that improve the lives of individuals with burn injuries.” The BMS/DCC addresses four important areas in rehabilitation research: project design and management, data management and quality, scientifically appropriate analytical support, and broad dissemination for long-term impact. The data center strives to provide quality support by developing integrated information systems, providing professional consultation, and designing and delivering dedicated training programs. The primary goal is to improve the scientific rigor of clinical and rehabilitation research in the area of burn injury. Areas of specific concern include: collecting multi-site longitudinal outcomes data, coordinating multi-center research data, providing analysis and oversight to achieve scientifically sound multi-center collaborative and site-specific clinical and rehabilitative research, collaborating with other National Data and Statistical Centers to exchange ideas and ensure the most efficient operations, publishing scientifically rigorous articles, and coordinating other effective dissemination strategies. The BMS/DCC consists of two functionally independent but related units, a data administration core and an analytical core. The data administration core continues to support and manage the BMS Level 1 (National) Database while implementing the necessary improvements to ensure quality and scientifically sound data for burn research. In addition, the data administration core implements web-based data collection and research support tools for collaborative modules and, as needed, assists in conducting the site-specific research studies. The analytical core provides statistical support (analysis, consultation, study-design, and study implementation) for projects that use either Level 1 data or data generated from collaborative and site-specific research.
Disability and Rehabilitation Research Projects
Colorado

Collaborative Spinal Cord Injury Model Systems Centers Program:
Improving Spinal Cord Injury Rehabilitation Outcomes

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Principal Investigator: Gale G. Whiteneck, PhD
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Project Number: H133A060103
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Phillip Beatty, PhD
NIDRR Funding: FY 06 $2,200,000; FY 07 $900,000; FY 08 $900,000; FY 09 $900,000; FY 10 $900,000; FY 11 (No-cost extension through 9/30/12)

Abstract: Inpatient rehabilitation for spinal cord injury (SCI), like all of rehabilitation, has been studied largely as an undifferentiated black box. Research has examined the whole “rehabilitation package” but has not addressed which specific therapy interventions, medical procedures, patient education, counseling, or activities are effective when offered in various combinations or sequences, for specific types of patients and impairments. To address this limitation, this project uses Clinical Practice Improvement (CPI) research methodology to isolate specific components of rehabilitation interventions, and to determine how, and to what degree, each component is associated with outcomes. Specific aims are to: (1) identify individual patient characteristics, including demographic data, severity of SCI, and severity of illness (complications and comorbidities) that explain significant variation in the outcomes of acute rehabilitation for SCI; (2) identify specific medical/nursing procedures and therapy interventions, or combinations of procedures and interventions that are associated with better outcomes, controlling for patient characteristics; and (3) determine whether specific impairment-by-treatment interactions are associated with better outcomes. This project is a collaborative research partnership with five other prominent SCI rehabilitation facilities: Rehabilitation Institute of Chicago, Shepherd Center, Mt. Sinai Medical Center, National Rehabilitation Hospital, and Carolinas Rehabilitation. Also collaborating is the Institute for Clinical Outcomes Research at International Severity Information Systems in Salt Lake City, Utah, which has extensive experience applying CPI methodology, and MobileDataForce in Boise, Idaho, with expertise in handheld data capture technology.
The Rocky Mountain Regional Brain Injury System (RMRBIS)

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Project Number: H133A070022
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 07 $426,720; FY 08 $426,720; FY 09 $426,720; FY 10 $426,720; FY 11 $426,720

Abstract: The Rocky Mountain Regional Brain Injury System (RMRBIS) conducts two site specific research projects, participates in three collaborative research modules, contributes to the longitudinal Traumatic Brain Injury (TBI) National Database, and maintains a TBI Model System of care and research. Research Project R1: Atomoxetine (Strattera) for the treatment of attention disorders in individuals with TBI determines if the only drug approved for attention deficit hyperactivity disorder improves attention, behavioral functioning, and depression in individuals with TBI, using a randomized double-blind placebo-controlled crossover study design. Research Project R2: A health and wellness intervention for individuals with TBI, evaluates a specific, replicable small-group educational approach to improve health-related self-efficacy, health promoting behaviors, and health-related quality of life in individuals with TBI using a randomized wait list control group study design. If effective, this intervention could improve the health and wellness of the many people with secondary conditions and less than healthy lifestyles after TBI. Collaborative Module 1: Sexuality after TBI examines the frequency, type, and severity of changes in sexual function associated with TBI. Collaborative Module 2: Natural history of headache after TBI investigates incidence, prevalence, and types of headache after TBI. Collaborative Module 3: Enhancing Core dataset to expand research on environmental influences affecting outcomes from TBI evaluates the feasibility, reliability, and utility of recording geographic identifiers for place of residence after TBI.
**Disability and Rehabilitation Research Projects**

**Colorado**

**National Data and Statistical Center for the TBI Model Systems**

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**Project Number:** H133A110006  
**Start Date:** October 01, 2011  
**Length:** 60 months  
**NIDRR Officer:** Kenneth D. Wood, PhD  
**NIDRR Funding:** FY 11 $625,000; FY 12 $625,000; FY 13 $625,000; FY 14 $625,000; FY 15 $625,000

**Abstract:** The Traumatic Brain Injury Model Systems National Data and Statistical Center (NDSC) provides innovative technologies, training, and resources to the Traumatic Brain Injury Model Systems (TBIMS). Building upon a comprehensive system of data management, communication technologies, and operating procedures that emulate the best practices of clinical research organizations, the NDSC increases the rigor and efficiency of scientific efforts to longitudinally assess the experience of individuals with TBI and advance TBI rehabilitation. NDSC has nine project goals: (1) maintain the TBIMS National Database (NDB) providing for confidentiality, quality control, and data retrieval capabilities, using cost-effective and user-friendly technology; (2) provide training/technical assistance to TBIMS on subject retention, data collection procedures, data entry methods, appropriate use of study instruments, and monitoring data quality; (3) provide knowledge, training, and technical assistance to TBIMS on culturally appropriate methods of longitudinal data collection and participant retention; (4) provide statistical/methodological consultation to TBIMS; (5) implement a mechanism for continued follow-up data collection from defunded TBIMS; (6) collaborate with Spinal Cord Injury and Burn Data Centers and the Model Systems Knowledge Translation Center (MSKTC); (7) coordinate on research projects of mutual interest with NIDRR-funded projects; (8) involve individuals with disabilities in planning and implementing the research, training, and dissemination activities, and in evaluating its work; and (9) identify anticipated outcomes that are linked to stated grant objectives. NDSC introduces new innovations including public data access and reporting strategies; web-based data collectors training and certification system; technologies/resources to support the important work of the TBIMS committees, module studies, and special interest groups; advanced longitudinal analytic strategies, a Statistical Users Manual, and several proposed NDB analysis projects; new cultural competency resources and language translation services; collaboration with the MSKTC on a TBIMS exhibit and materials; a Technical Advisory Board; and new collaborative partnerships. The success of the project is assessed by five measurable outcome goals: (1) advance TBI rehabilitation by increasing the scientific rigor and utilization the
TBIMS NDB/Modules, as measured by an increase in the annual rate of peer-reviewed journal articles that cite the TBIMS NDB/Modules as the primary source of research data; (2) maintain the TBIMS NDB/Modules using cost-effective and user-friendly technologies as measured by user acceptance of new technologies/methodologies as indicated by annual customer evaluations; (3) ensure high-quality, reliable data in the TBIMS NDB/Modules by providing comprehensive technical support as measured by center quality support visit reports and data quality reports; (4) improve data collected from NDB participants of all racial/ethnic backgrounds as measured by an increase in the follow-up rate of minorities; and (5) enhance continuity of the TBIMS NDB by developing mechanisms/strategies for following participants enrolled by defunded centers as measured by improvement of follow-up rates of TBIMS NDB participants.
Midwest Regional Traumatic Brain Injury Model System: Innovative Approaches to Improve Cognition, Function, and Community Living

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Project Number: H133A080045
Start Date: October 01, 2008
Length: 48 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 08 $418,139; FY 09 $418,528; FY 10 $418,143; FY 11 $418,395
Other Funding: FY 09 Rehabilitation Institute of Chicago

Abstract: The Midwest Regional Traumatic Brain Injury Model System (MRTBIMS) accomplishes several important objectives in support of an interdisciplinary, multidimensional center focused on providing and improving care for people with traumatic brain injury (TBI). MRTBIMS establishes a coordinated, multilevel, interdisciplinary system of care for people with TBI, including pre-hospital, emergency, acute, long-term acute, intensive rehabilitation, and community care. This continuum of care is provided at Northwestern Memorial Hospital, RML Specialty Hospital, and the Rehabilitation Institute of Chicago and its system of care. Data is submitted on at least 35 TBI patients per year to the National TBI Database. Research plans include implementation of two site-specific research projects, which consist of clinical trials on the effectiveness of acupuncture to improve sleep in TBI patients, and on the effectiveness of a virtual reality robotics program to improve attention and concentration in TBI patients. The Center is engaged in dissemination of educational and other materials on TBI to a variety of target audiences, including persons with TBI and their families, professionals who care for patients with TBI, and the public—collaborating with the Brain Injury Association of Illinois and other NIDRR-funded centers as appropriate.
Disability and Rehabilitation Research Projects
Illinois

UIC Obesity Research Project on Prevalence, Adaptations, and KT in Youth and Young Adults with Disabilities from Diverse Race/Ethnic Backgrounds

The Board of Trustees of the University of Illinois
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Project Number: H133A100011
Start Date: October 01, 2010
Length: 60 months
NIDRR Officer: Margaret Campbell, PhD
NIDRR Funding: FY 10 $400,000; FY 11 $400,000; FY 12 $400,000; FY 13 $400,000; FY 14 $400,000

Abstract: This project expands upon ongoing research on obesity in youth and young adults with disabilities (formerly funded under DRRP-I) by addressing significant gaps in the literature related to prevalence, risk factors, and consequences of obesity; successful and promising community-based strategies for obesity prevention; and knowledge translation issues that limit access to important research findings. The target population includes transition-age youth and young adults, ages 15 to 25 years, with physical and cognitive disabilities from culturally diverse racial and ethnic backgrounds. Goals and objectives include: (1) identifying obesity prevalence using multiple longitudinal and cross-sectional data sets that include self-report and actual measurement data of height/weight, (2) examining the antecedents and consequences of obesity, (3) establishing methods and criteria for creating guidelines that enhance access to evidence-based and community-based obesity prevention strategies and associated programs using a national expert panel, and (4) developing and testing an integrative knowledge translation framework for rapidly and effectively delivering research findings and recommendations to key stakeholders from national and state-level organizations across the US. The project consists of three integrated research studies and a comprehensive national dissemination plan. Project R1 involves extensive secondary analyses of several longitudinal and cross-sectional national and state-level data sets, Project R2 uses a modification of the ADAPTE collaboration framework and national expert panel for establishing a formal set of methods and criteria for modifying/adapting evidence-based and community-based obesity prevention strategies and the programs associated with them, and Project R3 tests a modification of Graham’s Knowledge Translation Model for implementing dissemination of research findings and adaptations using an early adopter framework that targets disability and health program directors. Project outcomes include: (1) accurate set of obesity prevalence data by disability group and sociodemographic factors, (2) knowledge of the antecedents (i.e., risk factors) and consequences (i.e., secondary conditions) of obesity, (3) valid set of methods and criteria for adapting community-based obesity prevention strategies and
programs, (4) national guidelines for promoting inclusive obesity-prevention programs across the US in current and future programs, and (5) integrative knowledge translation framework that effectively moves research findings into the hands of key stakeholders who can effect policy and/or program change.
Disability and Rehabilitation Research Projects
Maryland

Johns Hopkins University Burn Injury Rehabilitation Model System (JHU-BIMS)

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Project Number: H133A070045
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 07 $362,500; FY 08 $362,500; FY 09 $362,500; FY 10 $362,500; FY 11 $362,500

Abstract: The Johns Hopkins University Burn Injury Model System (JHU-BIMS) program of research exhibits a comprehensive continuum of care, and contributes data on survivors of major burn injury to the national, collaborative database on burn injury with outcome assessments at discharge and at 6, 12, and 24 month post-injury. The JHU-BIMS conducts three research projects. First, JHU-BIMS conducts a clinical trial to test the potential benefits of two customized gaming systems (Wii Sports for the Nintendo Wii and Kinects Sports for the XBox 360) as adjunctive methods to reduce pain and distress during burn rehabilitation. Second, the JHU-BIMS conducts a randomized control trial to test the effectiveness of its intervention entitled “Safety, Meaning, Activation, and Resilience Training” (SMART). Developed and pilot tested in a prior NIDRR Burn Model System funding cycle, SMART is an innovative, 4-session cognitive-behavioral therapy intervention that aims at reducing acute psychological distress and to thereby prevent chronic psychiatric disorder and disability. Pilot data has shown that SMART effectively reduces post-trauma distress, sleep disturbance, and depression relative to supportive psychotherapy. Third, the JHU-BIMS collaborates with the Burn Model System national database to conduct prospective, multi-site study assessing the long term needs of burn survivors. The module titled “Long-Term Follow-up of the National Database Sample” augments the original 2-year outcome study to include further outcome assessment at 5 and 10 years post-burn injury. The JHU-BIMS works with the other funded Burn Model Systems and the Model Systems Knowledge Translation Center to disseminate evidence-based burn rehabilitation information, methods and tools.
Disability and Rehabilitation Research Projects
Michigan

Michigan Traumatic Brain Injury Model System (SEMTBIS)

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Project Number: H133A080044
Start Date: October 01, 2008
Length: 48 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 08 $438,074; FY 09 $437,676; FY 10 $437,855; FY 11 $438,138
Abstract: The Southeastern Michigan Traumatic Brain Injury System (SEMTBIS) focuses on the following major areas: research, education, clinical and systems analysis studies, collection and dissemination of data, and promotion of professional development for individuals with disabilities as well as their family members or caregivers. Two studies address enhancement of health and function of persons with traumatic brain injury (TBI). Projects evaluate the predictive validity of three newly developed brain magnetic resonance imaging techniques with respect to functional independence, level of disability, and neurobehavioral outcomes at one and two years post-injury; and examine the safety and efficacy of an antibiotic medication that is thought to positively influence neuroplasticity in the acute stages of recovery from TBI. SEMTBIS recruits, educates, and promotes professional development of individuals with disabilities as well as their family members or caregivers; with consumer involvement in the advisory board and as project staff. SEMTBIS continues to participate in clinical and systems analysis studies of the Traumatic Brain Injury Model Systems by collecting and contributing data to a uniform, standardized national database on patient characteristics, diagnoses, causes of injury, interventions, outcomes, and costs. Evaluation of these research projects and the overall operations of the SEMTBIS employs a multifaceted approach of quantifiable and objective procedures.
Disability and Rehabilitation Research Projects
Minnesota

Health Care Coordination for Individuals with Physical Disabilities:
Critical Elements and Consumer Outcomes

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Project Number: H133A080049
Start Date: October 01, 2008
Length: 60 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 08 $277,233; FY 09 $282,465; FY 10 $299,941; FY 11 $296,405; FY 12 $299,900

Abstract: This project creates new knowledge about health care coordination within Minnesota’s Special Needs Basic Care (SNBC) program. Project activities include establishing and testing an operational definition of health care coordination for adults with physical disabilities and examining the extent to which the various components of health care coordination enhance access to health care, improve health outcomes, and create cost savings. The project uses a Participatory Planning and Decision Making process and key informant interviews to identify, classify, and richly describe care management models used in SNBC as well as the critical components of effective care coordination. Cognitive testing and reliability and validity assessment are used to modify several instruments to measure the elements of managed care and managed care outcomes for persons with physical disabilities. Finally, a combination of survey research (in-person interviews) and analysis of secondary data sets (Centers for Medicaid and Medicare utilization information, and Minnesota Department of Human Services [DHS] assessment and utilization data) is used to examine managed care outcomes for a total of 350 individuals participating in the SNBC program, taking into account variables such as type and severity of disability (including the presence of dual diagnoses), urban or rural location, age, and other demographic characteristics known or hypothesized to be associated with health care access, outcomes, and costs. The impact of care coordination models is tested on several outcomes including health care access (Health Care Quality Scale, annual DHS mandated health care accessibility survey results), outcomes (including but not limited to health care self-direction, stress, disability impact), and costs. Products from this line of research include an operational definition of the elements of care coordination, validated reliable instrumentation to measure elements of care coordination, and academic and research-to-practice publications describing the impact of care coordination on access to health care, health care outcomes, and cost.
Disability and Rehabilitation Research Projects
Minnesota

Mayo Clinic Traumatic Brain Injury Model System

Mayo Clinic
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Project Number: H133A070013
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 07 $423,590; FY 08 $423,590; FY 09 $423,590; FY 10 $423,590; FY 11 $423,590

Abstract: The purpose of the Mayo Clinic Traumatic Brain Injury Model System (TBIMS) is to provide comprehensive, integrated, team-based rehabilitation care and education to individuals with traumatic brain injury (TBI), their families and significant others along the continuum of recovery, and to fill gaps in research knowledge and service delivery through clinical research that promotes full personal and social participation. The Mayo Clinic TBIMS conducts one site-specific project. This project, an Advocacy Training Clinical Trial (ATCT), targets the gap in knowledge concerning the most efficacious method of teaching effective self and system advocacy skills. The goal of the ATCT is to identify efficacious advocacy training methods using a randomized practical behavioral trial methodology in three Midwest states. Objectives of the ATCT are threefold: (1) develop TBI specific measures of advocacy activity, perceived control, and self efficacy; (2) implement, evaluate, and continuously improve upon the ATCT; and (3) assess the statewide impact of the ATCT on greater communities, public policy, systems change, and in the media. The ATCT is designed to establish a sustainable program of efficacious and effective advocacy training in the trial communities, and provide a model for implementation in other communities.
Health and Health Care Disparities Among Individuals with Disabilities

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Project Number: H133A100031
Start Date: October 01, 2010
Length: 36 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 10 $450,000; FY 11 $450,000; FY 12 $450,000

Abstract: The Health Disparities Project generates new knowledge about health access and health outcomes, and translates and disseminates the findings for researchers, policy makers, and others. Assisted by an assembled national expert panel and other key project staff, the project determines working definitions, key questions, and analytic models for the studies. Disability perspectives are integrated throughout the project process from development of the research hypotheses and selection of design to analysis of data. This project has four major components: (1) review and synthesize existing health and health care access among individuals with disabilities and subgroups of individuals with disabilities; (2) use the Medical Expenditure Survey data to perform two series of logistic regression and path analysis modeling studies; the first series of studies determines models of systems level, environmental level, and individual level factors that relate to health care access among persons with a range of disabilities; the second series extends these analyses to determine models of health outcomes for persons with a range of disabilities; (3) utilize research findings in future research, program, and policy development through proactive and passive dissemination methods; and (4) integrate project activities to ensure the field of health disparities research advances beyond documentation to explanation, and opportunity for resolution.
Disability and Rehabilitation Research Projects
New Jersey

JFK-Johnson Rehabilitation Institute TBI Model System

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Project Number: H133A070030
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 07 $419,921; FY 08 $419,921; FY 09 $419,921; FY 10 $419,921; FY 11 $419,921

Abstract: This collaborative project examines the contribution of postacute rehabilitation to functional and psychosocial outcomes at one and two years after injury using multivariate analyses and causal modeling. This project tests a novel MRI (fMRI) protocol that is designed to reliably detect conscious awareness in patients who may be unable to execute behavioral signs of active cognitive processing, using a hierarchical stimulation paradigm that systematically assesses levels of cognitive processing in the auditory and visual systems. Site-specific research represents a sustained investigation of cerebral activation in patients with disorders of consciousness (DOC): vegetative state (VS) and minimally conscious state (MCS). At present, clinical judgment and experience guide diagnostic, prognostic, and treatment decisions for individuals with DOC. Prior research on functional MRI (fMRI) activation patterns suggests that patients in MCS retain the neural circuits for receptive language and visual processing. In light of provocative findings suggesting that cognitive processing may be maintained in patients who appear to be unconscious on bedside examination, the investigation is extended to individuals with VS as well as those in MCS. A collaborative module extends prior investigations of the effectiveness of specialized, post-acute brain injury rehabilitation. This project is driven by the question of how to characterize the course of post-acute brain injury rehabilitation, and its impact on the long term outcomes of people with brain injuries. Although there is increasing evidence that postacute brain injury rehabilitation can improve functional outcomes after TBI, population-based outcome studies have generally not considered the influence of different pathways of post-acute rehabilitation on outcomes after TBI. A longitudinal, observational study characterizes post-acute rehabilitation in the TBI Model Systems, and examines the pathways of post-acute rehabilitation in relation to casemix variables, patterns of service utilization, barriers to service delivery, and participants’ perceived needs and satisfaction with treatment.
Northern New Jersey Traumatic Brain Injury System (NNJTBIS)

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Project Number: H133A070037
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 07 $423,590; FY 08 $423,590; FY 09 $423,590; FY 10 $423,590; FY 11 $423,590

Abstract: The Northern New Jersey Traumatic Brain Injury System (NNJTBIS) conducts both a site-specific research study and a collaborative research module. These projects, both related to ongoing NIH-funded studies, contribute to evidence-based rehabilitation interventions and quality of life measurement to improve the lives of individuals with traumatic brain injury (TBI), as follows: (1) An innovative, double-blind, randomized controlled trial of a cognitive rehabilitation intervention utilizing a proven methodology shown to be effective with the multiple sclerosis population; and (2) a collaborative module that adapts, develops, and validates an innovative quality-of-life outcome measurement system for use in TBI intervention research. Each of these projects has been subjected to initial pilot testing to assure the applicability and feasibility of the methodology. The evaluation of this project is guided by a multifaceted approach, which uses a highly quantifiable, objective means of evaluating progress. This is supplemented by a Community Advisory Board, NNJTBIS Steering Committee, and an external Scientific Advisory Board, which provides feedback on a quarterly, annual, and bi-annual basis, respectively. In addition, project management staff meets internally on a regular basis to review data management and data quality issues and assure effective communication with Kessler Institute for Rehabilitation (KIR) and staff from the trauma centers. Finally, the NNJTBIS coordinates with the NIDRR-funded Model Systems Knowledge Translation Center to provide scientific results and information for dissemination to clinical and consumer audiences. The NNJTBIS is a cooperative effort of the Kessler Foundation Research Center, KIR, and trauma centers from the University of Medicine and Dentistry of New Jersey - The New Jersey Medical School (UMDNJ-NJMS), Hackensack University Hospital, Morristown Memorial Hospital, and St. Joseph’s Hospital.
New York Traumatic Brain Injury Model System (NYTBIMS)

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Project Number: H133A070033
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 07 $419,921; FY 08 $419,920; FY 09 $419,920; FY 10 $419,921; FY 11 $419,921

Abstract: The research program of the New York Traumatic Brain Injury Model System (NYTBIMS) aims to advance the understanding of traumatic brain injury (TBI) and develop better methods of treating secondary conditions of TBI; especially fatigue, mood, cognition, and sleep disorders. Research goals of this project are to: (1) demonstrate and evaluate a multidisciplinary system of care for persons with TBI in the New York City metropolitan area, including a number of innovative clinical programs; (2) contribute longitudinal data to the National Database of the TBI Model Systems program; and (3) conduct one module and two local studies to: (a) systematically study sleep architecture, insomnia, and other types of sleep disorders after TBI, to better understand post-TBI fatigue; and (b) evaluate the effectiveness of exercise as a treatment of post-TBI fatigue, mood, and cognition. Dissemination, education, and training activities constitute the third component of the NYTBIMS, including a policy newsletter, expanded web-based information, journal publications, presentations at national and local meetings, a newsletter for consumers, and several formal educational and training programs, including training of physiatric residents as well as interns and postdoctoral researchers in psychology.
Classification and Measurement of Medical Rehabilitation Interventions

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**Project Number:** H133A080053  
**Start Date:** October 01, 2008  
**Length:** 60 months  
**NIDRR Officer:** Pimjai Sudsawad, ScD  
**NIDRR Funding:** FY 08 $350,000; FY 09 $350,000; FY 10 $350,000; FY 11 $350,000; FY 12 $350,000

**Abstract:** This project develops a blueprint, and performs research to explore strategies and methods that are needed to create and test a full Rehabilitation Treatment Taxonomy (RTT) covering all treatments (experience-based, medications, education, assistive devices, etc.) delivered in medical rehabilitation. Development of an RTT is a multi-year, multidisciplinary process requiring the interweaving of many different conceptual and empirical steps guided by an overall blueprint to direct and link individual efforts. Specifically, in phase 1, the project scrutinizes existing treatment literature for theories that underlie treatment; develops a theoretical framework; specifies performance requirements and practical constraints for an RTT; and reviews existing ad-hoc classifications for spinal cord injury (SCI), traumatic brain injury (TBI), stroke, and joint replacement rehabilitation for practicality. Researchers present the resulting blueprint for feedback at an interdisciplinary conference with representatives of all rehabilitation disciplines, the blueprint is revised as necessary in response to feedback, and in phase 2, uses this feedback to develop two partial taxonomies: (a) of interventions to improve ambulation in persons with neurological disorders, and (b) of treatments of executive dysfunction after acquired brain injury. Evaluation of the process of development and operationalization of the taxonomy is used to modify, expand, and enhance the blueprint. A second interdisciplinary conference is used to present the modified blueprint to the rehabilitation field and obtain input on directions the field needs to take to develop the entire RTT.
Carolinas Traumatic Brain Injury Rehabilitation and Research System

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**Principal Investigator:** Flora M. Hammond, MD

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**Project Number:** H133A070042

**Start Date:** October 01, 2007

**Length:** 60 months

**NIDRR Officer:** A. Cate Miller, PhD

**NIDRR Funding:** FY 07 $438,571; FY 08 $438,571; FY 09 $438,571; FY 10 $438,571; FY 11 $438,571

**Abstract:** The Carolinas Traumatic Brain Injury Rehabilitation and Research System (CTBIRRS) is a comprehensive service delivery and research system serving individuals with traumatic brain injury (TBI). The System begins with prevention and emergency medical services and extends through intensive care, acute care, and comprehensive medical rehabilitation to long-term follow-up, community reintegration, and vocational rehabilitation. This Model System focuses on the challenging problem of post-traumatic irritability and aggression using a comprehensive, rigorous approach to generate and disseminate new knowledge on this high impact, pervasive, and under-studied problem. This approach to understanding irritability entails two randomized, controlled studies that build on a solid base of prior research by the investigators in this area: (1) a multi-center module study: “A Multi-Center, Parallel-Group, Randomized, Double-Blind, Placebo-Controlled Trial of Amantadine Hydrochloride for the Treatment of Chronic TBI Irritability and Aggression: A Replication Study”; and (2) a local research study: “Carbamazepine for the Treatment of Chronic Post-TBI Irritability and Aggression: A 42-day Single-Site, Forced-Titration, Parallel-Group, Randomized, Double-Blind, Placebo-Controlled Trial.”

The research studies were developed with in-depth input from the TBI community, with a solid plan for continued input along the course of the project through all aspects including research implementation, interpretation of findings, knowledge translation, project planning, and evaluation. The evaluation plan is directly linked to the target impacts, and provides a list of clear criteria to facilitate project administration, judge success, ensure dissemination of findings, and provide iterative feedback. CTBIRRS utilizes innovative means of knowledge translation to target audiences (consumers, providers, researchers, third party payers, policy makers), including a consumer conference, provider skill packs and workshops, fact sheets, tip cards, surveys of current practices, peer-reviewed publications, scholarly presentations, and evidence-based reviews.
**Disability and Rehabilitation Research Projects**  
North Carolina

### TBI Model System Collaborative Study of Amantadine for Post TBI Irritability and Aggression

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**Project Number:** H133A080035  
**Start Date:** October 01, 2008  
**Length:** 60 months  
**NIDRR Officer:** A. Cate Miller, PhD  
**NIDRR Funding:** FY 08 $855,000; FY 09 $855,000; FY 10 $855,000; FY 11 $855,000; FY 12 $855,000

**Abstract:** This study focuses on the challenging problem of irritability (primary aim) and aggression (secondary aim) in post-traumatic brain injury by using a rigorous approach to generate and disseminate new knowledge on this high impact, pervasive, and under-studied problem that affects approximately 29 to 71 percent of individuals with traumatic brain injury (TBI). Building upon prior research, project goals include: (1) assessing the effect of amantadine for 28 days at reducing TBI irritability; (2) assessing the effect of amantadine for 28 days at reducing TBI aggression; (3) assessing the effect of amantadine for 60 days on TBI irritability and aggression; and (4) assessing the effect of amantadine on cognitive function following TBI. Continuous input from the TBI community is incorporated into the development and implementation of the project, and throughout the course of this project in the areas of research implementation, interpretation of findings, knowledge translation, project planning, and evaluation. Additionally, this project is a collaborative research partnership between five other prominent TBI research centers: University of Washington, The Institute for Rehabilitation and Research, The Ohio State University, Kessler Institute for Rehabilitation, and Spaulding Rehabilitation Hospital. The knowledge generated by this project benefits those living with TBI by increasing awareness through targeted products and training with healthcare providers, consumers, researchers, vocational counselors, independent living providers, third party payers, and policy makers.
Disability and Rehabilitation Research Projects
Ohio

Ohio Regional TBI Model System

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Project Number: H133A070029
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 07 $434,393; FY 08 $457,354; FY 09 $434,353; FY 10 $434,381; FY 11 $434,376

Abstract: Building on previous research, this project investigates the relationship between decision-making (e.g. delay discounting) and outcomes of supported employment in persons with traumatic brain injury (TBI) receiving substance abuse treatment. In a second, collaborative research module, the Model System extends preliminary studies completed at Ohio State University using geographic identifiers to compile data about the social and economic characteristics of a person’s neighborhood and examine their contribution to outcomes from TBI. This module contributes to an evaluation of the utility of adding a geographic identifier, based on a person’s residence at follow-up, to the TBI Model Systems National Dataset providing future Model Systems researchers with an ever-growing array of information about the environment and linking it to Model Systems data about an individual’s outcome. This model system develops the “SynapShots” educational website reaching a national audience of consumers via a cooperative agreement with the Brain Injury Association of America. Additionally, this model system collaborates with Model Systems Knowledge Translation Center to conduct a systematic review of the literature on screening and brief interventions for injury populations in order to address the applicability to persons with moderate and severe TBI.
Individualized Planning for the First Year Following Acute Rehabilitation Project

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Project Number: H133A080023
Start Date: October 01, 2008
Length: 60 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 08 $854,780; FY 09 $854,881; FY 10 $854,469; FY 11 $853,685; FY 12 $854,475

Abstract: The Individualized Planning for the First Year Following Acute Rehabilitation Project is a multi-center research partnership among the Ohio Regional Traumatic Brain Injury Model System; the Institute for Clinical Outcomes Research in Salt Lake City, Utah; the TBI Model Systems National Data and Statistical Center; and the Rocky Mountain Regional Brain Injury System at Craig Hospital in Colorado. This project conducts a practice based evidence (PBE) study of individual differences in demographic characteristics, pre-morbid status, injury-related conditions, and medical course that differentially predict the effectiveness of rehabilitation interventions on functional independence, participation, and subjective well-being up to one year following traumatic brain injury (TBI). Incorporating data collected for the NIH-funded PBE study, this project focuses on acute rehabilitation, and on the recovery processes occurring after discharge from rehabilitation. The PBE methodology studies naturally occurring differences in treatment practices in order to identify individual differences in treatment effectiveness. It allows a large number of intervention-by-impairment interactions to be examined, while individual patient differences, including severity of TBI and medical complications, are controlled. Data is collected at 10 TBI rehabilitation programs in the United States and Canada: Ohio Regional TBI Model System, Carolinas TBI Model System, New York TBI Model System at Mt. Sinai, National Rehabilitation Hospital, Shepherd Center, Intermountain Medical Center, Rush University Medical Center, Brooks Rehabilitation Hospital, Loma Linda University Rehabilitation Institute, and the Toronto Rehabilitation Institute. Research subjects are 2,315 consecutive, consenting patients admitted for rehabilitation of a moderate or severe TBI. Interviews occur at three and six months post-discharge and one year post-injury allowing for detailed characterization of change during the first year of recovery.
Disability and Rehabilitation Research Projects  
Pennsylvania  

The Moss Traumatic Brain Injury Model System

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Project Number: H133A070040  
Start Date: October 01, 2007  
Length: 60 months  
NIDRR Officer: A. Cate Miller, PhD  
NIDRR Funding: FY 07 $434,399; FY 08 $434,399; FY 09 $434,399; FY 10 $434,399; FY 11 $434,399

Abstract: The Moss Traumatic Brain Injury Model System (TBIMS) includes two site-specific research projects embedded within a state-of-the-art traumatic brain injury (TBI) treatment and clinical research facility. Project 1 is a placebo-controlled pilot study of the effects of dextroamphetamine (DEX) on attention, engagement in therapy, cognitive and motor speed, and other outcomes in subacute TBI. This project also examines the possibility that DEX accelerates the pace of functional recovery in the subacute phase. Project 2 is a cross-national collaboration with a specialty TBI service in a Copenhagen hospital, which has many similarities to the Moss TBIMS in terms of patient mix, treatment philosophy, and cultural milieu. The Copenhagen facility provides significantly longer and, in some respects, more intensive inpatient care and rehabilitation compared to Moss (and other US rehabilitation facilities), even for patients with comparable injury severity. This affords a natural experiment in which persons with TBI treated at the two facilities are compared on a range of 6- and 12-month outcomes, including functional status, emotional well-being and quality of life, and caregiver burden. The Moss TBIMS also collaborates in multi-center longitudinal database research and collaborative module projects. In addition, extensive knowledge translation projects provide evidence-based skills and knowledge enhancement for clinicians specializing in TBI care and for consumers via collaboration with the Brain Injury Association of Pennsylvania.
Disability and Rehabilitation Research Projects
Texas

North Texas Burn Rehabilitation Model System (NTBRMS)

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Project Number: H133A070024
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 07 $362,500; FY 08 $362,500; FY 09 $362,500; FY 10 $362,500; FY 11 $362,500

Abstract: The North Texas Burn Rehabilitation Model System (NTBRMS) includes one collaborative research module project entitled “Long-Term Follow-up of the Burn Model System National Database Sample (LTF-NDS)” and two site specific research studies entitled “Biomechanical Properties of Burn Scar” and “Efficacy of Social Interaction Skills Training Post Burn Injury.” Collaboration occurs on many levels at the NTBRMS. Clinical collaboration is the hallmark of the burn team, which includes individuals from several institutions who work together seamlessly as well as collaboration with our rural care providers through outreach clinics. Research collaboration occurs locally with the surgeons and academic computing and nationally with the other model systems. The evaluation plan specifically focuses on the overall objectives for demonstration, research, and dissemination with specific quantifiable targets, which are reassessed quarterly. Dissemination of NTBRMS materials occurs at many levels and in a variety of formats: lectures by key personnel, publication in peer reviewed journals, a quarterly newsletter, and an accessible website available in English and Spanish. The NTBRMS collaborates with NIDRR-funded Model Systems Knowledge Translation Center (MSKTC) by participating in its systematic reviews of evidence and facilitating knowledge management by identifying the information needs and barriers among the various stakeholders both at national and local levels.
Disability and Rehabilitation Research Projects

Texas

North Texas Traumatic Brain Injury Model System (NT-TBIMS)

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Project Number: H133A070027
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 07 $430,350; FY 08 $430,350; FY 09 $430,350; FY 10 $430,350; FY 11 $430,350

Abstract: This project provides comprehensive continuum of care for traumatic brain injury (TBI) from the time of arrival at the emergency department through the intensive care unit, inpatient and outpatient rehabilitation, and long-term follow-up after community integration. The project conducts two local research projects aimed at furthering the goal of developing novel therapies and tailoring these therapies to individual patients: (1) a Phase II randomized, placebo-controlled clinical trial to determine whether therapy with recombinant human growth hormone during the acute rehabilitation period after TBI results in improved functional outcome; and (2) an observational study using magnetic resonance imaging during the acute rehabilitation period to validate the use of Diffusion Tensor Imaging as a biomarker of diffuse axonal injury. Additionally, the North Texas Traumatic Brain Injury Model System (NT-TBIMS) works collaboratively with other TBIMS Health Module members in a modular project to develop a Brain Injury Assessment Scale, which allows reliable and validated assessment of sensorimotor impairments after TBI. The goal is that this scale be as useful in the TBI field as the NIH Stroke Scale has been in clinical trials in stroke. Finally, the NT-TBIMS provides patient and family education, and dissemination of research findings to the professional community by conducting seminars, presenting the results at professional meetings, and publishing in professional and lay journals devoted to TBI.
Pediatric Burn Injury Rehabilitation Model System

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Project Number: H133A070026
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 07 $362,500; FY 08 $362,500; FY 09 $362,500; FY 10 $362,500; FY 11 $362,500

Abstract: This program conducts independent and multi-center projects focusing on evaluating and improving the rehabilitation provided to children with burn injuries, striving to decrease disability and improve reintegration into society. The model system includes one collaborative project assessing the efficacy of long term use of propranolol in the treatment of burn injury (in adults and children) with endpoints of improved survivability, improved cardiovascular condition, greater energy, improved muscle endurance, improved growth in children, and decreased anxiety. The project also includes a site-specific study to improve rehabilitative outcomes for children with greater than 40 percent total body surface area burned by combining an anabolic agent (oxandrolone, ketoconazole, or propranolol) with a 3-month intensive outpatient rehabilitation program. The supervised exercise program has shown to be effective in ameliorating effects of the hypermetabolic response. This project assesses the effectiveness of combining the anabolic agents and the exercise program with the expectation that the effects will be additive and will improve linear growth, bone mass, muscle strength, lean body mass, physical function, and general well-being. The last study, also site specific, is a continuation from the previous funding cycle. It focuses on Acute Stress Disorder (ASD) and Post Traumatic Stress Disorder (PTSD), a problem that impairs the well-being of burn patients. The study follows children with ASD to access the relationship of the two disorders and to elucidate a history of the development of PTSD.
The Texas Traumatic Brain Injury Model System of TIRR

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Principal Investigator: Mark Sherer, PhD
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Project Number: H133A070043
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: Pimjai Sudsawad, ScD
NIDRR Funding: FY 07 $430,350; FY 08 $430,350; FY 09 $430,350; FY 10 $430,350; FY 11 $430,350

Abstract: The Texas TBI Model System of TIRR conducts a program of research, dissemination activities, and clinical care designed to address social relationships and to improve outcomes for persons with traumatic brain injury (TBI). Research activities include: (1) contributions to the TBI Model Systems National Database; (2) a collaborative, multi-center, research module project on sexuality after TBI; and (3) a local project on social communication difficulties after TBI. A collaborative project on sexuality determines the frequency, type, and severity of changes in sexual functioning after TBI. As part of this project, researchers conduct the first randomized, clinical trial of an intervention to increase satisfaction with sexual functioning and comfort level in discussing sexual issues for persons with TBI and their partners. A local project on social communication conducts a randomized clinical trial of an intervention to improve social communication skills and social integration for persons with TBI, with the largest sample size of any similar study and one of only two randomized controlled trials conducted in this area for over 20 years.
Virginia Commonwealth Traumatic Brain Injury Model System

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Project Number: H133A070036
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 07 $426,720; FY 08 $426,720; FY 09 $426,720; FY 10 $426,720; FY 11 $426,720

Abstract: This project utilizes rigorous scientific methods to examine the benefits of intervention for survivors of traumatic brain injury (TBI) and their families before and after inpatient rehabilitation discharge. Projects at the Model System focus on both survivors and families. One study is a randomized controlled trial to examine the efficacy of a structured approach to the treatment of acute cognitive and neurobehavioral problems. A second study is a randomized controlled trial to examine the benefits of an intervention program for family crisis and support. Traumatic Brain Injury Model Systems and other researchers have expended considerable energy delineating outcomes. For example, researchers have thoroughly documented problems after injury, including memory disturbance, impaired self-awareness, executive skills dysfunction, slowness, visual dysfunction, poor motor coordination, and behavioral disorders. Recent studies have identified a high prevalence of depression, with many survivors reporting feelings of hopelessness, diminished self-esteem, and social isolation. Brain injury also affects the family system; family members commonly describe emotional distress, lack of respite, financial stress, and lack of community support.
Disability and Rehabilitation Research Projects
Washington

University of Washington Burn Model System

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Project Number: H133A070047
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 07 $362,458; FY 08 $362,459; FY 09 $362,453; FY 10 $362,458; FY 11 $362,449

Abstract: The University of Washington Burn Model System includes one multi-site, collaborative project, and two site-specific projects. Project 1: Psychological and Social Needs of Long Term Survivors of Major Burn Injury is a collaborative study (lead center Baltimore) to identify the needs of persons 5 and 10 years after injury. Project 2 (Site-Specific): Expanded Delivery Model for Burn Rehabilitation incorporates a novel intervention, an “expanded care provider”, who enables clinicians to “reach out” to individuals with burn injury and for them to “reach in” to care providers whenever care is needed, rather than on a rigid schedule to determine if this improves burn rehabilitation outcomes. In a randomized trial, Group 1 receives standard outpatient clinic-based rehabilitation. Group 2 has an additional care provider who uses multiple modalities to manage the multifaceted sequelae of thermal injury. Outcomes are assessed using an individualized Goal Attainment Scale and the validated Burn Specific Health Scale. Project 3 (Site Specific): Identification of the Pathways to Scarring utilizes bioinformatics tools to identify gene expression pathways associated with hypertrophic scarring. In addition, the project contributes long-term follow-up data to the national database maintained at the University of Colorado in Denver.
Disability and Rehabilitation Research Projects
Washington

University of Washington Traumatic Brain Injury Model System

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Project Number: H133A070032
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 07 $430,349; FY 08 $430,348; FY 09 $430,346; FY 10 $430,347; FY 11 $430,350

Abstract: University of Washington’s Traumatic Brain Injury Model System (UWTBIMS) provides a comprehensive, integrated continuum of medical, surgical, and rehabilitation services to persons with acute and chronic traumatic brain injury (TBI). This project conducts two site-specific projects. The first is a randomized controlled intervention study evaluating the effect of a structured, telephone-based mentoring program for caregivers focusing on self-management skills. This study builds upon previous experiences with telephone counseling for both people with traumatic brain injury and multiple sclerosis. This research is particularly important because caregivers are so crucial to the successful rehabilitation and community re-integration of persons with TBI and the literature on successful interventions for this population is so sparse. The use of a telephone-based program allows researchers to reach those (especially in rural regions) who lack ready access to knowledgeable advice, behavior change support, and specialty care sufficient to maintain the health of their significant other and themselves. The second project utilizes a large and rich database to predict a number of important long-term outcomes. The modular project studies the natural history of headache under conditions of usual care during the first year after TBI. This project characterizes the course and nature of headache, a common but poorly studied consequence of TBI. It examines the impact of headache on outcome and its potential modifiers, describes patient treatment preferences, and lays the foundation for a multi-site clinical trial.
Spinal Cord Injury Model Systems
Alabama

UAB Model Spinal Cord Injury Care System

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Principal Investigator: Amie B. Jackson, MD; J. Scott Richards, PhD; 205/934-3330
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Project Number: H133N060021
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 06 $474,471; FY 07 $474,471; FY 08 $474,471; FY 09 $474,417; FY 10 $474,417; FY 11 (No-cost extension through 9/30/2012)

Abstract: The University of Alabama at Birmingham provides rehabilitation services specifically designed to meet the special needs of individuals with spinal cord injury (SCI) through its multidisciplinary, comprehensive Spinal Cord Injury Care System (UAB-SCICS). The UAB-SCICS spans the clinical continuum from emergency services through rehabilitation and community re-entry. The system’s research includes one collaborative research module and two in-house research projects, all of which ultimately aim at improving the health and function of its constituents. The collaborative research module involves the validation of an outcome measure for functional recovery. One in-house research project involves the assessment of the predictive value of key parts of the neurological exam for return of bladder function; the second is an investigation of the effect of nicotine on different types of SCI pain. The project continues to benefit from the active involvement of persons with SCI in the design and execution of the proposed activities. Project results are disseminated via a variety of accessible formats and venues for both professionals and persons with SCI and their families. A detailed plan of operation ensures timely completion of project goals and tasks. Finally, an evaluation plan has been designed to assess the quality and timeliness of project outcomes and dissemination, as well as short and long term impacts of project activities. Activities of the UAB-SCICS reflect an active partnership both within the components of UAB’s health system and between UAB, the Lakeshore Foundation, and the Birmingham VA Medical Center. The project continues as a participant in data collection activities for the National Spinal Cord Injury Statistical Center.
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Project Number: H133N110008  
Start Date: October 01, 2011  
Length: 60 months  
NIDRR Officer: Kenneth D. Wood, PhD  
NIDRR Funding: FY 11 $475,998; FY 12 $475,998; FY 13 $475,998; FY 14 $475,998; FY 15 $475,998

Abstract: The University of Alabama Spinal Cord Injury Model System (UAB-SCIMS) spans the clinical continuum from emergency services through rehabilitation and community re-entry. This multidisciplinary, comprehensive system provides rehabilitation services specifically designed to meet the needs of individuals with spinal cord injury (SCI). The project participates in one or more collaborative research modules, and one in-house research project, the latter aimed at improving the health and function of individuals served. The in-house research project is a controlled intervention trial of a novel approach to treating neuropathic pain, one of the most problematic and difficult to treat complications of SCI. UAB-SCIMS continues to participate in data collection activities for the National Spinal Cord Injury Statistical Center, and disseminates its results through a variety of accessible formats and venues for both professionals and persons with SCI and their families.
Southern California Spinal Cord Injury Model System at Rancho Los Amigos National Rehabilitation Center

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Project Number: H133N110018
Start Date: October 01, 2011
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 11 $463,000; FY 12 $463,000; FY 13 $463,000; FY 14 $463,000; FY 15 $463,000

Abstract: The overarching objective of the Southern California Spinal Cord Injury Model System (SCIMS) at Rancho Los Amigos National Rehabilitation Center (Rancho) is to generate new knowledge that directly contributes to improving the health and function, and community participation for persons with spinal cord injury (SCI). This project includes four integrated categories of effort each led by a management team: (1) comprehensive service delivery, (2) participation in the National Spinal Cord Injury Database, (3) site-specific research, and (4) collaborative research module(s). The site-specific research project uses a longitudinal randomized clinical trial to identify whether a home-based intervention that was demonstrated to be effective at reducing chronic shoulder pain in persons with SCI could be used as a preventative program to decrease the rate of shoulder pain onset. Additionally, the project tests whether a more interactive version of the prevention program would also enhance community participation and self-efficacy for exercise engagement, in addition to further lowering the rate of shoulder pain onset.
Spinal Cord Injury Model Systems
Colorado

The Rocky Mountain Regional Spinal Injury System

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Project Number: H133N110006
Start Date: October 01, 2011
Length: 60 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 11 $483,127; FY 12 $482,270; FY 13 $483,438; FY 14 $482,985; FY 15
$482,484

Abstract: The Rocky Mountain Regional Spinal Injury System (RMRSIS) is well-established, progressive and offers state-of-the-art acute trauma, rehabilitation, and follow-up throughout the lives of people with spinal cord injury (SCI). RMRSIS goals are to: (1) implement a program of research focusing on the immediate and long-term health, function, community living and participation of people with SCI; (2) continually improve its existing and well-integrated, comprehensive lifetime system of care for people with SCI; and (3) continue exemplary participation in the National SCI Database. A site-specific research study tests a group intervention aimed at improving self-efficacy for people with SCI. The RMRSIS participates in collaborative research modules with other Model Systems in both lead and support capacities. RMRSIS includes two Level I trauma centers with specialized acute neurotrauma care facilities (St. Anthony Hospital and Swedish Medical Center) and the rehabilitation and lifetime follow-up services of Craig Hospital.
Spinal Cord Injury Model Systems
District of Columbia

National Capital Spinal Cord Injury Model System

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Project Number: H133N060028
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 06 $449,417; FY 07 $449,417; FY 08 $449,417; FY 09 $449,417; FY 10 $449,417; FY 11 (No-cost extension through 9/30/2012)

Abstract: The National Capital Spinal Cord Injury Model System (NCSCIMS) serves Washington, DC and the nation. By focusing on the frequent and costly complication of pressure ulcers (PU), the NCSCIMS leverages two unique strengths: an existing Rehabilitation Research and Training Center on spinal cord injury (SCI) that focuses on reduction of secondary conditions, and the population of Washington, DC, which is predominantly composed of underserved individuals. The Center includes two site-specific and one modular project and describes a system of care that meets SCIMS priorities: Site Specific Project 1 is a Practice-Based Evidence (PBE) project specifically focused on PU prevention for all individuals with SCI and/or disease (SCI/D) during the acute and rehabilitative phases of care (to evolve to the community in later phases). The PBE approach allows a detailed examination of the effects of methods, modalities, and therapies utilized in rehabilitation to prevent PUs, which are often based on evidence-based medicine but in reality may not be extrapolated to the broader population with SCI/D. In this project, researchers aim to utilize a PBE approach to augment evidence-based practice while addressing a critical secondary complication for individuals with SCI. Site Specific Project 2 is an SCI Navigator pilot project that combines elements of Peer Mentoring and Patient Navigation to decrease the occurrence of PUs once the individual has returned to the community. In this project, an SCI Navigator assists people with newly-acquired SCI in the transition from inpatient rehabilitation to the community, within the framework of an, at times, dysfunctional healthcare system. The NCSCIMS works with the Model System at the University of Pittsburgh to explore Assistive Technology for Mobility (ATM). In this project, researchers investigate the degree to which inadequate wheelchair technology is the factor preventing people with SCI from doing more, work to understand the impact of changes in wheelchair reimbursement, and fully explore the issue of disparity in ATM prescription.
Spinal Cord Injury Model Systems
Florida

South Florida Regional Spinal Cord Injury Model System

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Project Number: H133N110003
Start Date: October 01, 2011
Length: 60 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 11 $444,000; FY 12 $444,000; FY 13 $444,000; FY 14 $444,000; FY 15 $444,000

Abstract: The South Florida Spinal Cord Injury System (SFSCIS) serves a high volume of patients with spinal cord injury (SCI) providing comprehensive rehabilitation services specifically designed to meet their needs. The clinical components of the SFSCIS include in-patient rehabilitation at Jackson Memorial Rehabilitation Hospital, vocational services, community and job placement, and long-term community follow-up and health maintenance. Project research includes: (1) a longitudinal study of the development of shoulder pain/pathology during the first year after injury using quantitative ultrasound (QUS), and (2) a randomized controlled trial of an exercise intervention using QUS as a biologic marker. The goal is to improve outcomes in the preservation or restoration of function following SCI. Additionally, this project contributes to the National Spinal Cord Injury Database; utilizes culturally appropriate methods of education, training, and outreach throughout the care system; and includes a comprehensive evaluation program.
Spinal Cord Injury Model Systems
Georgia

Southeastern Regional Spinal Cord Injury Model System at Shepherd Center

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Project Number: H133N110005
Start Date: October 01, 2011
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 11 $483,500; FY 12 $483,499; FY 13 $483,499; FY 14 $483,500; FY 15 $483,500
Abstract: This Model System conducts research and training activities provide a comprehensive, integrated continuum of pre-hospital, medical, surgical, and rehabilitation services to persons with acute and chronic spinal cord injury (SCI). The current project includes four comprehensive elements: (1) continued management of a large model of service delivery for individuals with a diagnosis of traumatic spinal cord injury in the Southeastern United States, from point of injury through lifetime follow-up (500 SCI admissions annually); (2) comprehensive and timely collection of data on subjects who meet the inclusion criteria in three categories: Form I (inpatient hospitalization, 125 new subjects annually); Form II (longitudinal collection at 1,5,10, 15, 20, 25, and 30 years post-injury, 600 subjects followed annually); and Registry (demographics only, 200 new subjects annually); (3) two site specific research project entitled: “Evaluation of an Improved Method to Assess and Follow the Recovery of Motor Control in SCI” and “A longitudinal study of gainful employment 10 years after SCI onset: Comparisons of those who do and do not return to the pre-injury employer”; and (4) participation in one or more modular research projects.
Midwest Regional Spinal Cord Injury Care System (MRSCIS)

Rehabilitation Institute of Chicago (RIC)
345 East Superior Street, Room 1146
Chicago, IL 60611-2654
www.ric.org/research/centers/MidwestRegionalSpinalCordInjuryCareSystem/MRSCICS.aspx

Principal Investigator: David Chen, MD
Public Contact: 312/238-0764

Project Number: H133N060014
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 06 $484,000; FY 07 $484,000; FY 08 $484,000; FY 09 $482,162; FY 10 $467,189; FY 11 (No-cost extension through 9/30/2012)

Abstract: The Spinal Cord Injury Rehabilitation Program at the Rehabilitation Institute of Chicago and the Acute Spinal Cord Injury Program at Northwestern Memorial Hospital demonstrate the ongoing, comprehensive, multidisciplinary services that are provided to individuals with spinal cord injury (SCI) which allow these individuals to optimize their rehabilitation outcomes and enhance their ability to return to productive, independent living in the community. In order to contribute to the improvement of outcomes for persons with SCI, the Midwest Regional Spinal Cord Injury Care System (MRSCIS) conducts two site-specific research projects: (1) Development of Low-Cost Devices to Increase Delivery of Intensive Treadmill Training, and (2) Disparities in Access to and Outcomes of Rehabilitation Care for Medicare and Medicaid Beneficiaries with Spinal Cord Injury. In addition, the project includes collaboration on one research project, Assistive Technology for Mobility Module. MRSCIS has the capacity to enroll 140 individuals from culturally diverse backgrounds with new spinal cord injuries annually into the National Spinal Cord Injury Statistical Center, and collect follow-up data on individuals enrolled between 1973 and 2000.
Spinal Cord Injury Model Systems
Illinois

Midwest Regional Spinal Cord Injury Care System (MRSCIS)

Rehabilitation Institute of Chicago (RIC)
345 East Superior Street, Room 1146
Chicago, IL 60611
www.ric.org/research/centers/MidwestRegionalSpinalCordInjuryCareSystem/MRSCICS.aspx

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Project Number: H133N110014
Start Date: October 01, 2011
Length: 60 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 11 $483,127; FY 12 $482,270; FY 13 $482,438; FY 14 $482,985; FY 15 $482,484

Abstract: The Midwest Regional Spinal Cord Injury Care System (MRSCIS) provides comprehensive, multi-disciplinary medical and rehabilitation care to persons with spinal cord injury (SCI) from the site of injury to community reintegration. The objectives of the MRSCICS are to (1) provide a comprehensive continuum of care for persons with SCI, (2) contribute to assessment of long-term outcomes by enrolling 80 subjects per year into the national SCI database, (3) conduct one site-specific study, (4) disseminate research findings to various stakeholders in an effective and timely manner, (5) collaborate effectively with the Model System Knowledge Translation Center, and (6) involve individuals with disabilities in research and dissemination activities. The site-specific study, Mobility, Activity and Participation in Spinal Cord Injury, MAPS, evaluates a novel intervention to enhance the participation and community living outcomes of persons with SCI. The amount of daily physical activity is a primary determinant of self-reported and clinical measures of activity and participation, and quality of life. Specific exercise interventions can improve activity limitations and participation restrictions, including increased walking speed, metabolic capacity and efficiency, and self-reported participation.
Spinal Cord Injury Model Systems
Kentucky

Frazier Rehab and Neuroscience Spinal Cord Injury Model System

University of Louisville Research Foundation, Inc
Department of Neurosurgery
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Louisville, KY 40202

Principal Investigator: Daniel E. Graves, PhD; Susan Harkema, PhD; Daryl Kaelin, MD
Public Contact: Project coordinator 502/582-7443

Project Number: H133N110007
Start Date: October 01, 2011
Length: 60 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 11 $443,999; FY 12 $443,999; FY 13 $443,999; FY 14 $443,999; FY 15 $443,994

Abstract: Frazier Rehab and Neuroscience Spinal Cord Injury System (FRNSCIS) provides comprehensive, individualized care at all stages and levels of recovery, in all rehabilitation modalities, and across the life span of its patients with spinal cord injury (SCI). It uses a recovery model of care, state-of-the art technologies, and an integrated team approach to maximize functional recovery and reintegration into the community for the individual who has experienced an SCI. Project objectives are to: (1) provide an integrated multidisciplinary system of rehabilitation care specifically designed to meet the needs of individuals with SCI; (2) engage in an active research program that seeks to identify innovative evidence-based approaches to treating SCI and to move research findings into rehabilitation and clinical settings including participating in a collaborative module and conducting a site-specific research project, titled Baclofen with Locomotor Training: The Effect on Function and Neuroplasticity in Chronic Incomplete Spinal Cord Injury, which examines the impact of the antispasticity medication baclofen on locomotion in chronic incomplete SCI in a prospective, controlled, randomized study; and (3) enroll at least 30 subjects per year in the Spinal Cord Injury Model Systems database.
Spinal Cord Injury Model Systems
Massachusetts

The New England Regional Spinal Cord Injury Center

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Principal Investigator: Steve Williams, MD
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Project Number: H133N060024
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 06 $464,417; FY 07 $464,417; FY 08 $464,417; FY 09 $464,417; FY 10 $464,417; FY 11 (No-cost extension through 9/30/2012)

Abstract: The New England Regional Spinal Cord Injury Center (NERSCIC), based at Boston Medical Center, uses a network of rehabilitation hospitals (including Gaylord Hospital, Wallingford, CT), partners, and affiliates to develop a regional capacity to disseminate materials in such a way that they are utilized both by consumers with spinal cord injury (SCI) and their families, and health care professionals, with particular attention to minorities and underserved groups. NERSCIC’s site-specific research project involves designing an improved outcome instrument in SCI research. This project applies contemporary measurement methods (CATS) to initiate a major transformation in the outcome assessment technology used to assess activity limitation frequently monitored in SCI research. Once the SCI-CAT is developed using data collected from major field study, a demonstration of the SCI-CAT evaluates its respondent burden, acceptability to patients and clinicians, as well as its breadth, precision, sensitivity to change, and validity with inpatients and outpatients with SCI who are receiving care from NERSCIC. Comparisons are made between the Functional Independence Measure and SCI-CAT over a 6-month follow-up period. Additionally, this site-specific project is integrated with the NeuroQoL collaborative module, in order to expand and improve both projects and to avoid developing competing computer adaptive testing instruments. This project is now referred to as the QOL/SCI-CAT Combined Project. Lastly, NERSCIC is a participating site in the SCI Collaborative Participation Module, led by Gale Whiteneck at Craig Hospital, to address the importance of participation given the current absence of a standard acceptable measure of participation. This collaborative SCI module identifies the best existing measure of participation and combines the best items from existing measures of participation to form a new and improved tool with better psychometric properties validated in the SCI Model Systems to ensure broad acceptability in future SCI outcomes research, and to allow for meaningful testing of clinical interventions.
NERSCIC: Improving the Lives of People with SCI Across the Lifespan through Innovative Science and Technology

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Project Number: H133N110019
Start Date: October 01, 2011
Length: 60 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 11 $463,000; FY 12 $463,000; FY 13 $463,000; FY 14 $463,000; FY 15 $463,000

Abstract: The New England Regional Spinal Cord Injury Center (NERSCIC) conducts research and clinical activities to improve the health and function of people with spinal cord injury (SCI). This Model System is a partnership among Boston University Medical Center in Boston, Gaylord Hospital in Wallingford, CT, and Hospital for Special Care in New Britain, CT. The objectives of this project are to: (1) improve the health and function of people with SCI by expanding the New England Standards of Care (NESoC) network, in concert with regional dissemination and technical support, especially to health professionals serving vulnerable groups; (2) employ innovative technology to improve health and function across the lifespan, especially for the most vulnerable, through better access to care and better outcome measures, building upon our successful research to date; (3) translate and disseminate state-of-the-art knowledge, measures, and resources for consumers and professionals on both a regional and national level to improve function and prevent secondary conditions, in collaboration with the Model Systems Knowledge Translation Center (MSKTC); and (4) empower and engage the SCI community across the lifespan in all of our clinical, educational, and research activities, especially the most vulnerable groups. NERSCIS includes the following projects and activities: My Care/My Call, an automated health care self-advocacy training for people with SCI (site-specific project #1); Missing Links: Assessing Function Across the Lifespan in Persons with SCI (site-specific project #2), which utilizes computer adaptive technology (CAT) to develop a mechanism to assess the functional abilities of children with SCI across the lifespan; the New England Standards of Care (NESoC) training webcasts; and the NESoC, a comprehensive set of clinical standards to improve the management of patients with SCI, based on best practices.
Spinal Cord Injury Model Systems
Massachusetts

Spaulding Harvard Spinal Cord Injury Model System

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Project Number: H133N110010
Start Date: October 01, 2011
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 11 $444,000; FY 12 $444,000; FY 13 $444,000; FY 14 $444,000; FY 15 $444,000

Abstract: The Spaulding-Harvard Spinal Cord Injury System is a comprehensive network of care spanning from preventative programs and emergency services to outpatient care with a special focus on community reintegration and vocational rehabilitation. Clinical and investigative activities are directed to developing evidence-based rehabilitation interventions and clinical practice guidelines through spinal cord injury (SCI) research. The project develops and improves its multidisciplinary system of rehabilitation care designed specifically to meet the needs of individuals with SCI, contribute to the SCI model systems national database and facilitate the longitudinal assessment of long term SCI outcomes, and contribute to improved long term SCI outcomes conducting a site-specific research project and participating in a collaborative research project. A site specific research project seeks to use transcranial Direct Current Stimulation technology to treat sublesional neuropathic pain following SCI.
Spinal Cord Injury Model Systems
Michigan

University of Michigan Spinal Cord Injury Model System

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Project Number: H133N060032
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 06 $457,417; FY 07 $457,417; FY 08 $457,417; FY 09 $457,417; FY 10 $457,417; FY 11 (No-cost extension through 03/31/2012)

Abstract: The University of Michigan Spinal Cord Injury Model System (UM-SCIMS) conducts research, information dissemination, education, and training to improve the lives of people with SCI. This system also provides comprehensive rehabilitation and community participation services to those with SCI admitted to the University Hospital, part of the University of Michigan Health System. Research includes a site-specific project and five modular or collaborative projects. The site-specific study is a randomized clinical trial conducted in collaboration with the Department of Psychiatry determining how individuals with mild to moderate symptoms of depression can be helped by the use of Venlafaxine HCL. The five modular studies being conducted with other centers are: (1) Identifying the Best Measure of Participation, with the Rocky Mountain Regional Spinal Injury System; (2) Measuring Quality of Life in Spinal Cord Injury: the Next Generation of Instruments, with the Northern New Jersey SCI System; (3) the UAB Motor Recovery Index Study, with the University of Alabama, Birmingham; (4) the Development and Validation of the Thoracic Lumbar Control Scale to Measure Strength and Coordination of Trunk Muscles, with the Texas Model Spinal Cord Injury System/TIRR; and (5) the Natural History of Depression Study, with the University of Washington. Working in partnership with a community-based agency, the Ann Arbor Center for Independent Living, an advisory board, and the medical care systems UM-SCIMS educates consumers, professionals, and researchers about SCI care issues and research.
Spinal Cord Injury Model Systems
Michigan

University of Michigan Spinal Cord Injury Model System

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Project Number: H133N110002
Start Date: October 01, 2011
Length: 60 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 11 $457,000; FY 12 $457,000; FY 13 $456,263; FY 14 $456,717; FY 15 $456,829

Abstract: The University of Michigan Spinal Cord Injury Model System (UM-SCIMS) conducts research, information dissemination, education and training to improve the lives of people with SCI. This system also provides comprehensive rehabilitation and community participation services to those with SCI admitted to the University Hospital, part of the University of Michigan Health System. The UM-SCIMS includes two integrated research studies focusing on factors related to bladder and bowel complications following injury and their impact on quality of life. While the first study provides a conceptual framework for identifying mechanisms by which these factors impact quality of life, the second study focuses on how to prevent such complications by testing an intervention, a self-management program developed exclusively for those with SCI. Dissemination efforts include the development of products related to the two studies in collaboration with the Model Systems Knowledge Translation Center, SCI Lecture Series, consumer briefs, newsletters, website updates, and community outreach activities utilizing a network of State and local community partners.
Northern New Jersey Spinal Cord Injury System

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Project Number: H133N110020
Start Date: October 01, 2011
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 11 $456,998; FY 12 $456,999; FY 13 $456,999; FY 14 $456,999; FY 15 $456,999

Abstract: The Northern New Jersey Spinal Cord Injury System (NNJSCIS) provides a comprehensive continuum of state-of-the-art care for persons with spinal cord injury (SCI) and their families from the time of injury through rehabilitation and return to the community. Research and clinical activities at NNJSCIS include: a collaborative module with an associated model SCI system; a site-specific study to test a novel combination therapy using dalfampridine—a drug recently approved to improve walking in patients with multiple sclerosis—with a standardized program of locomotor training—a rehabilitative intervention that has improved walking and other functional outcomes in persons with SCI; and active communication with the SCI consumer and research communities through web and social media, consumer and professional conferences, newsletters, professional publications, and scientific presentations. The NNJSCIS is a cooperative effort of the Kessler Foundation Research Center, the Kessler Institute for Rehabilitation, the University of Medicine and Dentistry of New Jersey-New Jersey Medical School, and University Hospital.
Spinal Cord Injury Model Systems
Ohio

Northeast Ohio Regional Spinal Cord Injury System

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Project Number: H133N060017
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 06 $449,417; FY 07 $449,417; FY 08 $449,417; FY 09 $449,417; FY 10 $449,417; FY 11 (No-cost extension through 1/31/2012)

Abstract: The Northeast Ohio Regional Spinal Cord Injury System (NORSCIS) at MetroHealth Rehabilitation Institute of Ohio, in collaboration with Case Western Reserve University and the Cleveland FES Center, conducts research to further develop the effectiveness of an innovative Model Spinal Cord Injury Care System and to demonstrate how the application of advanced assistive technology can benefit persons with disabilities. Efficiency and effectiveness of care (and research potential) are enhanced as all components of the continuum of care (from trauma/emergency care to acute medical/surgical treatment, inpatient and outpatient rehabilitation, and community support services) are all available on the NORSCIS campus. A site-specific project studies advances in functional electrical stimulation (FES) technology to document improvements in function, health, and wellness. An innovative focus on trunk muscle stimulation targets specific clinical problems, including seated stability and mobility, reachable workspace, and pulmonary function. A collaborative research project with the University of Pittsburgh Model Center on Spinal Cord Injury, is directed at testing and collecting the data needed to understand the impact of coverage changes and to fully explore the issue of disparity in assistive technology for mobility prescription. A collaborative project with Craig Hospital involves the development of a reliable, valid measurement tool to assess community participation. The goal of these hypothesis-driven research and demonstration projects is to develop and measure the effectiveness of new intervention strategies at both the individual patient level and overall systems of care for persons with spinal cord injury.
Spinal Cord Injury Model Systems
Pennsylvania

Regional Spinal Cord Injury Center of the Delaware Valley

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Project Number: H133N110021
Start Date: October 01, 2011
Length: 60 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 11 $476,000; FY 12 $476,000; FY 13 $476,000; FY 14 $476,000; FY 15 $476,000

Abstract: The goal of the Regional Spinal Cord Injury Center of the Delaware Valley (RSCICDV) is to provide and evaluate a comprehensive program of coordinated patient care, education, and research activities for individuals who have sustained a traumatic spinal cord injury (SCI). Clinical activities are directed at promoting evidence-based practice, understanding the particular needs of our target population, and providing individualized lifetime care to persons with SCI. Research activities are designed to generate longitudinal data on impairment, activities, participation and quality of life as part of the National Database, and to determine the effectiveness of an early pharmacological intervention to prevent loss of bone mass after SCI. Research and clinical activities include: a collaborative module with other model systems; an onsite, randomized, placebo-controlled clinical trial of intravenous zoledronic acid, a potent bisphosphonate, provided within 2 weeks of injury, on sublesional bone mass at the proximal femur, distal femur and proximal tibia in persons with complete SCI; ethnographic interviews with older persons with SCI focusing on changing health needs, access to care, participation in life activities, and the changing experiences in assisting with the care of someone with a disability; and development of educational resources and offerings for patients, healthcare providers and researchers, including online materials and training workshops in the use of outcome measures.


Spinal Cord Injury Model Systems
Pennsylvania

University of Pittsburgh Model Center on Spinal Cord Injury

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Project Number: H133N060019
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 06 $449,417; FY 07 $449,417; FY 08 $449,417; FY 09 $449,417; FY 10 $449,417; FY 11 (No-cost extension through 9/30/2012)

Abstract: The University of Pittsburgh Model Center on Spinal Cord Injury (UPMC-SCI) continues its research focus on assistive technology (AT) for mobility. Pilot data collected during the previous funding cycle highlighted disparity in wheelchair prescription. Individuals from minority groups and people with low socioeconomic status received less and lower quality equipment. So that interventions can be developed, the project continues and expands this research to delve into the reasons for disparity. In addition, it investigates the impact of recent Centers for Medicare and Medicaid Services changes for AT reimbursement. These changes will likely have a critical impact on the AT provided to individuals with spinal cord injury (SCI). Finally, the project develops a tool to determine how far, how fast, and when people travel in their wheelchairs. This data is related to the type of wheelchairs used, to the number of wheelchair failures, and to measures of participation. From these findings, researchers determine how the wheelchair prescribed impacts participation, and if greater use leads to greater failures. This data is used to push for improvements in manufacturing and changes in coverage. UPMC-SCI also conducts a randomized, controlled trial to determine if following the Consortium of Spinal Cord Injury Medicine Guidelines on Upper Limb Preservation leads to decreased pain. These guidelines are applied to acutely injured patients who are followed for the first six months after injury. Validation of the guidelines’ effectiveness helps ensure that they become the standard of care across the country. SCI care at the University of Pittsburgh is provided in a multidisciplinary manner with a high level of communication among the constituent services. The project has fully implemented a system of continuity of treatment that begins with the emergency response at the scene of injury and continues with comprehensive treatment and rehabilitation from medical/surgical to acute stage rehabilitation through utilization of assistive technology services and vocational rehabilitation. UPMC-SCI continues to enroll and collect long-term follow-up data on SCI subjects for the National Spinal Cord Injury Statistical Center.
Spinal Cord Injury Model Systems
Pennsylvania

University of Pittsburgh Model Center on Spinal Cord Injury

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Project Number: H133N110011
Start Date: October 01, 2011
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 11 $457,000; FY 12 $457,000; FY 13 $457,000; FY 14 $457,000; FY 15 $457,000

Abstract: The University of Pittsburgh Model Center on Spinal Cord Injury (UPMC-SCI) continues to investigate the relationship between transfer technique and markers of shoulder injury. The center utilizes previous research to develop transfer training material targeted at clinicians and people with spinal cord injury (SCI) and evaluates the impact of the training in a single blind randomized controlled trial. During the previous funding cycle, the center led a successful module related to assistive technology (AT). This module found that wheelchair failures are increasingly prevalent and are disproportionately impacting individuals from minority backgrounds. Additionally, it was found that wheelchair users lack the wheelchair skills needed for full participation. The center continues the AT module work allowing further investigation of the impact of recent Centers for Medicare and Medicaid Services changes, such as competitive bidding, on AT quality. In addition, specific interventions as part of a new module address both AT quality and wheelchair skills. UPMC-SCI continues its heavy focus on knowledge translation so that this research can lead to changes in clinical care.
Spinal Cord Injury Model Systems
Texas

Texas Model Spinal Cord Injury System

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Project Number: H133N060003
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 06 $464,417; FY 07 $464,417; FY 08 $464,417; FY 09 $464,417; FY 10
$464,417; FY 11 (No-cost extension through 09/30/2012)

Abstract: The Texas Model Spinal Cord Injury System (TMSCIS) provides services along the entire
continuum of care for spinal cord injury (SCI) from emergency medical service to long-term follow-up
and management of secondary conditions. The TMSCIS includes a site-specific research project that is
designed to provide high level evidence of the efficacy of a novel treatment to prevent bladder compli-
cations. The project is a randomized, double-blind, placebo controlled, parallel groups investigation of
the effects of Botulinum toxin A treatment of detrusor external sphincter dyssynergia (DESD) during
early spinal cord injury. Many patients with SCI develop neurogenic bladder dysfunction associated
with detrusor hyperreflexia and DESD that can lead to long-term complications in up to 50 percent of
patients. These complications include hydronephrosis, vesicoureteral reflux, nephrolithiasis, sepsis, renal
insufficiency or failure, and even death. This investigation is intended to determine if the prevention of
DESD in the early phase of recovery can prevent some of these complications. In addition, the TMSCIS
includes a module designed to develop an outcome measure of trunk and postural control to be utilized
in activity-based therapy programs like locomotor training. The outcomes of large scale clinical trials
of locomotor training highlight the need for outcome measures that are designed to capture changes
brought about by translational research that may not have been necessary for more traditional therapy
programs. This scale development project incorporates item response theory methods as well as reliabil-
ity and validity investigations in a minimum of four model systems.
Spinal Cord Injury Model Systems
Washington

Northwest Regional Spinal Cord Injury System

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Project Number: H133N060033
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 06 $464,417; FY 07 $464,417; FY 08 $464,417; FY 09 $464,417; FY 10 $464,417; FY 11 (No-cost extension through 9/30/2012)
Abstract: The University of Washington’s Northwest Regional Spinal Cord Injury System (NWRSCIS) serves a critical mass of patients with spinal cord injury (SCI) and has all the necessary disciplines to provide state-of-the-art medical, surgical, and rehabilitation care. One site-specific project is a randomized controlled intervention study evaluating the effect of proactive, structured, telephone-based counseling and care management on rehospitalization rate and quality of life during the first year after discharge from acute rehabilitation. This study builds upon successful experiences with telephone counseling for both people with traumatic brain injury and multiple sclerosis. This research is particularly important because the lifestyle changes and health care behaviors required for successful living after SCI are tremendously challenging, rates of rehospitalization are high, and many people (especially in rural regions) lack ready access to knowledgeable advice, behavior change support, and specialty care sufficient to maintain their health. A modular project studies the natural history of major depression under conditions of usual care during the first year after SCI. This project establishes reliable and valid means of screening and diagnosing major depression soon after SCI. It examines the impact of depression on rehabilitation efficiency and compares the effect of standard treatment to clinical practice guideline level care of depression. This study describes depression treatment preferences among people with SCI and lays the foundation for a multi-site clinical trial. The NWRSCIS also includes a collaborative, multisite, randomized, double-blind, placebo controlled trial of venlafaxine XR (Effexor XR) in adults with SCI and major depressive disorder (MDD). The purpose of the study is to examine the efficacy and tolerability of venlafaxine XR as a treatment for MDD. NWRSCIS contributes to the national statistics database at the University of Alabama at Birmingham.
Spinal Cord Injury Model Systems
Washington

Northwest Regional Spinal Cord Injury System

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Project Number: H133N110009
Start Date: October 01, 2011
Length: 60 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 11 $463,000; FY 12 $463,000; FY 13 $463,000; FY 14 $463,000; FY 15 $463,000

Abstract: The University of Washington’s Northwest Regional Spinal Cord Injury System (NWRSCIS) provides a comprehensive, integrated continuum of pre-hospital, medical, surgical, and rehabilitation services to persons with acute and chronic SCI. Goals for this model system are to (1) contribute an average of 50 new subjects per year to the Spinal Cord Injury Model Systems national database; (2) exceed rigorous benchmark standards for subject recruitment and retention; (3) conduct high quality research that contributes to improved outcomes and better evidence-based rehabilitation for people with SCI and is of sufficient quality that it improves evidence based rehabilitation and clinical guidelines; and (4) enhance services to various consumers and stakeholders, especially racial/ethnic minority persons, low income, and other traditionally underserved groups. A site-specific study uses an innovative “real world” trial designed to test the effectiveness of a collaborative care approach to improving outpatient treatment for inactivity, chronic pain, and depression. This is a single-blind, randomized controlled trial comparing collaborative care to usual care. The primary outcome is overall quality of life. Secondary outcomes are physical activity, pain intensity, depression severity, and cost-effectiveness.
A New Measure of Subjective Fatigue in Persons with Traumatic Brain Injury

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Project Number: H133G080168
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 08 $182,918; FY 09 $170,842; FY 10 $191,997; FY 11 (No-cost extension through 9/30/2012)

Abstract: This research project addresses the lack of evidence supporting a specific fatigue scale, of the over 30 that have been used for clinical and/or research purposes, which is psychometrically sound, efficient, and useful in individuals with traumatic brain injury (TBI) to assess treatment interventions and the natural history of fatigue following TBI. The primary objective of this project is to evaluate the internal consistency, concurrent validity, and item/scale structure of a fatigue item pool and to identify the most psychometrically sound measure of fatigue in individuals post-TBI. To accomplish this goal, the Santa Clara Valley Medical Center (SCVMC) has partnered with the Rehabilitation Institute of Michigan (RIM), a TBI Model System from 1987-2007 and a contracted center to continue TBI National Database follow-up. SCVMC and RIM have the largest number of cases eligible for follow-up in the TBI National Database. The short-term outcome is to advance knowledge about the measurement of fatigue in individuals with TBI through creation of a psychometrically valid and useful fatigue assessment measure for individuals with TBI. The intermediate outcome is that the availability of a new scale leads to improved studies and treatment plans for individuals with TBI who have fatigue.
Evaluating Dysphagia in Individuals with Spinal Cord Injury: Assessing Incidence, Associated Factors, and Preventable Complications

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Project Number: H133G080165
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 08 $189,382; FY 09 $196,670; FY 10 $179,385; FY 11 (No-cost extension through 9/30/2012)

Abstract: Dysphagia is known to occur in a significant number of individuals with spinal cord injury (SCI) presenting to acute care immediately after the injury and to inpatient rehabilitation. However, the exact incidence of dysphagia in this population has not been studied prospectively. The primary objective of this study is to determine the incidence of dysphagia using bedside swallow evaluation (BSE) and videofluoroscopy swallow study (VFSS) and to determine associated risk factors in individuals with SCI. The secondary objective is to determine if the BSE is an effective screening tool as compared with the VFSS for individuals with SCI and to determine the sensitivity and specificity of BSE in individuals with SCI. The third objective is to document the time course for the resolution of dysphagia post-SCI. To address this research question, individuals with SCI who are positive for dysphagia following either a BSE or VFSS are administered serial BSE and VFSS until resolution of dysphagia or discharge from the rehabilitation center.
Developing a Relevant Instrument to Assess Caregiver Distress and Benefit in Spinal Cord Injury

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Project Number: H133G090013
Start Date: October 01, 2009
Length: 36 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 09 $199,999; FY 10 $199,999; FY 11 $199,999

Abstract: This project employs a combined qualitative and quantitative methodology to develop a relevant instrument to assess caregiver distress and benefit in spinal cord injury (SCI). The project uses a focus group methodology to identify areas of concern for family members providing assistance to a loved one with SCI. Detailed qualitative analysis of the focus group transcripts is used to identify themes and concepts that may be operationalized into questions for a new instrument to assess caregiver distress and benefit in SCI. The instrument is pilot tested with 250 family SCI caregivers. Items for a final instrument are selected following factor analysis and Rasch analysis. The lived experience of SCI caregiving, as expressed by the caregivers themselves, helps identify what factors are associated with positive or negative experiences for SCI family caregivers. From this rich contextual information, a new measure to assess distress and benefit in SCI caregiving is developed. Led by Craig Hospital in Englewood, Colorado, the project is a collaborative research effort with three other prominent SCI rehabilitation facilities: University of Alabama at Birmingham; Santa Clara Valley Medical Center in San Jose, California; and the Kessler Medical Rehabilitation Research and Education Center/Kessler Foundation in West Orange, New Jersey.
Field Initiated Projects (FIPs)
Florida

Exercise Treatment of Obesity-Related Secondary Conditions in Adults with Paraplegia

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Project Number: H133G080150
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 08 $199,738; FY 09 $199,922; FY 10 $198,594; FY 11 (No-cost extension through 9/30/2012)

Abstract: This project investigates the effects of physical activity with or without a nutrient supplement known to increase body lean mass on adults with chronic paraplegia who are at risk for clusters of obesity and obesity-related secondary complications. Qualified subjects perform six months of circuit resistance training with half of the participants randomized to receive a whey protein supplement immediately before and immediately after each training session. The immediate post-exercise administration of whey protein is reported to increase body lean (muscle) mass, whose loss after spinal cord injury (SCI) is thought to decrease fat utilization and hasten body fat accretion. Outcomes measured include: (1) the effects of training and supplement on cardiopulmonary endurance and strength, a global disease risk score, health related quality of life as assessed by the SF-36 instrument validated for use in persons with SCI; and (2) participant perceptions of exercise benefits studied before and after training by a scientist-stakeholder with SCI. Data examining the personal and societal barriers to exercise participation after SCI is collected through a web-based form. This project improves the understanding of risks for obesity and obesity-related secondary complications.
Sleep Disordered Breathing in Persons with Chronic Tetraplegia: Characterization and Intervention

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Project Number: H133G100217
Start Date: October 01, 2010
Length: 36 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 10 $199,711; FY 11 $199,611; FY 12 $197,934
Abstract: This project investigates the prevalence and treatment of sleep-disordered breathing (SDB) in adults with spinal cord injury (SCI) resulting in tetraplegia. SDB is characterized by sleep fragmentation with cyclical oxygen desaturation and daytime sleepiness. Consequences of SDB include decline in physical performance and mental alertness, impaired memory and intellectual processing, mood disturbances characterized by anxiety and depression, decrease health-related quality of life (HRQoL), and increased risk for vehicular or occupational injury. Despite considerable advancements in understanding and treating SDB; including favored use of positive airway pressure (PAP), an evidence base sufficient to warrant routine evaluation and treatment of SDB is lacking for those with SCI. This project conducts a hypothesis-driven study with three specific goals: (1) describing the clinically-relevant determinants of sleep quality in persons with chronic tetraplegia, (2) assessing clinical features and co-morbid risks associated with SDB in persons with tetraplegia, and (3) determining if interventions using PAP reduces health risks and improves HRQoL in persons with tetraplegia having extant SDB. Researchers use a regression model to test whether SDB is associated with daytime sleepiness, anthropometrics (weight, height, neck circumference, and body/abdominal fat), age, and supine forced vital capacity. Researchers also test if periodic limb movement is a cause for poor sleep quality, and whether individuals with moderate to severe SDB have greater cardiometabolic (CM) risks (insulin resistance, vascular inflammation, and endothelial dysfunction) than cohorts having mild to absent SBD. In a third study, 25 persons with established moderate to severe SDB undergo a titration procedure to establish airway pressures required for PAP therapy, use PAP nightly for three months, and undergo retesting for CM risks and HRQoL to test improvements after PAP treatment. This research enhances the understanding of prevalence, causes, co-morbidities, predictors, and treatments for SDB, and better distinguishes the association of SDB on disease-accelerating risks and QoL. Project outcomes are utilized in producing an evidence based for customary evaluation and treatment that fosters changes in medical practice patterns, while bringing attention to both stakeholders with SCI and their health providers of both apparent and obscure hazards of SDB.
Noninvasive Examination of ALS Using Surface EMG

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Project Number: H133G090093
Start Date: October 01, 2009
Length: 36 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 09 $188,537; FY 10 $199,858; FY 11 $199,059

Abstract: This project develops a robust technique for noninvasive motor unit discrimination using the surface electromyogram (EMG), and then, to utilize the technique to supplement, and potentially replace in certain cases, the routine needle EMG examination of amyotrophic lateral sclerosis (ALS). There are two study goals: (1) develop and test noninvasive surface EMG unitary decomposition methods. This includes quality controls by validating and refining the developed methods using both computational and experimental approaches; and (2) perform a surface EMG examination of the pathological changes in ALS patients, mainly at the motor unit level, using these newly developed noninvasive methods. The strategies utilized in this project lie in both surface EMG recording and signal processing methods. Development is based on two-dimensional, high density electrode arrays for surface EMG recording, which represent the most recent advance in surface EMG electrode design. Taking advantage of the spatial information and multi-channel recording of the electrode arrays, the project uses the most appropriate EMG signal processing methods to extract single motor unit activities from the surface EMG. These methods include linear and nonlinear spatial filtering, two-dimensional motor unit action potential template matching, pattern recognition, and state-of-the-art blind source separation techniques. This includes laboratory-based studies and repeated testing in ALS clinics. While directly targeted population is patients with ALS, these research activities may potentially benefit individuals with other neuromuscular diseases who may need EMG examination.
Falls-Based Training to Improve Balance and Mobility Post-Stroke

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Project Number: H133G100152
Start Date: October 01, 2010
Length: 36 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 10 $197,335; FY 11 $197,264; FY 12 $197,493

Abstract: This project utilizes falls-based training to compare balance and mobility outcomes against a standardized program of body-weight support treadmill training within a single-blinded, randomized controlled trial design in a cohort of 40 individuals with chronic (longer than six months) post-stroke hemiplegia. Overground walking training is shown to be an effective intervention for improving muscle coordination and functional locomotor outcomes in persons with chronic post-stroke hemiplegia. However, the physical challenges to balance during overground walking training are limited by safety concerns; consumers may not experience difficult tasks that might result in loss of balance. Using a new robotic device called the KineAssist, participants practice a repertoire of six challenging tasks that represent environmental hazards while the KineAssist provides safety and a graded challenge. As participants practice these tasks, and gain competency in withstanding mobility situations that require a high level of neuromuscular control, they make important and substantial gains in mobility function. The primary balance outcome measure includes changes to the Berg Balance Score, and primary walking outcomes of a gait speed over a 10 meter distance and distance on the 6-minute walk test. Secondary measures include the scores on Activities-Specific Balance Confidence Scale and changes in quality of life as measured by the SF-36 and Stroke Impact Scale.
Weight Loss by Individuals with Physical Disabilities

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Project Number: H133G090230
Start Date: October 01, 2009
Length: 36 months
NIDRR Officer: Margaret Campbell, PhD
NIDRR Funding: FY 09 $199,801; FY 10 $199,992; FY 11 $199,674
Abstract: This project conducts a randomized trial to evaluate weight loss and weight maintenance using both sides of the energy balance equation (i.e. energy intake and energy expenditure) in overweight and obese individuals with physical disabilities who have impaired mobility. Researchers compare participants who use the modified Stop Light Diet (SLDm) with participants who follow the National Heart, Lung, and Blood Institute (i.e., standard nutrition and intake recommendations or usual care [UC]). Following a 6-month period of reduced energy intake (weight loss), both groups are placed on a diet with sufficient energy to maintain weight (i.e., weight maintenance) for an additional 12 months. Both groups are encouraged to participate in a physical activity program appropriate for their physical abilities throughout the 18 months. Program intervention and participant acceptance are evaluated through extensive process analysis of quantitative and qualitative data. The project also tracks and analyzes the health care utilization patterns and secondary health outcomes of participants in both the SLDm and UC diets using secondary data analysis of Kansas Medicaid claims data.
Field Initiated Projects (FIPs)
Michigan

Auditory and Visual Working Memory in Children with Cerebral Palsy

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Project Number: H133G110015
Start Date: October 01, 2011
Length: 36 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 11 $199,396; FY 12 $199,911; FY 13 $199,971

Abstract: The purpose of this study is to examine auditory and visual-spatial working memory (WM) using accessible test strategies in children diagnosed with cerebral palsy (CP). The objective of the study is to develop a more universally accessible measure of WM and to improve understanding of WM profiles in children diagnosed with CP. Participants are presented with visual-spatial and auditory stimulus streams, with parametric manipulations of memory load and delay. This study characterizes WM for higher functioning children with CP and produces feasibility data regarding task accessibility for children with the most significant disabilities. This study has three specific aims: (1) to develop an accessible measure of auditory and visual-spatial WM that is comparable to traditional WM measures, (2) to examine visual-spatial and auditory WM accuracy in children diagnosed with CP (who are verbal communicators) compared to their typically developing peers, and (3) to examine interactions of load and delay in association with accuracy.
Field Initiated Projects (FIPs)  
Michigan

**Neuroanatomical Correlates of Positive Psychology Among People with Traumatic Brain Injury: A Biopsychosocial Model**

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**Project Number:** H133G080064  
**Start Date:** October 01, 2008  
**Length:** 36 months  
**NIDRR Officer:** Kenneth D. Wood, PhD  
**NIDRR Funding:** FY 08 $199,078; FY 09 $194,402; FY 10 $199,543; FY 11 (No-cost extension through 09/30/2012)

**Abstract:** This project investigates the complex relationships among strengths of character, structurally-imaged estimates of white matter damage in frontal brain regions, psychological resiliency, and outcomes including satisfaction with life and community integration among people with traumatic brain injury (TBI). Additionally, this project investigates the extent to which Peterson and Seligman’s Character Strengths model of recovery from physical illness and trauma holds true for people recovering from TBI during the acute transition phase of adjustment to disability. The psychosocial, cognitive, and physical characteristics which may influence these relationships are also explored. This project measures the satisfaction with life (as measured by the Satisfaction with Life Scale) and community integration (as measured by the Community Integration Measure). Character strengths are evaluated via two self-report scales. Estimates of structural brain damage are gathered via diffusion tensor imaging in three main areas of the prefrontal cortex: the dorsolateral, orbitofrontal, and ventromedial cortices. Ancillary measures are included in the design in order to elucidate the relationships between positive psychology constructs and important mediators/moderators of recovery from TBI: neuropsychological status, perceived social support, problem-solving coping style, positive and negative affectivity, and comorbid physical illness.
Field Initiated Projects (FIPs)
Nebraska

Investigation of Interventions for Sitting Postural Control in Young Children with Moderate to Severe Cerebral Palsy

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Project Number: H133G080023
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 08 $200,000; FY 09 $200,000; FY 10 $200,000; FY 11 (No-cost extension through 9/30/2012)

Abstract: This project identifies interventions that improve the quality of life for children with cerebral palsy (CP). The first intervention focuses on principles of enhancing complexity in movement variability, which has been shown to be effective in improving infant sitting postural control in previous research. The second intervention uses the paradigm of adding stochastic noise to the support surface to improve postural responses, a method used successfully in adults with decreased postural control. This project conducts three experiments: Experiment 1 utilizes nonlinear dynamics techniques to quantify changes in postural control as measured by the center of pressure time series in sitting; Experiment 2 utilizes the same children as in Experiment 1, but examines functional changes in arm use, focused attention, and play over time as sitting postural control improves; Experiment 3 examines changes in self-care, participation, and gross motor function to determine the relationship between changes in postural control and participation within the child’s environment. These experiments enhance the ability to provide better methods to treat children with moderate to severe CP; and provide a better understanding of the development of cognition, function, play, and participation for children with CP in relation to improved postural control sitting.
Field Initiated Projects (FIPs)
New Jersey

Developing Executive Functioning through Cognitive Remediation for College Students with Psychiatric Disabilities

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Project Number: H133G110239
Start Date: October 01, 2011
Length: 36 months
NIDRR Officer: Hugh Berry, EdD
NIDRR Funding: FY 11 $200,000; FY 12 $199,999; FY 13 $199,670

Abstract: This project evaluates an innovative intervention specified for college students with psychiatric disabilities. Students with psychiatric disabilities require tailored, education-specific interventions to maintain matriculation in postsecondary settings. While specialized services have been developed to help these students manage their psychiatric conditions, it has become obvious that there is a set of common skills that are missing yet critical in these same students. These skills may well represent an important layer of the “invisible disability” that goes unnoticed and could contribute to poor academic performance, high attrition rates, and poor vocational trajectory. To develop the competencies often associated with academic success, this study utilizes strategy coaching, the compensatory method of cognitive remediation. This project modifies Twamley’s Cognitive Training manual for college students in order to develop Focused Academic Skill Training (FAST). The goal of this study is to test whether individuals receiving FAST experience improved academic success such as better grades and greater number of courses completed than those receiving campus services alone at one-year follow-up.
Quality of Life in Traumatic Brain Injury Research and Practice: Development of the TBI-QOL

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Project Number: H133G070138
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Phillip Beatty, PhD
NIDRR Funding: FY 07 $199,830; FY 08 $199,414; FY 09 $199,910; FY 10 (No-cost extension through 09/30/2011); FY 11 (No-cost extension through 09/30/2012)

Abstract: The scarcity of traumatic brain injury (TBI)-specific quality of life (QOL) measurement tools hinders the efforts of TBI intervention researchers, whose goal is to obtain valid and useful data to evaluate new treatment approaches. The goals of this study are to use the Kessler Foundation’s expertise in the field of TBI research and access to large numbers of individuals with TBI in collaboration with the Neuro-QOL project to: (1) Develop an instrument for comprehensively assessing the health-related quality of life (HRQOL) of persons with TBI, regardless of the severity of their condition. (2) Enable comparisons of HRQOL in TBI with HRQOL in other neurologic conditions by integrating our instrument with the Neuro-QOL project. (3) Examine the relationships between objective deficits in cognition and self-reported subjective complaints of cognitive dysfunction. Data collection occurs at Kessler Institute for Rehabilitation, a freestanding rehabilitation hospital and outpatient settings with access to over 700 TBI patients treated each year. Data analyses and management occurs at Northwestern University, a research institution that has expertise in the development of HRQOL scales and other assessment measures. Data collection occurs at four different TBI model system programs, each of which is a seasoned data collection infrastructure which has extensive contacts with consumers and service providers in the TBI community. Focus groups are conducted with TBI consumers, caregivers, and professionals to identify relevant issues for individuals with TBI and potential items are created on the basis of these focus groups. Participants complete questionnaires either at the hospital (while waiting for doctor appointments) or at home. Some participants complete questionnaires via telephone from their residences. A smaller subset of these participants, complete a standard neuropsychological assessment at the Kessler Foundation. Focus groups of consumers and family members are held at the Kessler Foundation.
Field Initiated Projects (FIPs)
New Jersey

Improving New Learning and Memory in TBI: Applying fMRI to Measure

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Project Number: H133G090078
Start Date: October 01, 2009
Length: 36 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 09 $198,744; FY 10 $198,737; FY 11 $193,549

Abstract: Impairments in new learning and memory are among the most common deficits in persons with traumatic brain injury (TBI). This project examines the impact of a targeted behavioral intervention on functional cerebral activity using functional magnetic resonance imaging (fMRI). Research determines if improvement in learning and memory is associated with particular patterns of functional, cerebral activity on fMRI. Participants receive pre- and post-treatment fMRI evaluations, which are correlated with behavioral performance assessed concurrently. Additionally, participants complete a six-month post-treatment fMRI to examine the maintenance of treatment effects over time, as well as the impact of “booster sessions” to facilitate the maintenance of treatment effects from a neuro-functional perspective.
Field Initiated Projects (FIPs)
North Carolina

Improving Cervical and Breast Cancer Screening for Women with Intellectual Disabilities

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Project Number: H133G090124
Start Date: October 01, 2009
Length: 36 months
NIDRR Officer: Margaret Campbell, PhD
NIDRR Funding: FY 09 $200,000; FY 10 $200,000; FY 11 $200,000

Abstract: This project addresses the need for training and support for women with intellectual disabilities to understand the importance of cervical and breast cancer screening, to assert their needs and concerns to their health care providers, and to manage their anxiety related to their health care needs. The Women Be Healthy intervention is designed to empower women with intellectual disabilities to improve their self-determination and knowledge related to preventive health care practices including cervical and breast cancer screening, and to enable these women to become active and equal partners in their health care. The project has five objectives: (1) use a randomized control trial to design and test the Women Be Healthy intervention by examining its impact on women’s knowledge of cervical and breast cancer screening; (2) determine from objective evidence obtained from women’s medical records, the rates at which women with intellectual and developmental disabilities receive cervical and breast cancer screening, and the correlates of such receipt; (3) understand, from the perspective of the women with intellectual and developmental disabilities, why they do and do not receive cervical and breast cancer screening; (4) understand the barriers to receipt of cervical and breast cancer screening; and (5) to revise the Women Be Healthy intervention in response to the evidence generated through the initial research trial findings. Focus groups are conducted with women with intellectual disabilities who are enrolled in Women Be Healthy and telephone interviews are conducted with their family caregivers. The qualitative data facilitates development and testing of future interventions to increase the cervical and breast cancer screening rates of women with intellectual disabilities.

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Project Number: H133G070214
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 07 $198,701; FY 08 $199,926; FY 09 $187,385; FY 10 (No-cost extension through 9/30/2011); FY 11 (No-cost extension through 9/30/2012)
Abstract: Rates of depression and suicide in women with physical disabilities (WPD) are up to five times higher than in the general population. Despite this disparity, few intervention studies that address the specific needs of this population are available. This project uses an existing cognitive behavioral therapy intervention that has demonstrated effectiveness in reducing depressive symptoms in women without disabilities as a starting point to co-create an intervention that addresses the specific needs of WPD. The co-creation process occurs in the context of a partnership between the investigators, WPD in the community, and community-based organizations including Oregon Centers for Independent Living (CILs). The specific aims of this project are to: (1) develop a cognitive behavioral group therapy intervention to address the specific needs of WPD who experience depressive symptoms, and (2) pilot-test the intervention to preliminarily evaluate its efficacy using a using a wait-list control design. Phase I of the project involves development of the curriculum based on the following information sources: four focus groups conducted with WPD, review of empiric sources, community meetings, and feedback from our community advisors and consultants. Phase II pilot-tests the intervention using both quantitative and qualitative methods to assess its efficacy. A long-term goal of the proposed project is to increase the capacity of CILs and other community-based organizations across the country to offer a relevant, effective, accessible and affordable intervention to help WPD with depression overcome this debilitating secondary condition.
Promoting Adoption and Implementation of the Healing Pathways Program to Reduce Depressive Symptoms in Women with Physical Disabilities

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Project Number: H133G110083
Start Date: October 01, 2011
Length: 36 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 11 $199,900; FY 12 $199,900; FY 13 $199,900
Abstract: The overall aim of this project is to develop products that promote the sustainable adoption and implementation of the Healing Pathways (HP) program into disability communities, increasing options for efficacious mental health treatment for women with physical disability (WPD) outside of the traditional mental health system, promoting consumer control, and increasing quality of life for members of this population. The HP program is a strengths-based, peer-implemented cognitive behavioral group therapy program for WPD experiencing depression. This project includes an Agency Tool-Kit to guide consumer-run agencies in making information decisions about HP program adoption and implementation, and an HP Peer Facilitator Certification and Training program to ensure that when the HP program is adopted, it is implemented with safety and
**Field Initiated Projects (FIPs)**

**Pennsylvania**

**Zolpidem and Restoration of Consciousness: An Exploration of the Mechanism of Action**

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**Project Number:** H133G080066  
**Start Date:** October 01, 2008  
**Length:** 36 months  
**NIDRR Officer:** Leslie J. Caplan, PhD  
**NIDRR Funding:** FY 08 $199,553; FY 09 $197,540; FY 10 $191,313; FY 11 (No-cost extension through 9/30/2012)

**Abstract:** Severe brain damage due to traumatic or non-traumatic causes frequently results in unconsciousness (coma) and, in a minority of cases, may lead to prolonged or permanent disorders of consciousness (DOCs) including the vegetative and minimally conscious states. This project assesses the responses of patients with DOCs to single doses of zolpidem and placebo in a double blind crossover design, initially with structured caregiver reporting. Repeat studies with quantitative assessment by a trained clinician follow for those who are believed to respond to the drug. Those classified as definite drug responders, along with a matched sample of non-responders, are studied intensively with a combination of structural and functional neuroimaging and electrophysiologic studies in an exploratory fashion to develop preliminary hypotheses about the neural substrate required for responding to zolpidem. Project activities include recruiting of a national sample of individuals with DOCs to participate in a consent-based, HIPAA compliant research registry, which facilitates this and future studies. This study helps to define the potential size of the population who may benefit from zolpidem administration, encourages those who do benefit to seek ongoing clinical management, and allows formulation of hypotheses about the mechanism of drug response that can be tested definitively in subsequent research, making use of interested registry participants.
Ambulation and Secondary Complications: Participants with Chronic Spinal Cord Injury.

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Project Number: H133G090059
Start Date: October 01, 2009
Length: 36 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 09 $199,986; FY 10 $199,978; FY 11 $199,973

Abstract: A wave of recent research has identified short-term benefits of gait training for people with spinal cord injury (SCI); yet, other research suggests there may be unforeseen long-term adverse consequences of ambulation. Analysis of existing data shows that pain interference and depressive symptoms were substantially higher among ambulatory participants who were dependent on others for assistance, even when compared with wheelchair users. This project builds upon this preliminary research by testing a comprehensive mediational model of the relationships of three classes of ambulation parameters (reliance on assistive devices and orthoses, reliance on people, and functionality) with two sets of secondary conditions (pain and fatigue). Structural equation modeling is used to test the mediational model that three ambulation parameters are associated with risk of two chronic secondary conditions, which are in turn are associated with variations in participation, depressive symptoms, and quality of life. By virtue of identifying the ambulation parameters that are associated with secondary conditions and when ambulation is a counterproductive after SCI, this study guides rehabilitation professionals and consumers in choosing the most appropriate mobility option (wheelchair or ambulation) that minimizes secondary conditions, promotes community participation, and enhances quality of life.
**Field Initiated Projects (FIPs)**
South Carolina


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**Project Number:** H133G110157  
**Start Date:** October 01, 2011  
**Length:** 36 months  
**NIDRR Officer:** Kenneth D. Wood, PhD  
**NIDRR Funding:** FY 11 $199,998; FY 12 $200,000; FY 13 $200,000

**Abstract:** This project builds upon a 40-year ongoing longitudinal study of SCI to help us better understand the natural course of aging and to lay the foundation for intervention strategies to improve outcomes. This study was initiated in 1973 using a revolving panel longitudinal design with routine follow-ups every five years, and the intermittent addition of new participant samples to counter attrition (this is the eighth stage of data collection). Study enhancements include identification of age-related changes, factors predicting change, and the role of resiliency in buffering individuals from age-related declines. The project identifies the natural course of changes in employment, participation, health, life satisfaction, and self-reported problems using an expanded version of the Life Situation Questionnaire (developed in 1973). Several additional key constructs are addressed. Specific measures have been added related to aging, with more detail and diversity than those that are included in more basic large-scale data sets. The data is analyzed using sequential designs that combine cross-sectional and longitudinal elements. Researchers also identify factors related to unfavorable changes in outcomes over time by contrasting participants whose outcomes are stable with those whose outcomes have declined; and policy recommendations at the individual (recommended practices), rehabilitative (programmatic needs), and legislative federal level (allocation of funds in areas that will promote better outcomes).
Telephone and In-Person Cognitive Behavioral Therapy for Depression After Traumatic Brain Injury

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Project Number: H133G070016
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 07 $199,873; FY 08 $199,981; FY 09 $199,915; FY 10 (No-cost extension through 9/30/2011); FY 11 (No-cost extension through 9/30/2012)

Abstract: This project continues previous efforts to establish evidence-based treatments for major depressive disorder (MDD) in people with traumatic brain injury (TBI). MDD is the most common psychiatric disorder among TBI survivors and has widespread negative effects on health and functional outcomes in people with TBI. This three-armed randomized controlled trial compares in-person cognitive behavioral therapy for depression that is adapted for people with TBI (CBT-TBI), and telephone-based CBT-TBI to a usual depression care condition (UC). Previous research found that people with TBI and depression are highly interested in using psychotherapy to treat depression. Although psychotherapy is widely used in the treatment of general psychological aspects of TBI, solid evidence for the efficacy of psychotherapy for MDD in this population is absent. While CBT is the most evidence-based psychotherapy available for MDD, thus far there is only expert opinion to guide how CBT should be adapted for people with TBI (i.e., to accommodate patients with neurocognitive and neurobehavioral impairments). Therefore, this study adapts CBT specifically for people with TBI in a three-arm trial and measures the feasibility, acceptability, and potential effectiveness of this adapted intervention in both telephone-administered and in-person formats, compared with UC. The long-term goal of this research is to develop a feasible and effective manualized psychotherapy intervention to treat major depressive disorder in persons with TBI that is applicable across a wide array of settings.
Natural History of Headache Following Mild Traumatic Brain Injury

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**Project Number:** H133G090022

**Start Date:** October 01, 2009

**Length:** 36 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 09 $199,923; FY 10 $199,324; FY 11 $199,682

**Abstract:** This project evaluates headache in those with mild traumatic brain injury (TBI) with the ultimate goal of developing a clinical trial to treat post-traumatic headache (PTH). Headache is a common diagnosis after TBI with an estimate of 30 to 90 percent of those with TBI developing migrainous or other type of headache, compared to the general population with 4 percent prevalence. Based on available literature and clinical observations, individuals with mild TBI are thought to suffer from headaches more frequently compared to those with more severe injuries. This study leverages existing resources by building upon a study being currently conducted through the TBI Model System at the University of Washington examining the natural history of headache in moderate to severe TBI and addresses the problem of headaches in the full spectrum of TBI severity. This project uses similar assessment tools as in the ongoing TBI Model System’s study to describe the characteristics of PTH using standardized headache measures and classifications. Additionally, it identifies predictors of headache and compares acute and chronic headache, as well as examines the impact of headache on return to work and other outcomes. Assessments occur at injury, and 3, 6, and 12 months after injury. This study, in conjunction with the current TBIMS study, provides a comprehensive description and natural history of PTH available at present.
MenuChoice: Nutrition Program for Community-Based Group Homes for Persons with Intellectual or Developmental Disabilities

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Project Number: H133S110006
Start Date: October 01, 2011
Length: 6 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 11 $74,925

Abstract: This project develops a nutrition program, MenuChoice©, for community-based group homes for persons with intellectual or developmental disabilities (IDD). Adults with IDD experience poorer nutritional health and more nutrition-related secondary conditions than adults without disabilities. These conditions are preventable and modifiable through a safe, healthful diet, but multiple challenges preclude this much needed improvement from occurring, especially in semi-dependent populations. MenuChoice© is a nutritional health promotion system consisting of written support resources together with an online program of training. It structures the food systems of group homes, manages the dietary intake of adults with IDD, and fits seamlessly into the operations of the group home. During Phase I, a comprehensive educational schematic for online training, with all learning elements tested for feasibility and learner appropriateness and the system requirements for the information technology necessary for online implementation of the training are developed. Project results are expected to be commercially viable, empirically validated providing a unique, practical, and affordable solution to the problem of poor nutrition and nutrition-related secondary conditions in adults with IDD who live in community-based group homes.
Small Business Innovation Research (SBIR), Phase I
Oregon

HealthChecker: Development of an Accessible Web-Based Application for Self-Assessment of Personal Health and Wellness by Individuals with Cognitive

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Principal Investigator: Thomas Keating, PhD
Public Contact: 541/342-3763

Project Number: H133S110022
Start Date: October 01, 2011
Length: 6 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 11 $74,866

Abstract: This project develops and evaluates HealthChecker, a web-based application. The design employs a cognitively accessible graphic user interface to lead an individual with cognitive disabilities through a daily self-assessment routine, querying the presence or absence of symptoms such as physical pain or discomfort. Simple self-care options are presented based on user input. HealthChecker is evaluated through self-assessment with authorized persons such as family members or caregivers through push notifications and web display; thereby letting them know when help is most needed and allocate their support as effectively as possible. Participants include a group of 20 individuals with significant cognitive disabilities in supported living situations to participate in focus groups, usability testing, and feasibility evaluation. Evaluation results are used to identify requirements for full development of a deployable system.
Technology for Access and Function

With NIDRR’s research priorities, technology spans the goals of sustaining health and function, employment, and participation and community living reflecting the critical contributions of technology to successful outcomes for persons with disabilities in all these areas. At the individual level, the primary focus is on assistive technology devices that enhance the physical, sensory, and cognitive abilities of people with disabilities and assist them in participating and functioning more independently in the home, at work, in recreational settings, and at cultural and community events. At the systems level, the emphasis is on applying technology research and development in ways that enhance community integration, independence, productivity, competitiveness, and equal opportunity by mitigating or eliminating barriers found in large social systems such as public transportation, telecommunications, IT, and the built environment.

Contents

ehabilitation Engineering Research Centers (RERCs) .................................................................3
Disability and Rehabilitation Research Projects ........................................................................23
Field Initiated Projects (FIPs) ......................................................................................................24
Small Business Innovation Research (SBIR), Phase I .................................................................52
Small Business Innovation Research (SBIR), Phase II ............................................................67
Rehabilitation Engineering Research Centers (RERCs)
California

Rehabilitation Engineering Research Center: Develop and Evaluate Technology for Low Vision, Blindness, and Multi-Sensory Loss

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Project Number: H133E110004
Start Date: October 01, 2011
Length: 60 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 11 $949,490; FY 12 $949,149; FY 13 $949,892; FY 14 $949,332; FY 15 $949,198

Abstract: This project conducts a comprehensive research and development program in the area of blindness, low vision, and sensory loss, focusing on assessment, access to technology, and education in science, technology, engineering, and math (STEM). Within these three main areas, the project identifies and addresses outstanding problems faced by the different age and population groups including infants and young children, school and working age individuals, elders, returning veterans, and persons with combined visual and hearing impairments. Assessment projects include utilizing visual evoked potential technology to investigate how to best predict likely future visual ability for reading, assessing the factors leading to reading deficits in elders and veterans, determining optimal eye movement strategies for persons with blind spots in their central visual fields, and guidelines for evaluation of visual function afforded by visual prostheses. The CamIO system addresses access to graphics, appliances, and devices with visual displays and controls, using computer vision to capture finger motions relative to device controls, read display contents, and provides auditory feedback for real-time interaction. Expanding the existing computer-vision-based sign finding and sign reading research to solve practical user-oriented problems such as camera aiming and user information overload address access to signage. The project also develops a next-generation, reduced-cost variant of the Remotely Accessible Infrared Signage technology, and pursues development of special hearing aids designed to enhance wayfinding cues for people with combined visual and hearing impairments. Finally, the project partners with a major science curriculum developer to apply these and other technology to adapt widely used mainstream science curricula for universal access to support STEM education for students with visual impairments.
Rehabilitation Engineering Research Centers (RERCs)
Colorado

Rehabilitation Engineering Research Center for Cognitive Rehabilitation

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Project Number: H133E090003
Start Date: October 01, 2009
Length: 60 months
NIDRR Officer: Margaret Campbell, PhD
NIDRR Funding: FY 09 $949,999; FY 10 $949,995; FY 11 $949,999; FY 12 $949,999; FY 13 $949,999

Abstract: This project focuses on the research and development of cognitive technologies for individuals with cognitive disabilities across the life span. Cognitive technologies increase the quality of life of consumers, their families, and caregivers; expand inclusion in all aspects of life and work; and increase independence. Focusing on three main areas, this project addresses: (1) development of a product usability testing facility focusing on rigorous industry-standard product testing protocols for cognitive assistive technology; (2) development of a core software/sensor platform to support mobile animated agents used for multiple applications; and (3) development of standards—currently a critical missing link for cognitive technology information technology access and technologies. Project activities focus on the challenges of people with cognitive disabilities in obtaining and maintaining employment, and succeeding in the workplace. Moreover, this project addresses a number of specific challenges such as effective non-linear job coaching, coaching for jobs and tasks involving multiple workplace locations, returning to a task after the many types of interruptions presented in the modern technological workplace, and learning vocabulary for the workplace. Long-term project outcomes include increasing employment, job longevity, and job satisfaction for people with cognitive disabilities.
Rehabilitation Engineering Research Centers (RERCs)
District of Columbia

Rehabilitation Engineering Research Center on Hearing Enhancement

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Project Number: H133E080006
Start Date: October 01, 2008
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 08 $949,935; FY 09 $949,997; FY 10 $949,953; FY 11 $949,946; FY 12 $949,921

Abstract: This project builds and tests components of an innovative model of aural rehabilitation (AR) tools, services, and training in order to assure a better match between hearing technologies and individuals in their natural environments. Project goals include: (1) improving assessment, fitting, availability, and use of hearing technologies; (2) increasing the quality, availability, and knowledge of AR services; (3) training of consumers, service providers, and future researchers, developers, and practitioners; and (4) transferring technology and knowledge to agencies, standards bodies, consumers, and the professions who influence the communicative effectiveness of those who are deaf or hard-of-hearing. Additional component projects are designed to fall into four areas: (1) AR projects improve the assessment and treatment of individuals in need of AR; (2) hearing technology addresses the technological challenges of real-life use of assistive technologies, hearing aids, and cochlear implants; (3) training programs provide training to individuals who will become the rehabilitation innovators of the future; and (4) dissemination and advocacy programs transfer technology and knowledge to agencies, standards bodies, consumers, and hearing professionals.
Rehabilitation Engineering Research Centers (RERCs)
Georgia

Rehabilitation Engineering Research Center on Workplace Accommodations

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Project Number: H133E070026
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 07 $949,999; FY 08 $949,999; FY 09 $950,000; FY 10 $950,000; FY 11 $949,999

Abstract: The Rehabilitation Engineering Research Center on Workplace Accommodations (Work RERC) identifies, develops, and promotes new assistive and universally designed technologies that maximize independence and participation of people with disabilities in the workplace. It focuses on the application of universal design concepts to improve the utility of workplace tools and devices for all workers through research, development, training, and dissemination. Research activities investigate five topics identified by current RERC research: user needs, longitudinal cost/benefits of accommodations, strategies used by aging workers, the impact of policy on access to and utilization of accommodations, and the effect of accommodations on employee participation in the workplace. Several development activities create and validate new workplace assessment tools for use by practitioners and employees. Other development activities design, prototype, and evaluate new workplace accommodations. Universally designed workstations and human-computer interfaces are being developed. In addition, this project develops technology for workers with identified and unmet accommodation needs, including prompting aids for employees with developmental disabilities and accommodations for employees with communication disabilities. Finally, Work RERC training activities include both instruction and evaluation of training outcomes and target vocational rehabilitation professionals, workers with disabilities, and students interested in design and engineering.
Rehabilitation Engineering Research Centers (RERCs)
Georgia

Rehabilitation Engineering Research Center for Wheeled Mobility in Everyday Life

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Project Number: H133E080003
Start Date: October 01, 2008
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 08 $949,998; FY 09 $949,995; FY 10 $949,994; FY 11 $949,998; FY 12 $949,995

Abstract: This project promotes new ways of conceptualizing and understanding wheeled mobility while focusing on devices and interventions that impact device use and activity performance. This approach enables as many individuals as possible to actively participate in everyday life. Project goals include four integrated program areas in research, development, training, and dissemination that utilize a variety of methodologies and scientific approaches taking research out of the laboratory and putting it into real-world, everyday environments. Project research centers on four activities: R1. Pressure Ulcer Prevention: Susceptibility and Pressure Relief Effectiveness; R2. Effects of Mobility Device and Environmental Facilitators on Activity and Participation; R3. Improved Training to Improve Function which studies the effect of immediate video feedback on acquisition of advanced wheelchair skills, and the impact of an innovative wheelchair Tai Chi program on health, activity, and participation; and R4. Improved Wheelchair Prescription which examines effects of wheelchair type on performance of elders in public spaces and investigate how well clinicians predict the wheelchair use of their clients. Development projects address standards and test methods and commercial projects and include: D1. Development of Standards and Test Methods which develops three wheelchair cushion standards and a wheelchair test method to accurately measure the mechanical effort required to propel manual wheelchairs; D2. Inventor-Driven Product Development that assists in developing products that have been conceived by small companies and inventors; and D3. Development of Orphan Technologies, developing devices that have small markets but serve useful needs. Four training projects focus on a variety of audiences including: T1. Evidence-Based Online Wheelchair Seating and Positioning Course; T2. Advanced Rehabilitation Research Training; T3. Creating Rehabilitation Engineering and Assistive Technology Experiences; and T4. State of the Science Conference.
Rehabilitation Engineering Research Centers (RERCs)

Georgia

Rehabilitation Engineering Research Centers for Wireless Technologies

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Project Number: H133E110002
Start Date: October 01, 2011
Length: 60 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 11 $950,000; FY 12 $950,000; FY 13 $950,000; FY 14 $950,000; FY 15 $950,000

Abstract: The mission of the Rehabilitation Engineering Research Center (RERC) for Wireless Technologies is to: (1) promote access and use of wireless technologies by people with disabilities, and (2) encourage adoption of Universal Design approaches in future generations of wireless technologies. The Research Section includes two projects focused on user-center approaches to research, development, and evaluation of wireless technologies and policy initiatives to remove barriers to and promote use of wireless innovations by people with disabilities. User-Centered Research: Consumer Advisory Network (R1) is designed to provide the wireless industry and government regulators with reliable, actionable, and independent data on the needs and wants of consumers with disabilities. Policy Approaches to Accelerate Access to Advanced Wireless Technologies (R2) conducts policy research and analysis as it relates to the needs of people with disabilities, accessibility, and migratory shifts in wireless technologies. The Development Section includes two projects aimed at responding to ongoing trends in handheld technology, wireless networks, and federal policy. The App Factory (D1) is an “open (to any app developer) shop” to promote development of a variety of software applications that address needs, support independence, and improve quality of life and community participation of people with disabilities, including those with cognitive, physical, sensory, or communication disabilities. Emergency Lifelines on Wireless Platforms (D2) identifies, develops, and tests solutions for ensuring that next-generation emergency communication systems (e.g., NG 9-1-1 and mobile broadband alerting) afford full access to people with disabilities, particularly as emergency alerts move from conventional broadcast media (radio and TV) to wireless networks and devices. The Training and Dissemination Section includes three projects that promote the adoption of new knowledge into practice. The State of the Technology conference focuses on strategies for engaging consumers in rehabilitation research and engineering, impact of public policy on equitable access and migration from legacy, analog technologies to next-generation, digital technologies. The RERC’s two other training projects undertake initiatives designed to educate consumers, ser-
vice providers, manufacturers, and other professionals. Efforts include consumer workshops, university courses, an annual student design competition, and conference tutorials; all geared toward access and usability of mobile wireless technologies.
Rehabilitation Engineering Research Centers (RERCs)
Illinois

Rehabilitation Engineering Research Center on Recreational Technologies and Exercise Physiology Benefiting Persons with Disabilities (RERC RecTech)

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Project Number: H133E070029
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 07 $950,000; FY 08 $950,000; FY 09 $950,000; FY 10 $950,000; FY 11 $950,000

Abstract: This center includes a coordinated set of research, development, capacity building, and dissemination projects focused on facilitating and promoting healthier, more active lifestyles for people with disabilities. The key target areas for the research and development projects are improving access to recreation and exercise venues and equipment, increasing opportunities for participation by people with disabilities in beneficial exercise, using technology to support greater adherence to regular exercise, and promoting better health and function for people with disabilities through active lifestyles. The research and development agenda of the Rehabilitation Engineering Research Center on Recreational Technologies and Exercise Physiology Benefiting Persons with Disabilities provides the context for a growing capacity building effort targeting not only the next generation of leadership in engineering, research, and clinical practice but also infusing rehabilitation engineering concepts and principles into the curriculum of related disciplines. A broad and active dissemination program makes effective use of a non-profit organization advocating for inclusive recreation and exercise opportunities for people with disabilities: The Inclusive Fitness Coalition (www.incfit.org) currently has 53 member organizations representing the recreation and fitness industry, fitness and exercise science professionals, researchers, disability organizations, professional organizations, rehabilitation centers, and others united by a common goal of furthering inclusive opportunities for people with disabilities to participate in recreation and exercise in their own communities.
Rehabilitation Robotics and Telemanipulation Machines Assisting Recovery from Stroke Rehabilitation Engineering Research Center (MARS-RERC)

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Project Number: H133E070013
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 07 $949,775; FY 08 $949,779; FY 09 $949,751; FY 10 $949,816; FY 11 $949,754

Abstract: Machines Assisting Recovery from Stroke Rehabilitation (MARS-RERC) is a multi-institutional center designed to evaluate the utility of simple robotic devices for providing rehabilitation therapy after hemispheric stroke. The broad objective is to develop devices that assist the therapist in stroke treatments that are rationally based, intensive, and long in duration. Such devices also monitor progress, and help to improve the functional performance of stroke survivors, to increase the likelihood of their return to community and to work. The Center designs and implements a program of research and development, investigating the use of robot devices and related engineering technologies for better restoration of function in stroke survivors. The focus is largely on stroke because this is the most common neurological disorder requiring intensive and prolonged rehabilitation. Research activities center on the application of new approaches that improve recovery outcomes of the entire body during either upper extremity reach-and-grasp activities or lower body locomotion activities. MARS-RERC includes six programs of study: (1) development of new capabilities of the Lokomat® walking robot, (2) development of hand technology involving reaching, (3) development of telerehabilitation using an arm gravity-assistance device, (4) research benefits of error augmentation in relearning after stroke, (5) research benefits of over-ground walking the KineAssist® robot, and (6) training initiative on rehabilitation-oriented engineering design. Research training is a critical component that includes medical students, physician residents in physical medicine, graduate students in engineering and neuroscience, and allied health clinicians including physical and occupational therapists. There is a separate advanced education and training project dedicated to the design of robotic devices (Project 6 above) for rehabilitation as part of Northwestern University’s highly successful initiative in engineering design education. MARS-RERC is hosted at
the Rehabilitation Institute of Chicago in conjunction with multi-national partners at Northwestern University; University of Illinois at Chicago; University of California at Irvine; ETH in Zurich; and National Institute of Astrophysics, Optics, and Electronics in Puebla, Mexico.
Rehabilitation Engineering Research Centers (RERCs)  
Illinois  

Rehabilitation Engineering Research Center for Prosthetics and Orthotics  

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Project Number: H133E080009  
Start Date: October 01, 2008  
Length: 60 months  
NIDRR Officer: Thomas Corfman  
NIDRR Funding: FY 08 $949,999; FY 09 $949,999; FY 10 $949,999; FY 11 $949,999; FY 12 $949,999  

Abstract: This project improves the quality of life for persons who use prostheses and orthoses through creative applications of science and engineering to prosthetics and orthotics (P&O) through seven research projects and five development projects. These projects enhance the ability of prosthesis and orthosis users to perform activities of daily living and negotiate their daily environment safely and effectively, engage in their chosen employment/vocation, and improve their health through the safe and effective use of P&O devices. Increasing understanding about the fundamental biomechanics of standing, walking, reaching, grasping, and the corresponding utilization of P&O devices for these activities enables better evaluation and improvement upon current P&O technologies. Research is broad in scope involving lower-limb prosthetics, lower-limb orthotics, upper-limb prosthetics, analysis of spinal motion during gait in users of prostheses, and utilization of process and outcome information to improve P&O care delivery. Additional focus is given to the needs of farmers and ranchers with amputations. Development projects focus on human locomotion, reaching, grasping, and manipulation; and providing efficient and cost-effective production of prosthetic components with the goal to assist P&O clinicians in their daily practices by providing them with new mechanisms, evaluation and designs tools, and information about prosthetic/orthotic usage.
Rehabilitation Engineering Research Centers (RERCs)
Michigan

Rehabilitation Engineering Research Center on Wheelchair Transportation

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Project Number: H133E060064
Start Date: November 01, 2006
Length: 60 months

NIDRR Officer: William V. Schutz, PhD, MSW, MPH
NIDRR Funding: FY 06 $899,753; FY 07 $899,708; FY 08 $899,749; FY 09 $899,751; FY 10 $899,728; FY 11 No-cost extension through 07/31/2012

Abstract: Research conducted by the Rehabilitation Engineering Research Center on Wheelchair Transportation Safety (RERC WTS) advances the safety, usability, and independence of people who remain seated in their wheelchairs when traveling in motor vehicles. Research and development projects involve close collaboration with manufacturers, transit providers, vehicle modifiers, clinicians, and consumers to ensure quick translation of results into meaningful solutions that benefit travelers with mobility disabilities. Projects range from developing innovative solutions for forward-facing and rear-facing wheelchair passenger stations in large accessible transit vehicles, to investigating issues of school-bus transportation for children seated in WC-19 compliant and noncompliant wheelchairs, and to improving frontal- and rear-crash protection for occupants in private vehicles. Continuing research from previous grants, the RERC WTS extends the in-depth investigations of adverse events involving wheelchair-seated travelers, but also conducts a study of the transportation experience of wheelchair users in large public transit vehicles, including the process of entering and exiting the vehicle, accessing the wheelchair station, securing the wheelchair and restraining the occupant, and traveling to and from destinations. In addition to conducting research and development in six project areas, RERC WTS staff engages in information dissemination, training of future researchers, transferring innovative technology concepts to the marketplace, developing and revising voluntary industry standards, and convening the second State-of-the-Science Workshop on Wheelchair Transportation Safety. The RERC is a partnership of the University of Michigan Transportation Research Institute, the University of Pittsburgh, the University of Louisville, and the University of Colorado.
Rehabilitation Engineering Research Centers (RERCs)
New York

RERC on Universal Design in the Built Environment

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Project Number: H133E100002
Start Date: October 01, 2010
Length: 60 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 10 $950,000; FY 11 $950,000; FY 12 $950,000; FY 13 $950,000; FY 14 $950,000

Abstract: This project advances knowledge translation for universal design using a Knowledge-To-Action Model. It generates strategically important research, development, training, and dissemination deliverables that integrate universal design principles with the generally accepted models, methods, and metrics in the building and product manufacturing industries. Research and dissemination activities address three broad domains of the built environment: (1) housing, (2) public buildings, and (3) community infrastructure. Research projects produce new knowledge about needs and priorities in universal design and critical human factors data essential to resolving design and engineering problems in each of the three domains. One research project establishes a knowledge base for home modification service delivery and standards; another studies the effectiveness of current universal design standards and conducts targeted human performance studies to improve the evidence base for public building design. A third project evaluates, organizes, and improves knowledge to support and improve current policy initiatives and standards related to universal design of public rights-of-way. One set of development initiatives improves and creates consensus standards and evidence-based guidelines to implement universal design concepts through a certification and accreditation process. Another applies best practices in new product development to produce exemplar products and environments with industry partners. Training activities increase understanding and build capacity for a wide range of stakeholders through online education for professionals, research and development experiences for advanced graduate students, and outreach and assistance to design schools. Dissemination outputs include traditional refereed and trade publications, an extensive website with downloadable information products, and outreach activities related to newly emerging federal policy. The State of the Science Conference involves stakeholders in identifying knowledge gaps in practice. Collectively, these projects generate strategically important deliverables that address high priority needs that increase the adoption of universal design within the built environment.
Rehabilitation Engineering Research Center for Communication Enhancement (AAC-RERC)

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Project Number: H133E080011
Start Date: October 01, 2008
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 08 $949,965; FY 09 $949,991; FY 10 $949,901; FY 11 $949,987; FY 12 $949,993

Abstract: The mission of the Rehabilitation Engineering Research Center for Communication Enhancement (AAC-RERC) is to assist people who use augmentative and alternative communication (AAC) technologies in achieving their goals across environments. The goals and objectives of the AAC-RERC are to advance and promote AAC technologies through the outputs and outcomes of its research and development activities; and to support individuals who use, manufacture, and recommend these technologies in ways they value. The project builds on collaborative relationships with researchers and developers both in and outside of the field of AAC and assistive technology, including DynaVox Technologies, the Federal Laboratory Consortium, Department of Navy, and Research In Motion among others. Research projects include: (1) AAC technologies to reduce cognitive/linguistic load; (2) new interface strategies for AAC technologies; and (3) AAC technologies to increase usability, acceptance, and learnability. Development activities include: (1) Connecting to the World - AAC access to mainstream technologies; (2) new interface strategies for AAC technologies; and (3) usability, acceptance, and learnability of AAC technologies.
Rehabilitation Engineering Research Centers (RERCs)
Pennsylvania

Rehabilitation Engineering Research Center on Spinal Cord Injury

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Project Number: H133E070024
Start Date: October 01, 2007
Length: 60 months
NIDRR Office: Kenneth D. Wood, PhD
NIDRR Funding: FY 07 $949,999; FY 08 $950,000; FY 09 $950,000; FY 10 $949,999; FY 11 $950,000

Abstract: This center researches, develops, and evaluates innovative technologies and approaches that improve the treatment, rehabilitation, employment, and reintegration into society of persons with spinal cord injury (SCI). Research and development activities address tissue integrity management, upper extremity musculoskeletal injury prevention, and bladder function. Specific projects address: (1) the development of computational models of inflammation and healing for assessment of person-specific interventions and for general technology/intervention evaluations for pressure ulcer prevention and detection, (2) evaluation of the effects of support surface active cooling and low shear followed by development and evaluation of a novel seat cushion incorporating these features, (3) the development and evaluation of tools for manual wheelchair propulsion training, (4) the evaluation of novel manual wheelchair propulsion devices for preventing shoulder injury, (5) the evaluation of a weight shifting approach for preventing pressure ulcers, and (6) the development of preliminary computational models of inflammation and healing for evaluating bladder function and musculoskeletal injury status. The research team and collaborators include the Department of Rehabilitation Science and Technology, the Department of Physical Medicine and Rehabilitation, the McGowan Institute for Regenerative Medicine, the Department of Occupational Therapy at the University of Pittsburgh, Case Western Reserve University, Northwestern University, Baylor College of Medicine, IBM, and Immunetrics. The technology transfer program targets private and public sectors. The training and knowledge translation plan is equally broad based, targeting graduate and undergraduate students, practicing clinicians, researchers, and individuals with SCI and their caregivers.
Rehabilitation Engineering Research Centers (RERCs)
Pennsylvania

Rehabilitation Engineering Research Center on Accessible Public Transportation

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Project Number: H133E080019
Start Date: October 01, 2008
Length: 60 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 08 $948,199; FY 09 $947,430; FY 10 $947,433; FY 11 $948,113; FY 12 $947,624

Abstract: The goal of this project is to establish an effective and sustainable process to address the high priority transportation needs of people with disabilities using enabling technology and universal design. The Rehabilitation Engineering Research Center (RERC) on Accessible Public Transportation activities respond to the character of public transportation and its societal context, including its significant role in employment and social participation. The approach focuses on transportation as a travel chain where problems in early links can block access to a whole system. The project mix also leverages emerging information technologies and addresses the need for consumer-driven solutions that can be rapidly implemented and adapted to a wide range of transportation systems. Research and development activities include: (1) evaluate accessible and affordable tools for empowering consumers and service providers to collect and utilize research data, an example of “citizen science”; (2) provide an evidence base for boarding and disembarking policies, practices, and products with an in-depth examination of critical issues in vehicle ramp and interior design; (3) create a public website where riders can report on their experiences using a transportation system and software that can assist them in reaching their destination; and (4) produce guidelines, reference designs, and a demonstration bus with new vehicle interior concepts that are ready for commercialization. RERC activities also include active training and dissemination of evidence-based guidelines to stakeholders, publications, a conference, and capacity building for future research.
Rehabilitation Engineering Research Centers (RERCs)
Pennsylvania

Rehabilitation Engineering Research Center on Telerehabilitation

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Project Number: H133E090002
Start Date: October 01, 2009
Length: 60 months

NIDRR Officer: Margaret Campbell, PhD

NIDRR Funding: FY 09 $949,997; FY 10 $949,999; FY 11 $949,999; FY 12 $949,999; FY 13 $949,999

Abstract: This project conducts research and develops methods, systems, and technologies to support consultative, preventative, diagnostic, and therapeutic interventions to improve and promote telerehabilitation (TR) for individuals who have limited access to comprehensive medical and rehabilitation outpatient services. This project’s research and development activities address cognitive and vocational rehabilitation, communication technology assessment and training, TR infrastructure, and prevention and management of secondary conditions. Specific project goals include: (1) developing a scalable informatics infrastructure, (2) developing and evaluating a neuropsychological assessment protocol, (3) investigating a program of applied cognitive rehabilitation, (4) investigating the use of remote job coaching, (5) developing and evaluating a TR enhanced wellness program in spina bifida, (6) investigating the use of TR to manage chronic edema and lymphedema in individuals with mobility disabilities, (7) developing and evaluating tools for augmentative and alternative communication and computer access service delivery, and (8) TR capacity building via selected technology implementation projects and the development of a uniform dataset for TR.
Rehabilitation Engineering Research Centers (RERCs)
Wisconsin

Rehabilitation Engineering Research Center for Universal Interface and Information Technology Access

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Project Number: H133E080022
Start Date: October 01, 2008
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 08 $950,000; FY 09 $950,000; FY 10 $950,000; FY 11 $950,000; FY 12 $950,000

Abstract: This project focuses on the accessibility of information technologies and electronic products, including the technologies and products encountered in education, work, travel, and in the home and community, both online and in life, for persons across disabilities types and socio-economic levels. This project’s four goals focus on the following: (1) the development of models and measures that can lead to better policy and more useful information for designers interested in creating products that are accessible and usable across disabilities; (2) creating a collaborative effort to build accessibility directly into the Internet and address underlying issues in the area of assistive technology; (3) advancing research on and the use of personal pluggable user interfaces focusing on their effectiveness in providing access to different types of mainstream technology (Project R2) and facilitating the incorporation of interface sockets in mainstream products (Project D2); and (4) continuing to advance commercial practice around accessibility; that is, taking concepts that have proven to be effective and making commercially available products which address the needs of people with disabilities. Each of these four goals seeks to foster change in rehabilitation or commercial practice, so that people with all levels of disability and all levels of socio-economic standing have effective access to both current technology and the rapidly evolving next-generation technologies. Finally, this project focuses on capacity building in the field through training and mentoring activities in affiliation with the Biomedical Engineering and Industrial and Systems Engineering departments at the University of Wisconsin-Madison in addition to other key stakeholders engaged in making information technology more accessible for people with disabilities.
Rehabilitation Engineering Research Centers (RERCs)
Wisconsin

Rehabilitation Engineering Research Center on Telecommunications Access

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Project Number: H133E090001
Start Date: October 01, 2009
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 09 $950,000; FY 10 $950,000; FY 11 $950,000; FY 12 $950,000; FY 13 $950,000

Abstract: This project lays the foundation for access in next generation technologies and creates bridge technologies, allowing users to migrate to new communication technologies without losing access to emergency services or the ability to communicate with colleagues and family who are still on older telecommunication networks. Extending across disabilities and technology platforms, research and development activities focus on three specific issues: (1) telecommunication access in emergency situations, (2) interoperability and transition between current and next generation telecommunication access, and (3) access to telecollaboration for employment and participation. Project R1 focuses on identifying and quantifying the problems faced by people with hearing loss in using new Internet telecommunications products and networks. The project includes both a user input-gathering activity and a study to quantify the impact of Internet transmission on hearing loss. Projects R2 and D1 focus on telecollaboration and include a series of 14 sessions with consumer groups, software developers, and corporate users to identify barriers and potential strategies for increasing access to telecollaboration systems. Project D2 addresses the transition between legacy and next-generation text communication technologies. The project has two components: develop and prototype an affordable interim solution to reconnect deaf users of mobile technology who lost access to 9-1-1; and prototype a bridge technology for maintaining interoperability between old and new text communication technologies during the decade of transition to the next-generation (interoperable) text and total conversation (text, voice, and video) technologies. Project D3 provides research, prototypes, consultation, tools, and open source implementations, and other support to consumers, researchers, and industry in order to help move solutions that are already known and proven out of research labs and into commercial products, industry standards, professional practice, and the ultimately users’ hands.
Rehabilitation Engineering Research Centers (RERCs)
Wisconsin

Rehabilitation Engineering Research Center on Technologies for Children with Orthopedic Disabilities

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Project Number: H133E100007
Start Date: October 01, 2010
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 10 $872,886; FY 11 $874,960; FY 12 $885,237; FY 13 $890,728; FY 14 $890,264

Abstract: This project conducts research and development projects aimed at addressing the needs of children with orthopaedic disabilities. The overall goal of the project is to transfer and commercialize the research to offer new tools, better technologies, and improved treatment strategies for children with cerebral palsy, clubfoot, spina bifida, spinal cord injury, osteogenesis imperfecta (OI), and other conditions that cause mobility and manipulation problems. The project designs and develops devices and improved protocols that will help alert doctors, therapists, caregivers and family members of joint overload concerns. Those devices include the development of an elliptical machine to improve neuromuscular control and stability in children. Other development projects are a novel pediatric robotic gait trainer, a biplanar (3-D) fluoroscopic imaging system that allows researchers to see the internal motion of the bones inside the foot, and a customized orthotic (brace) based on sensor technologies to treat pediatric flat foot. The research projects include: gait analysis of children with OI and severe clubfoot deformity to determine strain on the femur and humerus in those using crutches in order to modify activities or design better devices to absorb forces (and thus prevent fractures) and to better direct surgeons so they are aware of high load areas; using MRI and fMRI imaging for children with cerebral palsy to assess if there are changes in brain activity as a result of surgery or robotic-assisted rehabilitation of the arms and legs; evaluation of home-based robot-guided therapy, combined with interactive game elements to keep children interested, and tele-assessment to determine effectiveness in maintaining mobility in children with cerebral palsy; and mobility modeling of the upper and lower extremities (arms and legs) to determine the relationship between internal joint forces, assistive devices, ankle arthroereisis (implants), and longer-term tissue level effects as they relate to pain and function.
Technology Access in Resource-Limited Environments

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Project Number: H133A090020
Start Date: October 01, 2009
Length: 24 months
NIDRR Officer: Pimjai Sudsawad, ScD
NIDRR Funding: FY 09 $950,000; FY 10 $950,000; FY 11 (No-cost extension through 3/31/2012)
Abstract: This project explores the factors affecting awareness of, access to, and acquisition of high-quality, low-cost assistive technology (AT) in resource-limited environments (RLEs) within developing countries and US Tribal Lands. A systematic approach is taken to investigate the following three questions: (1) what factors influence AT provision; (2) why some models of AT provision are successful and under what conditions, as collectively perceived by manufacturers, distributors, service providers, and AT users and their families or caregivers; and (3) how stakeholders can create successful AT provision programs. The project uses a comprehensive review of the current methods of AT provision in literature, focus groups, and semi-structured interviews to develop surveys which are then administered to AT manufacturers/distributors, service providers, and individuals with disabilities (IWD) in five developing countries and US Tribal Lands. The survey data identify the influential factors in successful AT provision programs and effective communication methods to reach IWD in RLEs. The Assistive Technology Access System Development Guide, an evidence-based tool, is developed and used to improve existing AT provisions or provide solutions for new programs for three contextually different RLEs case studies. Project research provides the field of AT provision in developing countries and US Tribal Lands with the quantitative research and tools to steer future action; and the evaluation mechanisms to drive change on every level from the individual up to global policy makers.
Field Initiated Projects (FIPs)
California

Global Access Information Navigator

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**Project Number:** H133G100135  
**Start Date:** October 01, 2010  
**Length:** 36 months  
**NIDRR Officer:** Joseph A. DePhillips  
**NIDRR Funding:** FY 10 $199,903; FY 11 $199,946; FY 12 $199,885

**Abstract:** This project develops a Global Access Information Navigator (GAIN) system to collect, enhance, and share location-based information to empower a person with a disability with the relevant information about their surroundings. Individuals with disabilities may use their accessible GPS device equipped with the developed GAIN software or the web interface to access real-time travel information such as transit stop locations, schedules, fares, and routes. Additionally, spatial layout descriptions including locations of audible signal lights, wheelchair ramps, accessible ticket machines, talking ATMs, stairs/elevators, and restrooms are included. Project activities include: (1) collecting transit data and evaluating existing trip planning technologies, (2) developing GAIN software, (3) developing a web interface, and (4) collecting user generated content via GAIN software and web interface.
**Modular Orthoses Prescription System (MOPS)**

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**Project Number:** H133G100268  
**Start Date:** October 01, 2010  
**Length:** 36 months  
**NIDRR Officer:** Pimjai Sudsawad, ScD  
**NIDRR Funding:** FY 10 $199,732; FY 11 $199,658; FY 12 $199,865

**Abstract:** This project creates an affordable, state-of-the-art lower extremity orthotic device prescription system, called MOPS, that interactively guides the clinician in the decision-making process of prescribing an ankle-foot orthoses (AFO) and/or knee ankle foot orthoses (KAFOs). MOPS includes a set of pre-fabricated, adjustable, modular trial orthoses, and an interactive and instructional multimedia-based software application that guides the clinician in selecting the most appropriate AFO/KAFO design and settings. A decision-tree based interface assists the clinician and patient with fine-tuning adjustments to the orthosis settings and any necessary modifications to the shoe to optimize walking function. To determine if the modular trial orthosis mimics the performance of the orthosis prescribed to the patient, it is compared with the gait performance of adult participants walking with the prototype trial orthosis and the patient’s own final custom-molded hybrid (plastic and metal) or metal orthosis (with static or dynamic joints), as well as with no orthosis. The project evaluates the outcome of the orthotic prescription with MOPS through patient and clinician satisfaction surveys and a series of focus groups.
Field Initiated Projects (FIPs)
California

A Robotic Powered Wheelchair Trainer with Haptic Guidance as Needed

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Project Number: H133G090111
Start Date: October 01, 2009
Length: 24 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 09 $100,598; FY 10 $99,402; FY 11 (No-cost extension through 9/30/2012)
Abstract: This project develops a robotic powered wheelchair (WC) system on which individuals with severe disabilities can safely learn and develop driving skills at their own pace with minimum assistance from a therapist. A powered WC is equipped with a webcam (simple video camera) to achieve a self-steering function along a training course, and a force-feedback joystick to implement an algorithm that can demonstrate (through intuitive movement and force of the joystick itself) exemplary control to follow the course, while systematically modulating the strength and sensitivity of such haptic demonstration. This method gradually exposes the individual to the dynamics of a normal powered WC, in an analogous fashion to bicycle training wheels. The idea is to let the individual learn from the experience of making errors repeatedly and safely in a structured environment, while reducing demands on the supervising therapist.
Field Initiated Projects (FIPs)
California

Electronic Tactile Displays for Braille Text and Graphics

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Project Number: H133G100072
Start Date: October 01, 2010
Length: 36 months
NIDRR Officer: Joseph A. DePhillips
NIDRR Funding: FY 10 $199,999; FY 11 $199,998; FY 12 $199,998

Abstract: The project develops a low cost, lightweight, page-size refreshable tactile display panel—Braindle, a Kindle®-like product for people with visual impairments. Braindle is equipped with WiFi and USB ports for Internet access, text messaging, printer connection, file loading, and storage. Project goals include development, device prototyping, field reliability evaluations, and the dissemination of technologies to the potential users with print disabilities. Major project activities include: (1) optimizing of the materials and processing of the diaphragm transducers (Braille dots) for enhanced overall performance, (2) developing low-cost processes for fabricating and patterning an array of diaphragm actuators on a multiple-layer polymer stack, (3) designing and fabricating the control circuitry, (4) collaborating with the Blind Children Center and Braille Institute of America to assess the quality of the prototype devices and improve the tactile comfort and device functionality for overall user satisfaction, and (5) assessing the business potential to determine the production cost, market size, and detailed plans to manufacture and distribute the Braindle devices to underserved groups. The multi-functionality, light weight, and low production cost allows Braindle to reach a significant portion of the 314 million people worldwide who have visual disabilities, including 1.3 million blind people in the US. Braindle enables children to communicate instantly in the classroom with their teachers and peers through text messages. Braindle’s graphics capabilities allow children with blindness to tactually “read” math equations, which to date have been extremely difficult to teach. In addition, the tactile display technology can be adapted to provide information accessibility for people with visual disabilities at public venues.
Field Initiated Projects (FIPs)
Delaware

Multimodal Access to Information Graphics

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Project Number: H133G080047
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Joseph A. DePhillips
NIDRR Funding: FY 08 $199,975; FY 09 $199,796; FY 10 $199,898; FY 11 (No-cost extension through 03/31/2012)

Abstract: This project addresses the accessibility of a specific class of graphics, referred to as information graphics, that consist of bar charts, pie charts, line graphs, etc. Although information graphics comprise only a subset of graphics-based information, they are prevalent in information resources and constitute a set of sufficiently similarly characterized graphics to enable automated processing. To address the accessibility of this class of graphics, this project develops a system for automatically generating multimodal representations of information graphics. The multimodal representations consist of automatically generated tactile graphics and automatically generated textual summaries designed to convey the intended core message of the graphic. This development is based on the latest research in the image processing, computer vision, statistical inference, natural language understanding, processing, and generation, as well as universal design and human computer interaction. The multimodal information graphic system (MIGS) is developed to work directly with existing tactile printers and Braille/synthesized speech output methods; and provides users with visual impairments, as well as others benefiting from multimodal displays, greater independent access to the proliferating body of information graphics. This project determines the optimal tactile graphic design methods and optimal text-base summarization approach based on preferences of potential users of the MIGS system, and evaluates MIGS component effectiveness in providing access to graphical information.
The Captioned Braille Radio Initiative: Providing Emergency Information for Individuals who are Deaf-Blind

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Project Number: H133G090139
Start Date: October 01, 2009
Length: 36 months

NIDRR Officer: Joseph A. DePhillips
NIDRR Funding: FY 09 $200,000; FY 10 $200,000; FY 11 $200,000

Abstract: This project focuses research activities on the standardization of a Captioned Braille Digital Radio service model designed to serve consumers who are deaf-blind. Individuals who are deaf-blind require technology that will allow them to obtain the same important information hearing consumers take for granted, such as emergency alerting, disaster relief information, weather, traffic reports, school closings, and breaking news. During emergencies, Americans rely on radio for crucial information to guide their decisions and behavior. The development of captioned radio for the deaf and hard-of-hearing is well under way. This project has already yielded a nationwide demonstration of a captioned radio system with off-the-shelf transmission equipment and reference receivers. Designing and implementing these Captioned Braille Digital Radio standards concurrently along with those of Captioned Radio creates a single unified accessibility standard that can be supported by all digital radio broadcasters and receiver manufacturers for both Type I and Type II Braille, including buffering for store and replay. The envisioned Captioned Braille Digital Radio service is designed to work with USB and Bluetooth connections to the consumer’s existing electronic braille systems. Service design tests and implements an effective menu structure, and provides porting support for bed-shakers and other assistive devices for activation during overnight emergencies generating immediate evacuation or shelter in place instructions, such as wildfires or tornados.
Over-Ground Gait Training with a Novel Dynamic Body-Weight Support System

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Project Number: H133G100174
Start Date: October 01, 2010
Length: 36 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 10 $200,000; FY 11 $200,000; FY 12 $200,000

Abstract: This research study determines whether intensive, over-ground gait training using a novel dynamic body-weight support system called ZeroG leads to greater improvements in walking ability than conventional physical therapy in individuals with acute hemiparetic stroke. The subject sample consists of 60 individuals with acute stroke, who are randomized into two groups: (1) conventional physical therapy focused on gait-specific tasks, and (2) gait training with the ZeroG dynamic body-weight support system. ZeroG is a new over-ground body-weight support system allowing individuals with gait disorders to practice walking over smooth or uneven surfaces, up and down stairs, and around curved walkways without the reliance on assistive devices such as canes or walkers in a safe, controlled manner. Subjects are trained daily during their inpatient stay, then 2 to 3 days per week as an outpatient for total maximum of 24 one-hour sessions. Improvements in walking ability and lower limb motor function are evaluated at baseline, after session 24, and at a 6-month follow-up, and include self-selected over-ground walking speed, endurance, balance, strength, lower limb impairment measures, gait analysis, and quality of life measures. Using the above criteria, the ZeroG gait training system is evaluated for the facilitation of the recovery of stable over-ground walking patterns in acute stroke patients beyond the gains experienced using conventional gait training interventions.
Workplace Accommodation Wizard: An Assessment and Accommodation Tool for Employers

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Project Number: H133G070063
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Shelley Reeves

NIDRR Funding: FY 07 $196,460; FY 08 $199,801; FY 09 $195,616; FY 10 (No-cost extension through 9/30/2011); FY 11 (No-cost extension through 3/30/2012)

Abstract: The purpose of this project is to develop the Workplace Accommodation Wizard that enables human resource personnel to identify employees’ needs and solutions for workplace accommodations. The Wizard includes both an employer-driven assessment tool and a rule-based system for using the assessment information to identify specific accommodations from assistivtech.net, the national public internet site on Assistive Technology (AT), which contains information on over 18,000 AT products. Development of the Workplace Assessment Wizard includes: (1) creation of the assessment protocol; (2) evaluation and revision of the protocol; (3) development of the rule set; (4) development of the web application; and (5) product testing and revision of content, usability, and accessibility. This workplace-specific assessment tool combined with a comprehensive database of AT enables human resource personnel in a variety of employment sectors to conduct a workplace assessment, find potential accommodations, read reviews of those accommodations, and find links to specific products.
Field Initiated Projects (FIPs)
Illinois

Video Gaming Technology to Promote Health and Fitness Among Adolescents with Disabilities

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**Project Number:** H133G080120
**Start Date:** October 01, 2008
**Length:** 36 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 08 $183,463; FY 09 $168,672; FY 10 $185,853; FY 11 (No-cost extension through 9/30/2012)

**Abstract:** This project adapts active video games for use by youth with physical disabilities, and assesses their feasibility and effectiveness as an exercise modality for increasing energy expenditure and improving cardiopulmonary fitness. The study is conducted in three phases: Phase I: Adaptation and Feasibility Testing; Phase II: Dose-Response Energy Expenditure; and Phase III: Cardiorespiratory Fitness Trial. In Phase I, adaptations are implemented that allow youth with disabilities to play active video games using upper extremity movement to participate in the games. The accessibility and safety of these adaptations is assessed through pilot testing, and, if necessary, modifications to the adapted video games are made based on participant feedback and observation. Researchers collect exercise intensity data associated with various games designed for both EyeToy™ (ET) and Dance, Dance Revolution™ (DDR) devices. This data is used to classify specific games into mild, moderate, and vigorous activity. Phase II examines the dose-response relationship between energy expenditure and exercise intensity for both active video games and a standard exercise modality for individuals with disabilities (arm cycling). Participants complete energy expenditure assessments for three levels of intensity (mild, moderate, and vigorous) for each exercise modality (arm cycling, DDR, and ET). Phase III is a randomized controlled trial examining the effects of active video games compared to arm cycling and normal activity controls in improving cardiopulmonary fitness in adolescent manual wheelchair users. Participants in both intervention groups take part in a 10-week, 3 days/week exercise training program designed to increase aerobic capacity. Primary outcome measures include cardiopulmonary fitness, energy expenditure, and satisfaction with physical activity.
Development of an Advanced Prosthetic Microcontroller System

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Project Number: H133G100107
Start Date: October 01, 2010
Length: 36 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 10 $199,572; FY 11 $199,647; FY 12 $199,966

Abstract: This project develops a compact control system for upper-limb prostheses that includes an advanced controller and a miniaturized analog front end for conditioning incoming electromyogram signals. The controller implements advanced prosthesis control strategies, such as pattern recognition, as well as conventional myoelectric control strategies. The control system is small enough to be embedded in transradial prosthesis and is capable of seamlessly integrating with existing prosthetic components; thereby, offering increased functionality and flexibility to a variety of individuals with upper-limb amputation without requiring the excessive costs of new prosthetic components. In addition, the controller is designed to easily incorporate advances in microprocessor design and control algorithms, and to integrate with emerging technology, such as sensory feedback devices for amputees. The control system is developed and tested in stages, beginning with designing and testing a benchtop system. Next a non-optimized embedded system is designed and tested followed by an optimized embedded system. Both the benchtop system and the optimized embedded system are used for functional testing in addition to the electronic testing. The control system is tested at each stage for its ability to control conventional prosthetic devices. This is made possible by the device adaptor developed along with the controller and analog front end. The final embedded system is tested by subjects with upper-limb amputations using both conventional and pattern recognition control to perform a variety of functional tests.
Field Initiated Projects (FIPs)
Illinois

The Development of a Commercial Rehabilitation Device to Regain Arm Function Following Stroke

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Project Number: H133G100208
Start Date: October 01, 2010
Length: 36 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 10 $197,710; FY 11 $197,888; FY 12 $197,635

Abstract: This project develops an interactive, low-cost, and inherently safe 3-D passive arm coordination training device (PACT-3D) designed to reduce the negative effect of gravity during reaching movements with the paretic upper limb. Previous results have shown that moderately to severely affected chronic stroke subjects can be trained to increase their active reaching range of motion using a progressive shoulder abduction loading paradigm, thus giving rise to this device development project. The PACT-3D is designed for use with any seating system. The PACT-3D system provides high-resolution measurements of functional performance (reaching workspace) that are readily employed in assessing the effectiveness of rehabilitation interventions. Additionally, the commercial PACT-3D system is designed for use as an assistive device and for the implementation of novel rehabilitation interventions increasing the functional reaching abilities of individuals with stroke. The system provides a safe and relatively compact intervention/measurement device that can be deployed easily even in the smallest clinics or at home. Project activities include: (1) developing a prototype of the device incorporating patented limb weight modulating technology, (2) developing a second prototype that includes automated weight support control with real-time visual feedback for measurement and therapeutic applications, and (3) testing the performance of the PACT-3D in the measurement of reaching movements and arm workspace for various levels of shoulder abduction loading in individuals with chronic hemiparetic stroke.
Field Initiated Projects (FIPs)
Illinois

Development of a Low-Cost Dilatancy-Based System for Orthotic Fabrication

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Project Number: H133G110266
Start Date: October 01, 2011
Length: 36 months

NIDRR Officer: Thomas Corfman

NIDRR Funding: FY 11 $178,097; FY 12 $169,159; FY 13 $179,996

Abstract: This project creates a dilatancy (vacuum-based) system that enables low-cost and rapid fabrication of orthoses. The project goal is to design and evaluate an orthotic dilatancy casting system for capturing the impression of a body part in order to fabricate a custom orthosis biomechanically individualized for the person with disability. This system would replace the conventional method of taking impressions using plaster bandages. The project has four phases: (1) Design and Laboratory Testing Phase—Develop equipment and procedures and to conduct laboratory testing on positive plaster models. (2) Clinical Evaluation Phase—Conduct clinical evaluations of new orthotic fabrication system on research subjects. (3) Review and Demonstration Phase—Demonstrate new orthotic dilatancy fabrication systems to practicing orthotists and students receiving orthotics education to acquire feedback and suggestions for further refinement. (4) Knowledge Translation Phase—Prepare detailed technical manuals for each validated orthotic dilatancy fabrication system for knowledge translation and hold workshops to train orthotists. Efforts are focused on five different types of orthoses that are commonly prescribed and fitted by orthotists: foot orthosis, ankle-foot orthosis, knee orthosis, knee-ankle-foot orthosis, and spinal orthosis.
Field Initiated Projects (FIPs)
Illinois

The Effect of Resistance to Participant-Supported Reaching on Workspace of the Hand in Severe Chronic Stroke

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Project Number: H133G110245
Start Date: October 01, 2011
Length: 36 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 11 $197,732; FY 12 $196,422; FY 13 $197,094
Abstract: This study utilizes the ACT3D robot, developed as part of a previous NIDRR project, to incorporate resistance to reaching while accounting for the known benefits of progressive abduction loading in individuals with severe chronic stroke. Disturbances in movement coordination are the least well understood but often the most debilitating with respect to functional recovery following stroke. These deficits in coordination are expressed in the form of abnormal muscle synergies and result in limited and stereotypic movement patterns that are functionally disabling. The result of these constraints in muscle synergies is an abnormal coupling between shoulder abduction and elbow flexion (i.e. the flexion synergy), which significantly reduces the reaching function of an individual with stroke when they lift up the weight of the impaired arm against gravity. In this project, two groups practice reaching under abduction loading; however, the experimental group also moves against resistance while reaching. Previous neurotherapeutic research has shown that the abnormal synergy between shoulder abduction and elbow flexion can be significantly reduced thus increasing total reaching range of motion in individuals with severe stroke.
Field Initiated Projects (FIPs)
Illinois

Development of a Web-Based Nemeth Code (Braille Mathematics)
Tutorial For Use by Individuals Who Are Blind

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Project Number: H133G110122
Start Date: October 01, 2011
Length: 36 months
NIDRR Officer: Joseph A. DePhillips
NIDRR Funding: FY 11 $199,999; FY 12 $199,999; FY 13 $199,999

Abstract: This project develops and disseminates a downloadable, interactive Braille math tutor, a tool to help Braille readers become fluent in Nemeth Code, the Braille code for mathematics, on an independent basis. Many people who read Braille lack the opportunity to learn Nemeth Code through the conventional method because of the scarcity of teachers who possess this competency, or through independent study because of limitations (expense and obsolescence) of the only Nemeth Code tutor currently available which is accessible to blind people. This web-based tutorial is developed to be compatible with the full range of mainstream technology products, including Windows and Macintosh computers, as well as tablets and hand-held devices.

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Principal Investigator: Linda S. Heitzman-Powell, PhD; Jay Buzhardt, PhD; 913/945-6604
Public Contact: 913/588-5588; Fax: 913/588-5916

Project Number: H133G090136
Start Date: October 01, 2009
Length: 36 months
NIDRR Officer: Doris Werwie, PhD
NIDRR Funding: FY 09 $199,910; FY 10 $199,346; FY 11 $199,979
Abstract: This project evaluates the Online and Applied System for Intervention Skills (OASIS) Training Program, a program that uses a Research-to-Practice Outreach Training model to teach parents of children with an autism spectrum disorder (ASD) how to implement empirically-based interventions with their children. The evaluation of the OASIS program includes two studies. The purpose of Study 1 is to: (1) conduct a between-group experimental analysis of the effectiveness of the final iteration of the OASIS training program developed during a previously funded development project; and (2) conduct a within-subject analysis of the effects of OASIS on parent knowledge and skill fluency with implementation of behavioral techniques with their child, family quality of life, and child language and social engagement post treatment and during follow-up measures. The purpose of Study 2 is to assess the long-term impact of the OASIS program on parents and children who previously completed training. Study 2 continues collection of family outcome, intervention-specific, and child outcome data on families who have experienced the OASIS intervention as a part of the intervention development phase in order to obtain preliminary information about long term effects.
In-depth Assessment of Wheelchair Ramp Activities and Incidents on Public Transit Buses

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Principal Investigator: Karen L. Frost, PhD 502/852-0279
Public Contact: 502/852-0279

Project Number: H133G110074
Start Date: November 01, 2011
Length: 24 months
NIDRR Officer: William V. Schutz, PhD, MSW, MPH
NIDRR Funding: FY 11 $120,097; FY 12 $79,903

Abstract: This study consists of two interrelated tasks designed to gain an improved understanding of factors influencing wheeled mobility device (WhMD) user boarding and alighting incidents: (1) a nationwide survey of WhMD users to quantify and characterize ramp-related incidents; and (2) prospective monitoring and assessment of WhMD user ramp usage on public transit buses utilizing onboard video cameras, combined with digital ramp slope measurements. Research indicates that current ADA guidelines for maximum allowable ramp slope are prohibitively steep for WhMD user ascent and descent, and ADA minimum ramp width guidelines present challenges to even the most experienced WhMD users when boarding or alighting the bus. Data from this study informs WhMD ramp-related legislation and policy, and allows for the development of WhMD ramp design guidelines and operational recommended best practices. The outcomes from this study further advance long-term goals of increasing WhMD user safety, accessibility, and usability on public transit buses.
Field Initiated Projects (FIPs)
Massachusetts

Access to Electronic and Personal Health Records

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Project Number: H133G110095
Start Date: October 01, 2011
Length: 36 months
NIDRR Officer: Hugh Berry, EdD
NIDRR Funding: FY 11 $200,000; FY 12 $200,000; FY 13 $200,000

Abstract: This project integrates accessibility requirements with usability factors in development and evaluation of prototypes to make electronic health record systems (EHRs) and personal health records (PHRs) and technology-based patient information accessible to people who have disabilities. Project activities and deliverables include: Development of field-derived user requirements including a gap analysis of accessibility and usability barriers within technology-based personal health records and patient education information products or services, offered across the continuum of in-patient, out-patient and home-care services provided by hospitals, clinics, skilled-nursing and independent-living facilities; prototype development informed by user requirements and complex use cases which meet both usability and accessibility criteria for providing equal and meaningful access to the range of medical and health-care information offered via EHRs/PHRs; and participation in national health IT usability and standard initiatives to promote review of use cases and prototypes and support inclusion of accessibility requirements in EHR and PHR requirements and certification processes.
Field Initiated Projects (FIPs)
Michigan

Preparations for In-Home Testing of Brain-Computer Interfaces
Operating Assistive Technology

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Project Number: H133G090005
Start Date: October 01, 2009
Length: 36 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 09 $199,999; FY 10 $199,997; FY 11 $199,996
Abstract: This project prepares for in-home testing of brain-computer interfaces (BCIs) among target user populations across the lifespan, including people with amyotrophic lateral sclerosis, muscular dystrophy, spinal cord injury, and cerebral palsy. BCIs have long been used in the laboratory; although their capabilities have for several years seemed sufficient to be of benefit to people with the most severe physical impairments, they have not been available for purchase or in-home use. While the BCI field has been rapidly expanding in numbers of related publications, research has largely focused on signal processing advances, not on practical hurdles to home use of BCIs. Only in the last few years have BCIs been taken out of the laboratory for testing in home environments where they can have a real impact on independence and employment. However, the input of people with physical impairments has not been pursued in an organized fashion by BCI researchers. The specific aims of the project are: (1) develop improved BCI cursor movement capabilities for integration with computer-based assistive technologies, (2) demonstrate and quantify the ability of subjects from potential target user populations to functionally use BCIs, and (3) identify and quantify the design considerations that are of the highest priority to people with specific impairments.
Field Initiated Projects (FIPs)
Michigan

Addressing Self-Management Skills through Electronic Gaming: Meeting the Needs of Underserved Individuals with SCI

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Project Number: H133G100118
Start Date: October 01, 2010
Length: 36 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 10 $199,993; FY 11 $199,997; FY 12 $199,972

Abstract: This project develops an electronic gaming application designed to facilitate skill development and promote the ability of individuals with spinal cord injury (SCI) to manage their health and interact more readily in home, health care, and community environments. Non-entertainment games that promote self-management skills have been created for asthma, diabetes, safe sex negotiations, and promoting nutrition and physical activity, and have been proven to be effective in improving self-care, reducing symptoms, minimizing secondary conditions, reducing emergency room visits, and decreasing health care costs. Using the self-management program Health Mechanics as a conceptual base, researchers and programmers at the University of Michigan have developed a game tailored for the high-risk population of 16- to 24-year-old males with SCI. A game application utilizes an iPod Touch. The game application is based on theories of behavior change as well as standard game development and design processes. The end-user, individuals with SCI from the target group play a key role in the development process both as members of the Advisory Board and participants in test groups. End-user feedback about game graphics, styling, content and situations, and their feedback about the application’s usability, relevance, and ability to engage them influences all stages of product design.
Field Initiated Projects (FIPs)
New Jersey

Improved Weight Bearing Evaluation of Knee Osteoarthritis

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Project Number: H133G080136
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 08 $199,964; FY 09 $199,480; FY 10 $198,953; FY 11 (No-cost extension through 9/30/2012)

Abstract: The objective of this project is to develop refined upright magnetic resonance imaging (MRI) and computer modeling methods that allow assessment of patients with osteoarthritis (OA) during weight bearing. To optimize available non-surgical OA treatments, refined imaging methods are needed to measure changes in knee positioning and cartilage contact while weight bearing. The project builds on pilot work that demonstrated the ability to derive quantitative measures of cartilage contact positioning from weight bearing MRI images. Three specific focus areas for development are: (1) developing a more efficient and accurate method for positioning patients with symptomatic knee OA and determining the limits of duration for weight bearing MRI scanning, (2) improving and expanding methods for maintaining consistent measurement reference frames through changing positions and loading conditions, and (3) expanding capabilities needed to describe contact area and cartilage depth at the contact sites. Researchers validate the methodological developments using laboratory experiments and a study with OA patients when lateral wedge insoles are prescribed to relieve loading of the knee’s medial compartment.
Field Initiated Projects (FIPs)
Oregon

Researching Accessibility Gaps in Transit Hub Communication Systems and Standards

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Project Number: H133G090242
Start Date: October 01, 2009
Length: 36 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 09 $199,584; FY 10 $199,842; FY 11 $199,309

Abstract: This project researches accessibility gaps within communication technologies used in transportation hubs and identifies opportunities for universal and accessible design considerations within industry communications standards. This research effort includes coordination with emergency alerting initiatives deployed or in development at the national, state, and municipal level, where communications interoperability challenges are a serious problem. Research documents the state of communications technologies and practices, both in use and in development; identifies the policies and workflows associated with information delivery; determines the transportation industry’s awareness and use of international standards for accessible interoperable communications technologies; and produces a gap assessment. Research results identify areas needing further study and/or technical solutions and provide a framework for policy recommendations and consumer advocacy including: the status of passenger communications technologies, policies, and practices, and the awareness and adoption of accessibility standards and specifications within transit hubs; and gaps in communications technologies, information flows, and interoperable standards that need to be addressed to safeguard the safety of people with disabilities. This is a project of The National Center for Accessible Transportation at Oregon State University and the WGBH National Center for Accessible Media.
The TATE Project: Training Assistive Technology in the Environment

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Principal Investigator: Laurie Ehlhardt, PhD
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Project Number: H133G090227
Start Date: October 01, 2009
Length: 36 months

NIDRR Officer: Shelley Reeves

NIDRR Funding: FY 09 $200,000; FY 10 $199,992; FY 11 $200,000

Abstract: This project develops, tests, and disseminates a systematic instructional package called the Training Assistive Technology in the Environment (TATE) Systematic Instructional Package (SIP) for assistive technology for cognition (ATC). TATE SIP is developed and evaluated in three phases. Phase 1 (Development) includes focus groups with individuals with TBI, caregivers, support staff, and professionals and pilot testing the TATE SIP materials. Phase 2 (Evaluation), evaluates the effectiveness of the TATE SIP program using single subject “multiple baseline across settings” studies, evaluating TATE SIP applied to three off-the-shelf ATC devices (Palm Tungsten E2 PDA, Olympus digital voice recorder, Timex Data Link® watch). Phase 3 (Feasibility) evaluates the ability of trainers working in everyday settings (e.g., clinicians, job coaches, and caregivers) to reliably implement TATE SIP with adults with cognitive impairments due to TBI. Outcome data measures device use (device skill acquisition), device usability (skills used in targeted environments), functional performance (activities of daily living impacted by device use), quality of life (subjective well-being), and social participation (community integration).
Field Initiated Projects (FIPs)
Oregon

**Development of a Web-based Tool for Families Impacted by the Cognitive, Behavioral, and Social Challenges of Traumatic Brain Injury**

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**Project Number:** H133G100153

**Start Date:** October 01, 2010

**Length:** 36 months

**NIDRR Officer:** A. Cate Miller, PhD

**NIDRR Funding:** FY 10 $200,000; FY 11 $200,000; FY 12 $200,000

**Abstract:** This project develops and evaluates the efficacy of an interactive, web-based information and training program; TBI Family Support: Interactive Program for Families Impacted by the Cognitive, Behavioral, and Social Challenges of TBI to improve family member knowledge and skill in supporting a loved one experiencing cognitive, behavioral, and social challenges of traumatic brain injury (TBI). Currently no comprehensive, accessible tool exists to assist families affected by TBI to become informed about and manage the complex challenges of TBI. Interactive multimedia has been shown to be effective in providing the type of specific video-based training needed by families supporting a loved one with TBI. The TBI Family Support site is developed, tested, and revised in partnership with a national group of consultants, family members, individuals with TBI, researchers, and practitioners. Product testing occurs across three phases, culminating in a randomized control trial with a national sample of family members of individuals with TBI.
Systematic Study of the Effectiveness of AAC Intervention to Improve Conversation in Individuals with Degenerative Language Disorders

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Project Number: H133G080162
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 08 $200,000; FY 09 $200,000; FY 10 $200,000; FY 11 (No-cost extension through 09/30/2012)

Abstract: This project continues previous research in alternative and augmentative communication (AAC) tool use for adults with primary progressive aphasia (PPA) resulting from frontotemporal lobar dementia. Project objectives include: (1) to test the extent to which AAC intervention is associated with changes in conversation for persons with moderate Alzheimer’s disease and persons with PPA under controlled conditions, (2) to test the extent to which AAC use is associated with daily functional changes in conversation for the two participant groups under natural conditions, and (3) to describe the behavioral and socio-relational characteristics of caregiver/partners and participants who display improved conversational skills with AAC treatment. Research is conducted with 100 adults from the Alzheimer’s Disease Research Centers in Portland, OR and San Francisco, CA. AAC devices are customized for each participant with specific vocabulary depicting autobiographical memories and functional activities. Each participant engages in a spaced retrieval priming task followed by videotaped conversations with and without the AAC device in six controlled conversations with a research assistant (Study 1), and six practical context conversations with a caregiver (Study 2). Spontaneous AAC device use in the home is tracked for six months following Study 2 conversations. This project provides scientific data that influences management guidelines to improve daily conversational functioning of persons with degenerative language loss secondary to moderate Alzheimer’s disease and PPA so that they may: (1) express their own needs and desires, (2) reduce care giving costs by facilitating communication between caregivers and their charges, and (3) increase quality of life for both caregivers and their charges with dementia.
Field Initiated Projects (FIPs)
Utah

Experimental Research on Pedestrian and Evacuation Behaviors of Individuals with Disabilities; Theory Development Necessary to Characterize Individual-Based Models

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Project Number: H133G110242
Start Date: October 01, 2011
Length: 36 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 11 $199,606; FY 12 $196,177; FY 13 $198,699

Abstract: The purpose of this study is to measure and collect the pedestrian and evacuation behaviors of individuals with mobility-related disabilities through a series of the controlled and evacuation experiments using new radio-frequency identification (RFID) technology complemented by video tracking methods. The results are both microscopic and macroscopic evacuation behavior data sets necessary for the development of well-characterized individual-based theories and models which reflect the observed patterns of evacuation behavior of a diverse population. The research objectives are to: (1) develop automated methods for measuring pedestrian trajectories in both controlled built and evacuation environments using RFID and video tracking technologies, (2) collect the pedestrian behavior data of individuals with mobility-related disabilities by experimentally observing and measuring key behaviors in controlled built environments, (3) collect the evacuation behavior data of individuals with mobility-related disabilities by observing and measuring key behaviors in realistic evacuation environment, and (4) calibrate macroscopic pedestrian flow relationships and evacuation curves from the microscopic pedestrian trajectories that are necessary for building credible and valid pedestrian and evacuation models.
Making Small Visual Displays Accessible to People with Vision Loss

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Project Number: H133G090026
Start Date: October 01, 2009
Length: 36 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 09 $199,687; FY 10 $199,888; FY 11 $199,516
Abstract: This project assesses the accessibility and usability of small visual displays (SVDs) for use by people with vision loss. SVDs can be found in products as diverse as cell phones, personal digital assistants, photocopiers, fax machines, kitchen and laundry appliances, home entertainment devices, exercise equipment, and diabetes self-management technology. Individuals with vision loss face severe limitations in using such products safely and effectively because the visual displays lack accessibility features. The “readability” of an SVD depends on two aspects – the ability of the visually impaired person to discern details and the ability of the screen to generate them. These two aspects can be quantified. Goals of this project include: (1) a replicable, and potentially commercializable, optics lab for measuring SVDs; (2) a set of standards for the design of SVDs relative to human contrast sensitivity function which is commercially valuable for product developers; and (3) a searchable, tabular analysis of the accessibility and usability of SVDs used in approximately 250 products with informative guidance for consumers to use in inquiring about accessibility of products with SVDs.
Field Initiated Projects (FIPs)
Wisconsin

Agricultural Assistive Technology Training

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Project Number: H133G100195
Start Date: October 01, 2010
Length: 36 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 10 $187,152; FY 11 $194,728; FY 12 $200,000

Abstract: Agricultural workers with disabilities across the nation struggle to continue farming despite their disability. This collaborative partnership creates a cost effective, on-line distance learning course designed for vocational rehabilitation (VR) professionals in five states, developing training opportunities and materials to assist VR staff nationwide to see agriculture as a successful vocational rehabilitation outcome and to be better prepared to assist farmers with disabilities achieve such successful outcomes. This project creates the first national training program designed to strengthen the professional competencies of VR counselors in their work with a highly underserved agricultural population. The training increases the capacity of VR counselors to provide knowledgeable and comprehensive rehabilitation and assistive technology services in achieving successful employment outcomes for rural and largely self-employed farmers and farm workers with disabilities. An Advisory Council representing Council of State Administrators of Vocational Rehabilitation, VR administrators, field counselors, Technical Assistance and Continuing Education, farmers with a disability, Easter Seals Wisconsin, AgrAbility of Wisconsin, the Wisconsin Department of Vocational Rehabilitation, and the University of Wisconsin-Extension assists in designing, reviewing, and refining the training materials developed by this project. Project results are reviewed and evaluated using surveys following the training.
Access Mainstreet: Universal Design Information Tool (UD-IT)

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Project Number: H133G100211
Start Date: October 01, 2010
Length: 36 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 10 $200,000; FY 11 $200,000; FY 12 $200,000

Abstract: The project develops and tests a software package entitled Access Mainstreet: UD-IT for handheld computers that: (1) scores and quantifies building accessibility, including ADA-ABA code, (2) details important aspects of accessibility as personalized reports that match a person’s impairments to predict problems, and (3) provides access to this information anytime and from anywhere. The development and evaluation of the Access Mainstreet: UD-IT includes five research activities: (1) developing a data collection taxonomy organized by functional components of buildings; (2) substantial testing by people with disabilities, accessibility experts, and building inspectors; (3) collecting sample and demonstration data in City of Milwaukee buildings, on UW-System campuses, and in local restaurants; (4) creating a web-based database for centralizing report access; and (5) evaluating the effectiveness of the system with psychometric studies including a pilot consequential validity study to examine impact. The initial data collection platform is created as an accessible mobile smart phone application. Building scores are stored in a central interactive database or “cloud” so that individual users do not have to worry about where the data is stored, but can obtain free reports from anywhere the Internet is available. Access Mainstreet: UD-IT reports are retrievable via both a traditional web interface and a mobile application. Both the traditional interface and mobile application platforms offer summaries, and detailed and personalized information formats with an added feature of finding facilities in the user’s immediate area on the mobile platform.
Small Business Innovation Research (SBIR), Phase I
California

**Goal-Oriented Browsing: The Next-Generation Web Accessibility Technology for People with Visual Impairments**

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**Project Number:** H133S110023
**Start Date:** October 01, 2011
**Length:** 6 months
**NIDRR Officer:** Vanessa Tesoriero
**NIDRR Funding:** FY 11 $75,000

**Abstract:** This project investigates the feasibility of goal-oriented browsing. Goal-orientation is realized by enabling usable automation of browsing tasks. This technology helps users to stay focused on high-level browsing tasks, while the browser does low-level operations such as clicking on links, filling forms, etc., that are necessary to accomplish the tasks. To enable automation, a computational model is designed to encode users’ browsing history as sequences of browsing actions. Algorithms are developed to analyze this history and infer macros, which are useful sequences of browsing actions that users could replay to automate browsing tasks. To make the model resilient towards changes in structure and content of web pages, robust addressing techniques with self-repair capability are developed. End-user interfaces are designed for usable interaction with the model and for model validation. Finally, automated experiments and extensive user studies with blind subjects are conducted to determine project feasibility.
Small Business Innovation Research (SBIR), Phase I
California

Ubiquitous Web Access for People with Visual Impairments

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Project Number: H133S110028
Start Date: October 01, 2011
Length: 6 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 11 $75,000

Abstract: This project investigates the feasibility of ubiquitous web access. The envisioned technology allows people with vision impairments access the Web from anywhere, seamlessly switching from one device to another, and continuously browsing the same web pages, from the same spot, and with favorite personalized accessibility settings. Ubiquitous web access is realized by enabling usable synchronization of personalized accessibility settings and browsing states across devices. A methodology is developed to synchronize the accessibility settings and browsing states. To test the concept, advanced accessibility features are enabled on a variety of web access devices, including desktop operating systems, web terminals, smartphones (iPhone), and the plain telephone. End-user interfaces are designed for usable interaction with the devices. Finally, automated experiments and extensive user studies with blind subjects are conducted to determine project
Development and Evaluation of an Independently Usable Interface to Facebook for Individuals with Intellectual Disabilities

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Project Number: H133S110021
Start Date: October 01, 2011
Length: 6 months
NIDRR Officer: Hugh Berry, EdD
NIDRR Funding: FY 11 $75,000

Abstract: This project develops and evaluates a software interface into the social media website Facebook that is independently usable by individuals with intellectual disabilities, including those with limited or no literacy skills. The software system provides a multimedia (e.g., voice recording, icons, text-to-speech) interface, a customizable filtering tool to limit screen features, and computer-generated prompts to guide the user using Facebook’s Software Development Kit and open development opportunities. A feasibility study is conducted to determine if the simplified multimedia interface approach can significantly increase independent access to the most commonly used Facebook features for students and adults with intellectual disabilities.
Schedule Manager: A Remote Schedule Management and Monitoring System to Support Personal Scheduling by Individuals with Intellectual and Cognitive

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Project Number: H133S110026  
Start Date: October 01, 2011  
Length: 6 months  
NIDRR Officer: Dawn Carlson, PhD, MPH  
NIDRR Funding: FY 11 $75,000

Abstract: This project develops and tests the utility of Schedule Manager, a remote schedule management and monitoring prototype designed to use mobile technology to enable real-time, “on-the-fly” changes to an individual’s schedule from remote locations and to monitor adherence to scheduled activities by individuals with intellectual and cognitive disabilities. Difficulty with time management is one of the most significant barriers that exist for individuals with intellectual and cognitive disabilities, particularly in situations where there is a need to dynamically change the individual’s personal schedule, such as a changed doctor’s appointment or work schedule. Current systems have several limitations including having to be preprogrammed by a caregiver and the lack of remote access to update the individual’s schedule. This system is developed as an application that can be made available on Apple iOS devices (iPhone, iPad, iPod Touch) as well as Android mobile devices. The project culminates in a within-subjects pilot study to test the efficacy of the approach for enabling independent and timely responses to real-time schedule changes as compared to traditional methods of updating schedules.
Small Business Innovation Research (SBIR), Phase I  
Colorado

**Visual Impact: A Cloud-Based Activity Support System to Facilitate Independence for Individuals with Intellectual Disabilities**

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**Project Number:** H133S110040  
**Start Date:** October 01, 2011  
**Length:** 6 months  
**NIDRR Officer:** Thomas Corfman  
**NIDRR Funding:** FY 11 $75,000

**Abstract:** This project develops an Internet-based system for managing and delivering “on demand” activity prompts to individuals with intellectual disabilities. This product uses “cloud” (web based) technology to deliver visual and audio prompts to individuals with cognitive disabilities via a thin-client prompting application that can run on iOS or Android mobile devices such as the iPhone, iPad, and Droid smartphones. This technology enables step-by-step task prompting to be made available to individuals using a consistent interface in any environment. In Phase I, a prototype application is developed and a pilot study conducted to assess the technical merit and feasibility of this approach for facilitating independence. These technologies offer tremendous opportunities for increasing independence of individuals with intellectual disabilities through provision of personalized, real-time activity supports in a multitude of settings, including at school, in the workplace, at home, and in the community.
Small Business Innovation Research (SBIR), Phase I
Florida

Mobile Communication App for Deaf and Hard of Hearing

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Project Number: H133S110033
Start Date: October 01, 2011
Length: 6 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 11 $74,950

Abstract: This product develops and evaluates a proof-of-concept, mobile speech-to-sign translator that integrates continuous speech recognition software with natural language processing and Vcom3D’s Signing Avatar animated American Sign Language technology. This speech-to-sign the application is designed to run on iPhone/iPod or Android smartphones, providing Deaf and hard of hearing (D/HH) learners the independence they need to benefit from opportunity-based learning in face-to-face interactions and where spoken information enhances the experience. Vcom3D has developed and distributed Signing Avatar software to assist D/HH children in school environments as well as software that help hearing persons to learn to sign.
Small Business Innovation Research (SBIR), Phase I
Florida

Mobile Signing Math Dictionaries with Mouth Morphemes for Deaf and Hard of Hearing Students

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Principal Investigator: Jason Hurdich
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Project Number: H133S110031
Start Date: October 01, 2011
Length: 6 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 11 $74,847

Abstract: Building on previous collaborations, Vcom3D and TERC develop and evaluate a Mobile Signing Math Pictionary (MSMP) that provides American Sign Language and Signed English definitions with human voice narration/lip-sync technology for Apple’s iPod Touch/iPad. Deaf and hard of hearing students lag behind their hearing counterparts not only in literacy subjects, but also in science, technology, engineering, and mathematics. The MSMP, in addition to animated signing, features the ability to include equations, charts, and visual representations of word problems that the animated character can refer to and describe in sign. The mobile version of the dictionary provides mobility and independence that leads to opportunity-based learning in classrooms, on field trips, or while studying anytime, anywhere.
Small Business Innovation Research (SBIR), Phase I  
Idaho

Foot Operated Mouse for the Disability Market

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Project Number: H133S110029  
Start Date: October 01, 2011  
Length: 6 months  
NIDRR Officer: Thomas Corfman  
NIDRR Funding: FY 11 $74,778

Abstract: This project designs, develops, and markets a foot-operated mouse that builds upon patented Dental R.A.T. technology. The foot mouse is designed to allow efficient hands-free access to all computer functions and is compatible with all operating systems/software. This foot mouse requires no special software, programming, or training. It has accurate cursor control and left/right mouse click capabilities. The foot mouse provides accessibility to computer functions for disabled users with upper limb disabilities, as well as, those who simply need access to computer mouse functions in a hands-free environment. Project objectives include: (1) determining optimum design and functional features conduct preliminary evaluations on concept design mock-ups, and (2) producing a final product specification document for further engineering and development. The foot mouse is an innovative device that has a variety of end-user applications conducive to successful commercialization.
Small Business Innovation Research (SBIR), Phase I
Indiana

iUtileyes: A Talking SmartPhone and Tablet Application that Helps People Who are Blind or Visually Impaired to Fully Utilize Devices with Visual Flat-Panel Displays

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Principal Investigator: Stephen M. Sutter 317/777-0356
Public Contact: 317/484-8400; Fax: 317/484-8401

Project Number: H133S110010
Start Date: October 01, 2011
Length: 6 months
NIDRR Officer: Joseph A. DePhillips
NIDRR Funding: FY 11 $75,000

Abstract: The goal of this project is to combine low cost consumer electronics with an innovative approach and state-of-the-art software to deliver a device capable of removing barriers in vocational settings for individuals who are blind or visually impaired. This project demonstrates the technical merit, feasibility, and cost effectiveness of combining ground-breaking image processing technology enabling optical character recognition and text-to-speech software to literally voice the information and instruct the user on navigating the user interface. During Phase I, this project develops an application that runs on a smart phone or tablet to assist individuals who are blind or visually impaired to fully and safely utilize devices, equipment, kiosks, and tools that incorporate visual flat-panel displays (VFPDs). Not only is the information displayed on these devices with embedded VFPDs not accessible, the complexity and extensive use of “soft” keys results in keys having multiple functions; this precludes the typical accessibility methods of memorization combined with Braille labels or tactile markings.
Small Business Innovation Research (SBIR), Phase I  
Indiana  

NEADL: Novel Electronic Aid for Daily Living System for People Who Cannot Use Their Hands  

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Project Number: H133S110009  
Start Date: October 01, 2011  
Length: 6 months  
NIDRR Officer: Kenneth D. Wood, PhD  
NIDRR Funding: FY 11 $75,000  

Abstract: This project researches and develops natural support mechanisms to improve the quality of life for people who cannot use their hands and must use voice command or switch interfaces to interact with their environment. This project demonstrates the technical merit, feasibility, and cost efficiency of combining commercially available electronic aids for daily living (EADL) technology with an innovative design and state-of-the-art, intelligent wireless sensors to produce NEADL—a “Novel” EADL system that (1) gives the individual exceptional flexibility and interaction with their environment through the integrated control and status of appliances and items; (2) detects the status of specific factors in the environment, and dynamically adjusts the delivery of prompts and reminders to properly instruct and/or inform the individual based on these factors; and (3) enables monitoring and automatically generates alarms and nurse calls. Interactions with environment through the integration of feedback of the status of specific elements with control of the same or different elements, greatly facilitates freedom and independence without compromising safety.
Small Business Innovation Research (SBIR), Phase I
Maryland

Using Robotics to Promote Social Cognitive Skills in the Inclusive Classroom

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Project Number: H133S100077
Start Date: October 01, 2010
Length: 6 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 10 $74,908; FY 11 (No-cost extension through 12/31/2012)

Abstract: This project develops and evaluates the technical feasibility of implementing a suite of Social Activity Modules to be used with the CosmoBot™ system, an interactive robotic toolkit, for children with autism spectrum disorder (ASD). The CosmoBot™ system is equipped with social activity modules and interactive games to engage multiple children, providing an engaging, effective mode of delivering social skills training to children with ASD. Phase I examines the technical feasibility of unobtrusive monitoring for multiple child interaction with a robot. As children with ASD gain social skills, they may experience more inclusion in social activities with peers, resulting in more positive, interactive experiences, and concomitant increases in opportunities for learning.
Small Business Innovation Research (SBIR), Phase I
Maryland

Computer and Online Software that Provides ASL Translation and Publishing Capabilities

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Principal Investigator: Corinne Vinopol
Public Contact: 301/942-4326; Fax: 301/942-4439

Project Number: H133S110002
Start Date: October 01, 2011
Length: 6 months
NIDRR Officer: Vanessa Tesoriero
NIDRR Funding: FY 11 $74,998

Abstract: This project addresses the need for improved literacy of deaf and other special needs children and youth by producing DVD and online software, myASL Publisher. This software enables a teacher or parent to publish American Sign Language (ASL) instructional material with instantaneously translated sign (graphics)-supported text, ASL with voice-over video clips that will “play” the contents, and a dictionary of the words/symbols/idioms showing sign equivalents and conceptual graphics. Text can be inputted through typing, scanning, or electronic cut/paste. The user can import artwork and video onto each “page,” draw, add other text, and print the content. Included are customizable templates for printable instructional activities (i.e., sign language BINGO cards, crossword puzzles, fingerspelling/ spelling scrambles and anagrams, flashcards, and matching games) and interactive learning “games” [SIGN-O (BINGO with ASL video prompts), spelling/fingerspelling game boards, and “Con-SIGN-tration” (memory matching game of English terms to ASL graphics)] that can reinforce selected content. The database for this assistive technology includes a 13,000 English word/5,500 sign translation dictionary developed from a NSF-funded CD-ROM product available commercially. Translation capabilities are expanded to incorporate 7,000 new English vocabulary words/phrases/ idioms, including STEM terms/ symbols (20,000 total), and 3,300+ new sign graphics/video clips (8,800 total).
Low-cost Computer Graphics Screen Reader for the Vision Impaired

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Principal Investigator: Kevin Kramer 763/515-5315
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Project Number: H133S110019
Start Date: October 01, 2011
Length: 6 months
NIDRR Officer: Joseph A. DePhillips
NIDRR Funding: FY 11 $75,000

Abstract: This project develops a multimodal computer graphics visualization tool that is based on an inexpensive consumer electronic product, a wireless haptic accessory device, and visualization software. During Phase I, a prototype is developed and compared against hard-copy embossed print outs and an expensive piezo-electric display. This research is based on the issues faced by the blind and visually impaired in gaining access to electronic graphical information such as charts, plots, and images. Accessibility features such as screen readers make electronic textual information widely accessible; however, the same is not true for graphical information.
Neurocognitive Training to Improve Executive Function

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Project Number: H133S110011
Start Date: October 01, 2011
Length: 6 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 11 $75,000

Abstract: This project develops an electroencephalography (EEG)-based training tool to enable individuals to improve neurocognitive processes associated with executive function through the use of neurofeedback, a form of biofeedback in which real-time measures of brainwave activity are presented to an individual in a manner that enables them to willfully control aspects of their brainwave activity with the goal of actively selecting desirable states or reducing time in undesirable states. In this Phase I research, high frequency activity in prefrontal cortex is the desired outcome. Beta and gamma states, characterized by EEG activity above 12Hz, are detected on the frontal scalp and used to drive custom hardware providing feedback to the subject using a novel feedback mechanism. The prototype trainer is based upon inexpensive hardware emerging from the computer gaming and home entertainment marketplace.
Automatic Accident Prevention System for Independent Wheelchair Users

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Project Number: H133S110034
Start Date: October 01, 2011
Length: 6 months
NIDRR Officer: William V. Schutz, PhD, MSW, MPH
NIDRR Funding: FY 11 $75,000

Abstract: This project develops and evaluates an accident prevention system for manual wheelchairs. A stability control system, similar to technology available for passenger cars is developed and evaluated to establish its feasibility and utility to independent wheelchair users. There were more than 80,000 emergency room visits in 2008 due to wheelchair falls. Falls cause significant physical and potentially emotional damage to wheelchair users and often lead to the user adopting a more restricted lifestyle.
Small Business Innovation Research (SBIR), Phase II
California

Development of a Robust Sensory Feedback System for Persons with Lower-Limb Sensory Deficits

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Project Number: H133S110053
Start Date: October 01, 2011
Length: 24 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 11 $278,002; FY 12 $221,997

Abstract: This project develops a system to provide auxiliary sensory feedback in the lower limbs of amputees and enhance sensory function for individuals with disabilities through functional capacity and thereby improve their mobility and quality of life. The Farus sensory feedback system detects force loads at the base of the foot or prosthesis and translates this force, via pneumatic control system, to pressures on the upper thigh using tactile balloon actuators. By providing tactile stimuli on the skin of the upper leg, the system uses a novel information feedback pathway. During Phase I of this project, Farus built on the foundation of the prior research effort by designing a sensory feedback system that is practical for activities of daily living. During Phase II this project finalizes the system design, fabricates multiple systems for clinical use, and examines system efficacy through biomechanical clinical trials.
A Navigation and Object-Location System to Assist Blind and Low-Vision Individuals in Indoor Environments

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Principal Investigator: Stephen M. Sutter
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Project Number: H133S100084
Start Date: October 01, 2010
Length: 24 months
NIDRR Officer: Joseph A. DePhillips
NIDRR Funding: FY 10 $249,998; FY 11 $249,998

Abstract: This project demonstrates the technical merit, feasibility, and cost-effectiveness of combining ground-breaking Radio Frequency Identification (RFID) technology with an innovative approach and state-of-the-art software to deliver a system capable of removing barriers in vocational settings. This system assists individuals with disabilities to orient themselves and safely navigate in vocational environments. The system also is designed to assist individuals in finding and identifying items and objects within their environment. Specific project objectives include: (1) determining end user requirements, (2) developing a proof-of-concept prototype of the system, and (3) evaluating the utility of the prototype with actual individuals who are blind or visually impaired. The system is also designed to assist individuals in finding and identifying items and objects.
Variable Position Mid-Wheel Drive System for Power Wheelchairs

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Principal Investigator: Robert M. Levy
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Project Number: H133S100082
Start Date: October 01, 2010
Length: 24 months
NIDRR Officer: William V. Schutz, PhD, MSW, MPH
NIDRR Funding: FY 10 $299,940; FY 11 $199,079

Abstract: This project designs, develops, and evaluates a fully functional prototype of a power wheelchair with a variable position mid wheel drive system. The variable position drive wheel system can be moved forward or backward from the mid wheel position using an automated simple mechanical linear motion system and electronic control system, which the power wheelchair user can easily manage, to change the position of the drive wheels. This feature is unavailable in current powered wheelchair designs. Evaluation includes extended end-user testing as well as testing against the ANSI/RESNA standards.
Cooling System for Multiple Sclerosis Patients

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Project Number: H133S100088
Start Date: October 01, 2010
Length: 24 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 10 $254,680; FY 11 $254,680
Abstract: This project develops a small mobile personal cooling system that can be worn conveniently by individuals with heat-related disabilities. The successful development of this mobile technology: (1) supports access, promotes integration, and facilitates the independence of individuals with disabilities in the workplace and educational settings, and during recreational activities; (2) provides increased freedom and independence not only to individuals with multiple sclerosis but also to other disability populations; and (3) has further applicability for workers wearing protective equipment and/or in warm work environments, including workers in commercial and industrial settings, first respondent mission arenas, law enforcement, and the military.
Small Business Innovation Research (SBIR), Phase II
Michigan

Virtual Environment for Social Information Processing (VESIP) Phase II

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Project Number: H133S110048
Start Date: October 01, 2011
Length: 24 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 11 $335,758; FY 12 $163,841

Abstract: This project builds upon on previous work on a theory-based tool that assesses and trains children with autism spectrum disorders social information processing (SIP) skills. This system, the virtual environment for social information processing (VESIP), is a significant improvement over existing measures of social skill in several ways: (1) its standardized, computer-delivered form reduces training requirements and scoring time and increases comparability across populations; (2) its theory-based assessment is designed to pinpoint specific deficits in the SIP process for later individualized intervention; and (3) its immersive, easily-customizable, game-like interface is engaging, leading to greater ecological validity and a more accurate assessment of real-world skills.
Small Business Innovation Research (SBIR), Phase II
Minnesota

Connectivity to Modern Electronics for the Hearing Disabled

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Project Number: H133S090130
Start Date: October 01, 2009
Length: 24 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 09 $223,247; FY 10 $276,753; FY 11 (No-cost extension 09/30/2012)
Abstract: During Phase II, this project continues to develop and test a wireless module system for interconnecting hearing aids with consumer electronic devices. The project uses the micro-behind-the-ear hearing aid module as a development platform. The goal is to provide a consumer electronics add-on module (audio digitizer and transmitter module) compatible with nearly all future wireless hearing aids. This new module allows hearing-aid users to directly receive high-quality sound data from cell phones, televisions, computers, MP3 players, classroom PA systems, and so forth.
Improved Hearing Aid Connection to Public Induction Loops

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Principal Investigator: Timothy Reihle 763/515-5355
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Project Number: H133S110050
Start Date: October 01, 2011
Length: 24 months
NIDRR Officer: Vanessa Tesoriero
NIDRR Funding: FY 11 $250,000; FY 12 $250,000
Abstract: This project designs, builds, and evaluates a pre-production prototype of a hearing aid using a three-axis telecoil assembly. Telecoils in hearing aids serve a dual purpose: (1) to enhance telephone conversation, and (2) enable hearing aids to serve as a wireless interface for public audio broadcasts. When broadcasting audio signals, the signal is transmitted to the telecoil sensor (a magnetic field sensor located in the hearing aid) via magnetic energy from an induction wire loop located near the listener. This induction loop can be a small assembly located in the handset of the telephone or a large wire loop within a public venue like a theatre. The design utilizes digital signal processing algorithms to process the magnetic transmissions from the induction loops.
Indoor Route Following Tool for the Blind

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Principal Investigator: Shane Anderson 763/515-5355
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Project Number: H133S110049
Start Date: October 01, 2011
Length: 24 months
NIDRR Officer: Vanessa Tesoriero
NIDRR Funding: FY 11 $250,000; FY 12 $250,000
Abstract: This project develops an indoor route following system using a novel indoor location technology. This technology allows a user who is blind to follow a path inside a building. Using this device, a visitor to a shopping mall can enter the building and follow a pre-recorded path to a specific store. The user can make his or her own path with the aid of a sighted person or download prerecorded paths that others have created for building interiors.
Haptic Feedback Improvements for Prostheses

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Principal Investigator: Pravin Chaubey
Public Contact: 405/271-2466; Fax: 405/271-2467

Project Number: H133S100094
Start Date: October 01, 2010
Length: 24 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 10 $205,591; FY 11 $205,591

Abstract: This project optimizes haptic system design parameters and more thoroughly evaluates the impact of a vibratory haptic system for prosthetics. Objectives include: (1) building a hardware and software test bed for non-invasive voluntary control of a prosthetic hand with vibratory haptic feedback, (2) optimizing the tactor application, (3) assessing the effectiveness of tactor vibratory feedback on cognitive loading interpretations, and (4) assessing perceptions of subjects regarding the actual use of haptic feedback. Specifically, Objective One involves the construction of a controlled box. Fingertip sensors on the thumb and index finger of a myoelectric arm convey pressure data to a microprocessor. Using a mapping algorithm, the processor generates a corresponding waveform that is sent to feedback devices (tactors) placed on the skin of the upper arm. Objectives Two through Four test the vibratory feedback on seven below-elbow amputees. Objective Two determines the best tactor location, vibration waveform, and time duration until deterioration in skin sensitivity occurs by measuring how well the subjects can sense a change in vibration frequency (as identified in previous work as a spectrum of interest). This information assists in determining when a resting period from vibrotactile stimulation is required to avoid over-stimulation of the skin. Objective Three tests the ability of the vibrotactile feedback to provide information on grasping force with the myoelectric hand. The myoelectric hand is controlled by the contraction intensity of the wrist extensor and flexor muscles as detected by electromyography electrodes. Trials use the myoelectric hand to grasp a plush ball at forty percent, sixty percent, and eighty percent of the subject’s maximum grasping force. Trials using vibrotactile feedback, visual feedback, and no feedback are compared. Objective Four requires the subjects to rate the system in terms of level of comfort, accuracy, user friendliness, level of discomfort, and overall usefulness in grasping activities.
Small Business Innovation Research (SBIR), Phase II
Utah

New Electro-Hydraulic Foot Prosthesis

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Principal Investigator: Harold H. Sears, PhD
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Project Number: H133S100080
Start Date: October 01, 2010
Length: 24 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 10 $238,712; FY 11 $238,712

Abstract: This project develops an electronic-controlled version of the advanced hydraulic foot/ankle (MCI Foot) demonstrating the feasibility of the automatic adjustment of resistance throughout the range of motion. The advanced MCI Foot, especially the automatic-controlled version, contributes to the function of the prosthesis wearer, resulting in advanced and more natural walking benefits. The project objectives include: (1) implementation of electric servo-valves into the existing foot-ankle design. Manual valves have been developed at present, and in preliminary testing, shown to be successful at setting the foot wearer’s preference for dorsi-flexion and plantar flexion; (2) development of sensor for ankle position, inclination, temperature, and load for integration into the ankle electronic Controller. The sensors utilize a rugged design, for long-term reliable usage in the foot, and small size to fit within the anatomical shape of the foot; and (3) implementation of an algorithm for ankle control by microprocessor. The automatic control of ankle resistance depends upon the variable of position, inclination, and load, indicating the point in the gait cycle in which the walker’s step is taken. The temperature is automatically compensated for as the hydraulic fluid warms and changes viscosity. Success in the function of the auto-controller is evaluated in-house, in the Foot Testing Center.
Participation and Community Living

NIDRR’s focus on participation follows the stated purpose of independent living programs to promote a philosophy of independent living, including a philosophy of consumer control, peer support, self-help, self-determination, equal access, and individual and system advocacy, in order to maximize the leadership, empowerment, independence, and productivity of individuals with disabilities, and the integration and full inclusion of individuals with disabilities into the mainstream of American society. NIDRR sponsors research to improve knowledge of individual- and societal-level factors that may serve as barriers to, or facilitators of, participation among all people with disabilities.

Contents

- Rehabilitation Research and Training Centers (RRTCs) .......................................................... 3
- Disability and Rehabilitation Research Projects ............................................................................ 14
- Field Initiated Projects (FIPs) ........................................................................................................ 18
- Small Business Innovation Research (SBIR), Phase II ................................................................. 39
Rehabilitation Research and Training Centers (RRTCs)
California

**Personal Assistance Services (PAS) in the 21st Century**

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**Principal Investigator:** Charlene Harrington, PhD, RN; H. Stephen Kaye, PhD; Mitch LaPlante, PhD; Robert Newcomer, PhD; 415/476-4030

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**Project Number:** H133B080002

**Start Date:** October 01, 2008

**Length:** 60 months

**NIDRR Officer:** David W. Keer

**NIDRR Funding:** FY 08 $850,000; FY 09 $850,000; FY 10 $850,000; FY 11 $850,000; FY 12 $850,000

**Abstract:** This rehabilitation research and training center focuses on: (1) improving access to Personal Assistance Services (PAS) by individuals with disabilities; (2) improving the workforce to support individuals with disabilities; and (3) understanding the complexities of the economics of PAS. This project: (1) analyzes trends in the met and unmet needs for PAS in the United States, and the changing demographics of the PAS population, and makes national and state projects of need; (2) investigates the relationship between need and economic status for working age and older groups; (3) tracks and analyzes trends in PAS participants, services, and expenditures, and federal and state Olmstead-related initiatives to expand PAS; (4) identifies state PAS policies and barriers to meeting the need for PAS; and (5) analyzes state PAS intervention strategies and factors which impact the success of expanding PAS services. Additionally, this project develops health promotion and educational tools, supports, and interventions to improve the health of caregivers and PAS users; addresses the needs of children and their family caregivers through focused research on the impact of family caregiving on employment; and examines the needs and supports for aging minority caregivers and the amount and type of caregiving provided by family or friends. Moreover, this project gathers and makes available existing strategies, and develops a model approach for emergency PAS. While monitoring and analyzing trends and demographics of paid PAS workforce, this project identifies and tracks state strategies to improve PAS worker wages and benefits; monitors state trends in the number and diversity of PAS workers, their compensation, turnover, and vacancies; and evaluates the effectiveness of state efforts. This project also identifies and makes available comprehensive information about developments in state training requirements for PAS workers and evaluation of these programs; collects and analyzes primary data on workplace PAS, AT, and employment supports; and analyzes barriers to employment among Medicaid PAS beneficiaries and whether AT lessens the need for PAS. Finally, the RRTC analyzes the role of tax laws that affect reimbursement for PAS.
Rehabilitation Research and Training Centers (RRTCs)
Illinois

Rehabilitation Research and Training Center on Aging with Developmental Disabilities: Lifespan Health and Function

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Project Number: H133B080009
Start Date: October 01, 2008
Length: 60 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 08 $849,996; FY 09 $849,997; FY 10 $849,997; FY 11 $849,992; FY 12 $849,995

Abstract: This project enhances the health, function, and full community participation of adults with intellectual and developmental disabilities (I/DD) across the life span by bolstering family caregiving capacity through a coordinated set of research, training in evidence-based practice, and dissemination activities. Research goals include: (1) improve the health and function of adults with I/DD across the lifespan, (2) enhance consumer-directed home and community-based supports, (3) reduce environmental barriers to healthy homes and community participation, and (4) improve instruments and measures to assess intervention.
Rehabilitation Research and Training Centers (RRTCs)
Kansas

Rehabilitation Research and Training Center on Measurement and Interdependence in Community Living (RRTC/MICL)

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Principal Investigator: Glen W. White, PhD 785/864-4095
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Project Number: H133B060018
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 06 $649,839; FY 07 $649,908; FY 08 $649,686; FY 09 $649,909; FY 10 $649,636; FY 11 (No-cost extension through 09/30/2012)

Abstract: The goal of this project is to increase the independence and participation of people with disabilities in their communities through the development and implementation of scientifically sound, theoretically driven, and evidence-based interventions. Researchers accomplish this through six core projects. Two research projects, one on community participation and a second on economic utility, involve development of theory-driven measurement tools. The remaining four projects include the application of these measurement tools as part of their methods and procedures. Two of these projects are interventions and two develop model assessments. The first assessment project uses secondary analysis to develop and implement a model for assessing the economic utility and health-related outcomes of participants enrolled in Home and Community-Based Service waivers. The second assessment project evaluates the effects of different independent living advocacy-service models to determine the comparative effectiveness of different models in increasing community participation. The first intervention project examines the effectiveness of personal assistance services and enhanced training to increase consumer participation in the community. The second intervention project is a multisite study that examines the effects of a consumer-led grassroots approach in identifying and removing barriers to increase community participation. Together, these projects represent a comprehensive, integrated, and robust set of activities that recognize that “disability” is an interaction between the characteristics of an individual and his or her environment.
Rehabilitation Research and Training Centers (RRTCs)

Kansas

Rehabilitation Research and Training Center on Community Living

The University of Kansas
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Principal Investigator: Glen W. White, PhD 785/864-4095 (V/TTY)
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Project Number: H133B110006
Start Date: October 01, 2011
Length: 60 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 11 $849,810; FY 12 $849,659; FY 13 $849,921; FY 14 $849,941; FY 15 $849,752

Abstract: The goal of the Rehabilitation Research and Training Center on Community Living (RRTC/CL) is to increase the continuity of community living and full community participation of people with disabilities through the development and implementation of scientifically sound, theoretically driven, and evidence-based data analysis and interventions. The RRTC’s 13 core projects represent a comprehensive, integrated and robust array of activities promoting community participation among people with disabilities. These projects recognize “disability” as an interaction between the characteristics of an individual and his/her environment. Six research projects conduct secondary data analyses to provide a knowledge foundation about how the barriers to and experiences of community living may differ across socio-demographic and geographic groups within the diverse population of individuals with disabilities. Five intervention projects evaluate the efficacy of programs, policies and practices to improve services and supports that provide community participation opportunities for individuals with disabilities. These interventions address consumer participation needs in the areas of housing, health, recreation, and civic and community involvement. Several of these address the services and supports needed to transition from institutions, nursing homes, and other health and community institutions to the community and to maintain continuity of community living. Project investigators and staff regularly work with consumers with disabilities to incorporate their input on individual projects, as they are planned and implemented. The Center employs and adds to the latest knowledge translation approaches to disseminate research results that target multiple audiences, including advocates, policymakers, and program planners. The goal of the dissemination plan is to translate knowledge to allow scientists, policymakers, consumers, and consumer advocates in the area of disability and independent living to create and maintain greater opportunities for community living and participation of people with disabilities.
Rehabilitation Research and Training Centers (RRTCs)
Massachusetts

ENhancing ACTivity and Participation for Persons with Arthritis
(ENACT)

Trustees of Boston University
Physical Therapy and Athletic Training
College of Health & Rehabilitation Sciences
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Principal Investigator: Julie J. Keysor, PhD
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Project Number: H133B100003
Start Date: October 01, 2010
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 10 $799,983; FY 11 $799,968; FY 12 $799,992; FY 13 $799,988; FY 14 $799,992

Abstract: This project advances, disseminates, and applies knowledge in rheumatological rehabilitation—an interdisciplinary field that integrates rheumatologic, musculoskeletal, neurological, behavioral, and social systems to optimize activity and participation among persons with arthritis. Project objectives include: (1) advancing science regarding effective interventions to optimize activity and enhance social, community, and work participation among persons with arthritis; (2) developing a team of interdisciplinary rheumatology rehabilitation clinical researchers knowledgeable in disablement, rehabilitation, rheumatology, and clinical research methods; and (3) disseminating knowledge, resources, and programs to consumers, providers, and researchers to promote activity and participation among persons with arthritis. These project objectives are addressed by a series of nine inter-related project activities: Project 1: “Efficacy of a Modified Vocational Rehabilitation Intervention for Work Disability” is a randomized controlled trial examining work disability outcomes of a structured intervention that poses solutions to work barriers identified by persons at risk of work loss; Project 2: “Can Computer-Based Telephone Counseling Improve Long-Term Adherence to Strength Training in Elders with Knee Osteoarthritis?” is a randomized controlled trial of a telecommunications physical activity adherence program for older adults with knee osteoarthritis; Project 3: “Community and Home Participation after Total Knee Replacement” is an epidemiological and qualitative study examining factors associated with poor participation outcomes post total knee joint replacement; Project 4: in partnership with Massachusetts Chapter of the Arthritis Foundation, a series of community consumer forums is produced addressing knee osteoarthritis for members of underrepresented groups in the Greater Boston area; Project 5: a series of inservices and webinars are conducted to disseminate knowledge to providers of persons with arthritis; Project 6: a state-of-the-science conference on enhancing activity and participation for persons with arthritis is conducted; Project 7 is a partnership with the Arthritis Foundation to train new leaders of the Arthritis Foundation Exercise Program for future implementation of the program in underrepre-
sented communities; Project 8: Development and evaluation of a new online program to help adults with knee osteoarthritis problem-solve the potential challenges experienced when initiating physical activity programs; and in Project 9: Development and evaluation of a new online program providing resources for adults with arthritis optimizing job retention. Additionally, this project implements and evaluates a structured mentored training program developing a new group of scientists in the field of rheumatological rehabilitation.
Rehabilitation Research and Training Centers (RRTCs)
Minnesota

Rehabilitation Research and Training Center for Community Living and Employment for Individuals with Intellectual and Developmental Disabilities

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Project Number: H133B080005
Start Date: October 01, 2008
Length: 60 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 08 $850,000; FY 09 $850,000; FY 10 $850,000; FY 11 $850,000; FY 12 $850,000

Abstract: The Rehabilitation Research Training Center for Community Living (RRTC/CL) conducts intervention and outcome research to generate and share knowledge about community living, employment, and self-determination. Through compressive study of individual outcomes of a random sample of 10,300 adults with intellectual and developmental disabilities (I/DD) from 15 geographically representative states, this project studies intervention programs in self-determination, relationship building, employment, direct support professional training, and the first US and largest ever trial of the active support model of organizational and staff support of persons with I/DD. Additionally, this study identifies and evaluates existing instrumentation in community living outcome studies. The RRTC/CL conducts quantitative intervention, outcome studies, and research synthesis on the state of knowledge and practice and case studies of organizations exemplifying transformations and practice needs in order to achieve full inclusion. Through training, conferences, and technical assistance this project provides an integrated “intramural” training program that develops a “next generation” of skilled disability researchers and professionals. This includes the RRTC/CL College of Direct Support, a national, multimedia, interactive, Internet-based training program.
Rehabilitation Research and Training Centers (RRTCs)  
Oregon

Rehabilitation Research and Training Center for Pathways to Positive Futures: Supporting Successful Transition for Youth and Young Adults with Serious Mental Health Conditions

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Principal Investigator: Nancy M. Koroloff, PhD 503/725-9675  
Public Contact: Donna Fleming, Center Manager 503/725-8313; Fax: 503/725-4180

Project Number: H133B090019  
Start Date: October 01, 2009  
Length: 60 months  
NIDRR Officer: Leslie J. Caplan, PhD

NIDRR Funding: FY 09 $800,400; FY 10 $800,400; FY 11 $800,400; FY 12 $800,400; FY 13 $800,400

Abstract: This project incorporates research, targeted training, and dissemination while adhering to a single conceptual framework of synthesizing research guided by an intervention approach. This framework focuses on building assets in four areas: (1) self-determination and positive identity, (2) youth- and young adult-directed decision making, (3) skills for adult roles, and (4) supportive relationships with peers and adults. The eight research projects (R1-R8) employ randomized controlled trial design, focusing on testing the efficacy of an intervention and improving outcomes for transition-age youth and young adults with serious mental health conditions. R1: My Career Vision tests an approach to career planning and employment for young adults, ages 21 to 25, who are receiving Social Security Insurance or extended special education services. R2: Better Futures tests a comprehensive intervention to assist young people in foster care with serious mental health conditions to prepare to participate in post-secondary education. R3: Achieve My Plan studies the efficacy of an approach to helping young people lead their mental health treatment planning teams, and to build service capacity to support youth engagement. Two projects develop and test assessment inventories: R4: Transition Policy Consortium develops an inventory that assesses the level of community support for transition services with a specific emphasis on measuring collaboration and continuity of care between the child and adult mental health systems; and R5: Finding Our Way furthers the development of a culturally specific self-assessment tool for American Indian/Alaskan Native youth, ages 13 to 19, and the tool is modified to include issues relevant to transition. Training, supervision, and coaching materials are produced to improve provider practice. R6: eHealth examines the ways youth and young adults use the Internet to find information about mental health care, conditions, symptoms, or medications. The R6 project identifies the kinds of information that young people look for, tracks their search processes, and assesses how they verify the accuracy of the information they find; then uses this information to develop and test an eHealth literacy curriculum.
R7: Recovery Outcomes analyzes data from the System of Care National Evaluation related to young people’s recovery outcomes. R8: Mediators of Stigmatization analyzes data from nationally representative samples of youth and young adults, and uses this information to identify potentially effective anti-stigmatization strategies.
Rehabilitation Research and Training Centers (RRTCs)
Pennsylvania

Rehabilitation Research and Training Center on Participation and Community Living of Individuals with Psychiatric Disabilities

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Principal Investigator: Mark Salzer, PhD 215/204-7879
Public Contact: Katy Kaplan 215/204-6779; Fax: 215/204-3700

Project Number: H133B100037
Start Date: October 01, 2010
Length: 36 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 10 $850,000; FY 11 $850,000; FY 12 $850,000

Abstract: The research of this center focuses on two core areas: (1) Enhancing the capacity of individuals and systems to maximize participation and community living through the advancement of theory, measures, methods, and intervention knowledge, with a focus on Centers for Independent Living, specific (education, parenting, mental health care) and broad participation domains, and efforts to address disparities in understudied areas; and (2) increased incorporation of mental health research findings into practice and policy through systematic reviews, partnering with multiple stakeholders to advance the use of knowledge, and providing training, dissemination, and technical assistance to change behaviors and practices of key stakeholders. The goal of this Center is to ensure, in the wake of the Olmstead decision, that individuals with psychiatric disabilities not only move from institutional care to more integrated settings but also are free to choose to participate in a wide range of roles in their communities. This Center capitalizes upon longstanding collaborations among three Philadelphia-based central partners, experience derived from previous research, and trusting and mutual partnerships with multiple stakeholders. These guarantee the project’s ability to conduct research that advances knowledge that meets the needs of end-users and effectively translate this knowledge into innovative, next generation policies and practices.
Developing Strategies to Foster Community Integration and Participation (CIP) for Individuals with Traumatic Brain Injury

The Institute for Rehabilitation and Research (TIRR)
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Principal Investigator: Angelle M. Sander, PhD
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Project Number: H133B090023
Start Date: October 01, 2009
Length: 60 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 09 $849,956; FY 10 $849,968; FY 11 $849,955; FY 12 $849,966; FY 13 $849,980

Abstract: This rehabilitation research and training center conducts three research projects and five training projects, providing a comprehensive approach to improving participation in all areas of community integration for all persons with traumatic brain injury (TBI), including minorities. Research Project 1 is a randomized controlled trial of a community-based contextualized intervention to improve memory and memory-related participation activities. This trial compares the effectiveness of a contextualized memory intervention provided in the participant’s home to standard instruction in use of a memory notebook for improving functional memory and community participation. Research Project 2 is a randomized controlled trial of an extended case coordination service to maximize access to and benefit from state vocational rehabilitation services. This trial compares employment outcomes for persons receiving a case coordination intervention to those only receiving a referral for state vocational rehabilitation services. Research Project 3 develops a comprehensive list of symptoms of TBI and based on this list, creates a classification system for persons with TBI utilizing symptoms, and barriers and facilitators for community integration. This system deploys an innovative, user-friendly, web-based application. Training and technical assistance activities facilitate the widespread dissemination of educational materials on evidence-based strategies for improving function and participation after TBI. Training projects focus on increasing capacity for social networking and on providing education to persons with TBI, caregivers, and treating clinicians, in order to maximize community participation. Training is also conducted in use of the classification system to assist researchers and clinicians in allocating persons with TBI to appropriate treatments. Technical assistance activities are also conducted to improve implementation of training activities and to maximize resulting community integration.
National Center for Parents with Disabilities and Their Families

Through the Looking Glass
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Principal Investigator: Megan Kirshbaum, PhD; Paul Preston, PhD
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Project Number: H133A080034
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 08 $500,000; FY 09 $500,000; FY 10 $500,000; FY 11 (No-cost extension through 3/30/2012)

Abstract: The National Center for Parents with Disabilities and Their Families targets three national populations: parents with diverse disabilities, family members, and service providers and trainees who have a particularly critical impact on parents. The Center’s activities target the most critical issues facing parents with disabilities and their families: custody and parental evaluations, family roles and personal assistance, paratransit, and intervention with parents with cognitive and intellectual disabilities. The overall goal of this project is to improve the quality of life among parents with disabilities and their families. This goal is met by incorporating the project’s research, development, training, and technical assistance and dissemination activities into four project objectives. The four project objectives are: (1) increase the national availability of accessible and disability appropriate resources for parents with diverse disabilities and their families; (2) increase knowledge of parenting with a disability among diverse parents, family members, and providers; (3) increase informed practice and informed decisions regarding parenting with a disability among providers; and (4) increase state and local legislative and policy changes to decrease discrimination against parents with disabilities and their children. The Center conducts eight separate research and eight new development projects; provides technical assistance to at least 8,000 parents and providers; conducts focused trainings to 12,000 diverse parents and providers; and nationally disseminates at least 200,000 project materials and products consolidated from Center activities as well as from other NIDRR-funded projects. Center activities are guided by the following basic principles: (1) utility to parents, family members, and service providers; (2) social change to improve the lives of parents with disabilities and their families; (3) consumer involvement as integral to all activities; (4) value of consumer-based knowledge; (5) value of diverse perspectives; (6) use of multiple and accessible formats; and (7) dissemination and utilization as interactive and ongoing processes.
Families with Disabilities through the Life Cycle: Disability Culture Perspectives

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Project Number: H133A110009
Start Date: October 01, 2011
Length: 60 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 11 $500,000; FY 12 $500,000; FY 13 $500,000; FY 14 $500,000; FY 15 $500,000

Abstract: This project incorporates two inter-related and overarching frameworks for all project activities: (1) to understand and document the life cycle of families with diverse disabilities – from those parents with and without disabilities who are at the initial stages of having an infant with a disability, through children with disabilities growing up to become parents with disabilities to adults with disabilities caring for their elderly parents; and (2) to use the perspectives of disability and Deaf communities to inform all project activities with an overall goal to increased participation and community living for individuals with disabilities and their families. Project goals focus on research, development, training, technical assistance, and dissemination activities: (1) increase the national availability of accessible and disability-appropriate resources for families with disabilities that incorporate perspectives drawn from diverse personal and family disability experiences across the life cycle; (2) increase families’ and providers’ knowledge about families with disabilities across the life cycle; (3) increase informed practice and informed decisions regarding families with disabilities across the life cycle; and (4) increase state and local legislative and policy changes to decrease discrimination against families with disabilities.

This project targets four national populations: (1) parents and grandparents with diverse disabilities, (2) children with diverse disabilities, (3) members of families in which a parent or child has a disability, and (4) service providers and trainees. Over five years the DRRP (1) conducts 7 separate research and 18 new development projects; (2) provides technical assistance to at least 25,000 parents, family members, and providers; (3) conducts focused trainings to 10,000 diverse parents and providers; (4) nationally disseminates at least 200,000 project materials and products consolidated from project activities as well as from other NIDRR-funded projects. Project activities are designed to address critical gaps in knowledge and resources that impact the daily lives of the families with disabilities. Each of these research, development and training projects target different facets of families with diverse disabilities – from national prevalence and demographics to understanding the perspectives of families at different stages of family formation to discriminatory or uninformed practice.
Disability and Rehabilitation Research Projects
Massachusetts

A Center on Postsecondary Education for Students with Intellectual Disabilities

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The Institute on Community Inclusion
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Project Number: H133A080042
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 08 $500,000; FY 09 $500,000; FY 10 $500,000; FY 11 (No-cost extension through 9/30/2012) (No-cost extension through 9/30/12)

Abstract: This center conducts research and disseminates information on promising practices that support individuals with intellectual disabilities (ID) to access inclusive postsecondary education resulting in improved long-term independent living and employment outcomes. Additionally, the Center addresses the gaps in knowledge about the participation of individuals age 13 to 26 with intellectual disabilities in postsecondary education programs by: (1) conducting a national survey to collect new national data from postsecondary programs that serve students with ID to identify key characteristics (e.g., recruitment, retention, college course access, use of accommodations) and promising practices of postsecondary education programs at community colleges, vocational-technical schools, and four-year colleges that currently serve students with ID, including dual enrollment programs; (2) conducting a secondary analysis using three existing national longitudinal datasets to determine whether variations in educational, vocational, employment, and independent living outcomes for students with ID are associated with participation in different types of postsecondary education programs; (3) compiling existing and developing new technical assistance materials, including replicable promising practices for postsecondary education institutions that are developing new or expanding existing services and programs for students with ID; and (4) disseminating both new and existing technical assistance and informational materials in partnership with existing training and technical assistance providers, including the NIDRR Research and Dissemination Centers, to all key stakeholders including students with ID and their families. The Institute for Community Inclusion works in collaboration with TransCen, Inc.
School Transition & re-Entry Program (STEP): Systematic Hospital-to-School Transition for Students with Traumatic Brain Injury

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Project Number: H133A060075
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 06 $300,000; FY 07 $300,000; FY 08 $300,000; FY 09 $300,000; FY 10 $300,000; FY 11 (No-cost extension through 9/30/2012)

Abstract: Due to the absence of effective procedures for transitioning students from hospital to school, many students with traumatic brain injury (TBI) who need specialized services are not identified for special education. This lack of identification can lead to inappropriate services, and perpetuates the lack of awareness of TBI among school professionals. This project utilizes a systematic approach to developing, testing, and disseminating a comprehensive hospital-school transition intervention, called the School Transition & re-Entry Program (STEP). Researchers evaluate the effectiveness of the STEP intervention, which includes referral to a school-based transition specialist, long-term tracking of student performance, and parent advocacy training in a three-phase research plan. Following the Phase I development period involving focus groups and interviews with parents, hospital staff, and school personnel, and a year-long pilot test (Phase II), the project evaluates the effectiveness of the transition intervention in a multi-site randomized control trial (Phase III).
Field Initiated Projects (FIPs)

Arizona

Deaf Interpreter Certification Project: Certifying Intermediary Interpreters Who Are Deaf to Ensure Effective Communication for the Deaf, Hard of Hearing, and Deaf-Blind

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Project Number: H133G110100
Start Date: October 01, 2011
Length: 36 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 11 $199,998; FY 12 $199,946; FY 13 $199,990

Abstract: This project develops empirically based, criterion-referenced certification tests for deaf interpreters. Relay interpreting with an intermediary interpreter who is deaf (deaf interpreter) provides the critical link in accommodating the significant range of language abilities and deficits present in this population (e.g., alingualism, semiligualism, close vision/tactile American Sign Language [ASL] for the deaf-blind, and others). Accommodating these diverse communicative modalities, educational deprivations, and language deficits requires strong proficiency in standardized, non-standardized, and highly idiosyncratic visual gestural communication (VGC) styles. Deaf interpreters specialize in the non-standard VGC styles that meet the culturally, educationally deprived, socially, regionally, or dialectically idiosyncratic communication needs of a significant proportion of the Deaf, hard of hearing, and deafblind communities. The ASL Proficiency Test and Deaf Interpreter Performance Test ensures certified deaf interpreters possess the requisite knowledge, skills, and abilities to competently perform their duties. The development and administration of these Deaf Interpreter Certification Tests builds upon existing empirical research and University of Arizona’s National Center for Interpreter Testing Research and Policy’s widely accepted interpreter testing model, which has been successfully applied to the development of Texas’ ASL/English Interpreter Certification Tests and the NIDRR-funded (2004-2008) Trilingual (ASL/Spanish/English) Interpreter Certification Tests, both of which have been validated and proven effective with a national audience.
Executive Function and Participation in Daily Life in Children with Down Syndrome

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Project Number: H133G100197
Start Date: October 01, 2010
Length: 36 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 10 $189,923; FY 11 $189,923; FY 12 $189,923

Abstract: Recent evidence suggests that individuals with Down syndrome (DS) demonstrate deficits in adaptive, goal-directed behaviors called executive function (EF) skills; however, a systematic assessment of EF skills in this population has yet to be conducted. This project investigates the specific nature of the EF profile in DS as it relates to participation in daily living activities at home and school for individuals with and without intellectual disabilities. The goals of this cross-sectional research project include: (1) systematically examine the profile of executive function (EF) skills (e.g. working memory, inhibition, shifting, and planning) in school-aged individuals with DS comparing the results to children with idiopathic developmental delays (DD); (2) examine the nature of the relationship between EF skills and participation in daily life (e.g. self-care, classroom participation) while controlling for IQ; and (3) to explore age-related changes in the EF profile in DS cross-sectionally. The evaluation of children with idiopathic intellectual disabilities provides a comparison group thereby allowing researchers to determine if a specific profile is associated with DS or if the impairments of participating in daily life related to EF are associated with intellectual disability in general. Participants (n=35 DS, n=35 DD; CA range = 60 to 120 months) are matched on chronological age, nonverbal mental age, and receptive language age. Measures include standardized tests; experimental tasks including a previously piloted, state-of-the-art EF battery; and both teacher and parent-report measures of participation in daily activities including the revised, computerized Pediatric Evaluation of Disability Inventory and the School Function Assessment. Outcomes of this project identify the specific aspects of the DS cognitive profile related to participation in daily life. This provides a foundation for developing more effective, evidence-based interventions to ultimately maximize the inclusion of individuals with DS into society.
Assessing Safety Risk after Traumatic Brain Injury

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Project Number: H133G080153
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 08 $199,896; FY 09 $199,613; FY 10 $199,965; FY 11 (No-cost extension through 9/30/2012)

Abstract: This project develops a standardized, ecologically valid measure of safety risk in persons ages 16 and older who have sustained mild complicated, moderate, or severe traumatic brain injury (TBI). An ecologically sensitive item bank is developed to assess the wide range of potential safety issues that persons with TBI face in everyday living situations. Focus groups are conducted with primary stakeholders including persons with TBI, family caregivers, and service providers to establish content validity. Item Response Theory methodologies, specifically Rasch analysis, are used to calibrate items along a hierarchy matching item difficulty to the safety abilities of persons with TBI. Based on Rasch analyses, the safety measure for persons with TBI generates safety risk probability scores on four scales theorized to be causative factors: physical capacity, cognitive capacity, perceived susceptibility to harm (judgment), and self-regulation (impulsivity). Ecological and prognostic validity is established using family journals in which unsafe behavior of persons with TBI is recorded and rated.
Field Initiated Projects (FIPs)
Georgia

Language and Literacy Outcomes of Preschool Children with Traumatic Brain Injury

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Principal Investigator: Juliet Haarbauer-Krupa, PhD; Tricia King, PhD (Georgia State University); Justine Wise (Oglethorpe University); 404/785-3284
Public Contact: Juliet Haarbauer-Krupa, PhD 404/785-3284; Fax: 770/977-4268

Project Number: H133G110109
Start Date: October 01, 2011
Length: 36 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 11 $199,293; FY 12 $194,698; FY 13 $197,772
Abstract: The purpose of this study is to identify language and reading outcomes in young children with traumatic brain injuries (TBI) who are at high risk for disabilities that impact their academic performance and vocational outcomes. This study lends insight into the severity of long-term pediatric TBI outcomes via a longitudinal design with measurements taken at three time points: at the time of study entry between the ages of 6 years to 6 years, 11 months; one year later between the ages of 7 years to 7 years, 11 months; and the third time point between the ages of 8 years and 8 years 11 months. TBI research participants are compared to a matched control group who sustained an orthopedic injury with no TBI. Cognitive (executive function), language, and reading measures are assessed in both groups to examine concurrent relations between deficits in cognitive and language abilities that may explain the extent of reading performance. In addition to these performance measurements, researchers examine injury and family environmental variables and their relationship outcomes. Cognitive and language predictors of reading outcomes are determined by regression analysis with reading measures as the dependent variable and cognitive and language measures as predictors.
Field Initiated Projects (FIPs)
Kansas


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Principal Investigator: Linda S. Heitzman-Powell, PhD 913/945-6604
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Project Number: H133G110131
Start Date: October 01, 2011
Length: 36 months
NIDRR Officer: Hugh Berry, EdD
NIDRR Funding: FY 11 $200,000; FY 12 $200,000; FY 13 $200,000

Abstract: This project seeks to address the access and training deficit for Spanish-speaking parents of children with autism spectrum disorders (ASD) by adapting the Online and Applied System for Intervention Skills (OASIS) Training Program for use with parents who speak Spanish and have a child with an ASD to teach them how to implement empirically-based interventions with their child. The development of this program proceeds across five phases: (1) initial project development, (2) translation and adaptation of existing training resources for Hispanic caregivers, (3) formative evaluation and revision, (4) full program evaluation and revision, and (5) final analysis and preparation for dissemination. During training, parents practice the techniques discussed in that week’s online tutorials with their child while receiving guidance and immediate feedback from a bilingual clinician with a background in behavior analysis and trained to implement OASIS. Program effectiveness is evaluated based on: parental knowledge and skill fluency, child adaptive behaviors, and reported family quality of life. In addition, families complete exit surveys to elicit feedback regarding program improvement and any problems they experienced, particularly regarding cultural and/or language barriers experienced.
Field Initiated Projects (FIPs)
Kansas

Accommodations and ADA for Post-Secondary Students with Disabilities

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Project Number: H133G090222
Start Date: October 01, 2009
Length: 36 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 09 $199,997; FY 10 $199,627; FY 11 $199,146

Abstract: This project develops an accommodations training technology (ATT) designed to maximize the skills of students with disabilities to advocate for accommodations needed to succeed in postsecondary educational settings. The ATT uses evidence-based research from a recently completed single-subject research study that empirically demonstrated post-secondary students’ improvement of their self-advocacy skills and knowledge about their legal rights and responsibilities under the ADA, by participating in a researcher-designed training package. The new program further enhances the previous work by using a state-of-the-art interactive computer program that is scaleable and meets the preferences of the target population, coupled with a skills based training component that is both flexible and portable (e.g., hand-held electronic devices via interactive text with graphics, Adobe Flash, Apple Quicktime, enhanced iPod and MP3 media formats). The project goal is to provide postsecondary students with disabilities the knowledge and skills to acquire needed ADA accommodations in postsecondary educational settings.

The objectives are: (1) utilize the Consumer Empowered Team participant advisers to review and update current content curriculum and design a facilitator manual; (2) design online components to deliver the ATT model; (3) replicate face-to-face application of the ATT model in Round 1 with six students with disabilities at one university setting; (4) replicate the revised (from Round 1) ATT model in Round 2 with 24 students with disabilities at 2 universities, using online applications and facilitator manual; (5) conduct a pilot test of the finalized (from Rounds 1 and 2) ATT model with 60 students with disabilities at 2 universities; and (6) develop and implement a marketing plan to distribute and publicize the product that results from this development project.
Field Initiated Projects (FIPs)
Kentucky

TerpTube: An Accessible Online Portfolio for Deaf Mentors and Sign Language Interpreters

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Principal Investigator: Daniel Roush 859/622-8892

Project Number: H133G110190
Start Date: October 01, 2011
Length: 36 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 11 $199,938; FY 12 $199,961; FY 13 $199,982

Abstract: This project develops an accessible online environment that supports mentoring between Deaf users of American Sign Language (ASL) and sign language interpreters in an effort to promote language and cultural competence. The web-based project software builds on social networking concepts and the sharing of personal digital videos in a one-stop-shop mentoring portfolio system (TerpTube). Deaf mentors provide asynchronous annotations to video-recorded interpretations in their native ASL. Likewise, interpreters benefit from seeing ASL video-based annotations since this, not text, provides the most appropriate format for modeling ASL. The ability to add video-based ASL annotations to video is accomplished through the application of SignLinking technology originally developed by partners at Ryerson University. In addition to applying SignLinking, the TerpTube mentoring portfolio system is integrated with existing online mentoring projects as well as a social networking website. It also includes accessible interpreter practice materials, mentoring best practices, and tips for setting up a mentoring business. This project addresses the need to increase involvement of Deaf ASL users in the education of professional sign language interpreters.
Field Initiated Projects (FIPs)
Massachusetts

**Life Skills: Transitioning from Homelessness and Isolation to Housing Stability and Community Integration**

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**Project Number:** H133G090046
**Start Date:** October 01, 2009
**Length:** 36 months

**NIDRR Officer:** Pimjai Sudsawad, ScD
**NIDRR Funding:** FY 09 $199,998; FY 10 $199,994; FY 11 $199,998

**Abstract:** This randomized control trial implements, evaluates, and disseminates a life skills intervention to increase skills necessary for achieving housing stability and community participation and living for 150 homeless adults with disabilities. These skills include home and self-care management, food management, financial management, and safe community participation. The objectives of this study are to: (1) evaluate the ability of the intervention to improve housing stability and increase participants’ level of community integration, including the steps they take toward employment and self-sufficiency; (2) identify the feasibility issues inherent in delivering interventions to this highly vulnerable population; and (3) train agency staff and peer mentors to enable project sustainability. This three-year project is a partnership between Boston University, HomeStart, the Pine Street Inn, and the National Center for Family Homelessness. These Boston-area partner agencies offer Housing Search, Housing Stabilization, and Housing First programs, which provide a diverse set of conditions for implementation evaluation. The project uses a manualized intervention that was developed for a previous project with homeless adults with mental illness and is based on empowerment theory, social learning theory, and the model of human occupation.
Do Animations Facilitate Symbol Understanding in Children with Autism?

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Project Number: H133G100187
Start Date: October 01, 2010
Length: 36 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 10 $199,996; FY 11 $197,259; FY 12 $197,259
Abstract: This project investigates the use of animation to facilitate the understanding of graphic symbols for verbs and prepositions in children with autism and/or pervasive developmental disorders — not otherwise specified, and if so, which animated graphic set is most effective. This project designed two studies involving the widely used Picture Communication Symbols (PCS), and the newly designed ALP Animated Graphics Set to gather benchmark data on the effects of animations versus static images for verbs and prepositions in preschoolers without disabilities across three age groups. Guessability and ease of identification are monitored as outcomes. Additionally, investigators assess the preferences of children with autism and their parents for both symbol format (animated, static) and symbol type (ALP, PCS) to determine the social validity of these symbols. Study results contribute to evidence-based knowledge on (1) symbol selection, (2) rehabilitation technology infusion, (3) improving existing symbols, and (4) enabling future preference-enhanced intervention research.
Field Initiated Projects (FIPs)
Michigan

The Effects of a Bicycle Training Intervention on Health, Physical Activity, Sleep, and Community Participation in Youth with Down Syndrome and Autism Spectrum Disorders

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Project Number: H133G090006
Start Date: October 01, 2009
Length: 36 months
NIDRR Officer: Margaret Campbell, PhD
NIDRR Funding: FY 09 $195,188; FY 10 $196,819; FY 11 $200,000
Abstract: This three-year study utilizes a randomized trial design to determine the effects of an individualized bicycle training intervention on functional performance, time spent in moderate to vigorous physical activity, patterns of sleep, and community participation and integration of youth with Down Syndrome (DS) and autism spectrum disorder, aged 9 to 18 years. Participants who are randomly assigned to the experimental group (EXP) receive the bicycle training during the first year while the control group (CON) does not receive the bicycle training until the second year but receives alternative educational or community-based lessons while they wait. After receiving their bicycle training intervention, participants in the EXP and CON groups are monitored for 24 months to help determine the frequency of bicycle riding, environmental factors that influence the frequency of bike riding; the frequency of falls; their pattern of night time sleep; the amount of time they spend in sedentary, light, moderate, and vigorous physical activity; self and parent perceptions of their riding skill; with whom they ride, where in the community they ride their bicycle; and in what other activities they participate in their community. At entry into the study, none of the participants are able to ride a two-wheel bicycle.
Field Initiated Projects (FIPs)
Montana

Participation Interference Patterns: Investigating the Relative Impact of Pain and Environmental Barriers on Participation

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Project Number: H133G110077
Start Date: October 01, 2011
Length: 36 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 11 $199,980; FY 12 $199,945; FY 13 $199,977

Abstract: This study examines the impact of pain and environmental barriers on community participation. The study includes a population-based random sample of 350 participants aged 18 to 65 with mobility and sensory impairments in a longitudinal, population-based study of community participation. Researchers collect 3 surveys over 12 months to analyze general patterns of pain intensity, environmental barriers, and participation. The study employs a technology-based measurement strategy called Ecological Momentary Assessment (EMA) that uses handheld computers (i.e., iPod Touch) to more closely examine the temporal relationships between these three variables. This investigation of the dynamic ecological model of disability and participation explores participation interference patterns that emerge from the interaction of environmental barriers and pain. The study has three goals: (1) increase understanding of how personal factors like pain interact with environmental barriers like physical accessibility to influence community participation in adults with mobility and sensory impairments living in the community, (2) establish methods that rehabilitation researchers and practitioners can use to better evaluate the dynamic interplay of personal and environmental factors on participation outcomes, and (3) publish results that rehabilitation scientists and practitioners can use to enhance interventions and increase participation of adults with disabilities.
Peer-to-Peer Project: A Peer Support Network for Students with Significant Intellectual and Developmental Disabilities in Higher Education

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Project Number: H133G100226
Start Date: October 01, 2010
Length: 36 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 10 $195,506; FY 11 $188,867; FY 12 $196,832
Abstract: This project develops a network of undergraduates at the School of Education, to provide peer supports to students with significant intellectual and developmental disabilities (I/DD) taking classes at Syracuse University (SU). SU has two programs for students with I/DD: OnCampus, through the Syracuse City School District (a dual enrollment program for students up to age 21 in high school); and the Access Program, with Onondaga Community Living (for students over age 21 who have finished high school). Students with I/DD at SU audit courses to meet personal, academic, and vocational goals. The Peer-to-Peer Project operates from an innovative, universally designed, and person-centered framework that uses Peer support students in flexible, individualized ways, as needed by students with I/DD to fulfill goals and maximize inclusion. Peer support students commit to one year that includes training through a three-credit independent study option. To reduce the potential of a medicalized helping model and increase age-appropriate peer interactions, all students also interact socially, through social activities and the use of texting. The project begins as a one-semester pilot, fully implemented, and is expanded in years two and three to include greater numbers of participants. Intensive mixed-methods evaluation occurs at all phases, and is supervised by an external evaluator.
Field Initiated Projects (FIPs)
North Carolina

Improving Money Management Skills in Veterans with Psychiatric Disabilities

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Project Number: H133G100145
Start Date: October 01, 2010
Length: 36 months

NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 10 $198,320; FY 11 $198,141; FY 12 $199,785

Abstract: This project evaluates a pilot-tested, stake-holder informed intervention grounded in principles of psychiatric rehabilitation designed to develop money management skills and informed financial judgment among veterans with psychiatric disabilities. Veterans with psychiatric disabilities face unique challenges concerning money management. Financial strain, money mismanagement, and homelessness have been well documented among veterans with psychiatric disabilities and linked to poor outcomes. Steps for Achieving Financial Empowerment (SAFE) is an individualized, psycho-educational intervention that teaches veterans with psychiatric disabilities how to save money, create a viable budget, avoid money scams and financial exploitation, and access vocational and mental health resources. Two-hundred veterans with psychiatric disabilities are randomly assigned to two groups: (1) the SAFE intervention or (2) a “usual care” control, and interviewed at baseline and six months. By fostering financial skills and judgment, the SAFE increases employment, boosts work motivation, and reduces disablement; thereby reducing psychiatric symptoms and homelessness among veterans with psychiatric disabilities and bolstering self-determination and empowerment within this population.
Web Therapy to Improve Outcomes After Traumatic Brain Injury in Young Children

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Project Number: H133G060167
Start Date: December 01, 2006
Length: 36 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 06 $149,379; FY 07 $147,834; FY 08 $146,762; FY 09 (No-cost extension through 11/30/2010); FY 10 (No-cost extension through 11/30/2011)
Abstract: This project adapts an online family problem solving tool for families of young children with traumatic brain injury (TBI) (I-InTERACT: Internet-based Interacting Together Everyday - Recovery After Childhood TBI) and compares it to an Internet resource comparison group (IRC) in a randomized clinical trial. Participants include families of 40 children, aged 3 to 8 years, who experienced a moderate to severe TBI 1 to 24 months prior to study participation. In I-InTERACT, a trained counselor guides families through a six-month structured online parenting skills-building program via a website and one-on-one videoconference sessions. The IRC group receives computers, high-speed Internet access, and links to brain injury information and resources, but not the I-InTERACT website content or synchronous sessions. Primary outcomes, to be assessed pre- and post-treatment, include parenting behaviors (e.g., warmth, responsiveness, and criticism) and parent-child communication. Secondary outcomes include child behavior problems and parent psychological distress. The overarching goal of this project is to reduce the risk of long-term behavioral problems and disability in young children following TBI by equipping parents with increased coping and parenting skills in a cost effective fashion.
Deaf Off Drugs and Alcohol: Evaluating a Technology-Assisted E-Therapy Program for SUD Treatment

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Project Number: H133G110285
Start Date: October 01, 2011
Length: 36 months
NIDRR Officer: Hugh Berry, EdD
NIDRR Funding: FY 11 $84,324; FY 12 $62,629; FY 13 $53,045

Abstract: This project investigates the effectiveness of Deaf Off Drugs and Alcohol (DODA) based on five outcome measures: the Substance Abuse Screener in American Sign Language, Addiction Severity Index, Satisfaction with Life Scale, Rosenberg Self-Esteem Scale, and Beck Depression Inventory, which is administered before substance use disorder (SUD) treatment and six months after SUD treatment has begun. Numerous barriers exist when attempting to provide culturally-appropriate SUD treatment to persons who are Deaf and Hard of Hearing (Deaf). These include a lack of accessible community-based treatment providers, a low geographic census of Deaf persons who are referred to treatment at any given time, difficulties in maintaining anonymity for Deaf individuals in treatment, minimal alternatives for accessible self-help support groups, and a general lack of information about SUD and Deafness by SUD treatment and Deaf service providers. Since 2008, the DODA Program has provided culturally appropriate cessation and recovery support services via a telemedicine program to Deaf individuals who are clinically diagnosed with a SUD. DODA is a collaborative effort of the Substance Abuse Resources and Disability Issues Program at the Boonshoft School of Medicine at Wright State University; the Consumer Advocacy Model Program in Dayton (Montgomery County, OH); the Deaf Community Resource Center; Communication Service for the Deaf of Ohio; and the Ohio Department of Alcohol and Drug Addiction Services.
Field Initiated Projects (FIPs)
Ohio

Developing College Campuses as Transition Settings for Students with Severe and Multiple Disabilities Aged 18-21

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Project Number: H133G080158
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 08 $199,973; FY 09 $199,871; FY 10 $199,973; FY 11 (No-cost extension through 9/30/2012)

Abstract: This project is designed to address need for sustainable, community-based programs for students with severe and multiple disabilities (SMD) aged 18 to 21 by using the college campus as a transition setting. It also addresses the need for SMD transition professionals to obtain skills in the areas of person-centered planning, community partnering, and interagency collaboration. Students with SMD are enrolled in a college-level continuing education class on life planning provided by Kent State’s Career Services Center. A university instructor directs this class, and collaborating SMD professionals and Kent State students receive service learning credits for providing person-centered planning and individualized campus activities for the participating students with SMD. These planning and campus activities are coordinated with students’ individual education and employment plans. Students with SMD are also enrolled in at least one college-level class each semester to assure that they have access to all of Kent State’s services including career planning, health and wellness, student employment, extracurricular activities, and life-long learning opportunities. To achieve these outcomes, project staff pursue five objectives: (1) develop college classes for 30 students with SMD that engage practicing and prospective transition professionals in their life and career planning; (2) develop and implement daily campus activities for 30 students with SMD based on their life plans; (3) engage students with SMD, their teachers, university faculty, and other transition stakeholders in evaluating, refining, and supporting this model; (4) develop materials for replication of this model; and (5) disseminate and replicate this project at other universities.
Defining Success: Web-Based Transition Training for Students with Traumatic Brain Injury

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Project Number: H133G110126
Start Date: October 01, 2011
Length: 36 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 11 $199,999; FY 12 $199,999; FY 13 $199,999

Abstract: This project develops and evaluates the efficacy of an interactive, web-based information and training program, Defining Success: Web-based transition training for students with traumatic brain injury (TBI). The program includes modules for (1) students with TBI to teach them self-determination, self-advocacy, and problem-solving strategies to cope with the challenges of TBI; (2) parents of students with TBI to help them better understand the on-going challenges following adolescent TBI and how to support their child in the transition process; and (3) educators, to increase their awareness of the needs of students with TBI and their families and to teach them how to modify transition materials to meet the needs of these students. The website includes a secure tracking portal, accessible by all members of the transition team, via the website or cell phone. The Defining Success site is developed, tested, and revised in partnership with a national group of consultants, family members, students with TBI, parents, and educators. Product testing occurs across three phases, culminating in a randomized control trial with a national sample of school-based teams consisting of students with TBI, parents, and educators.
Field Initiated Projects (FIPs)
Oregon

Parent-Infant Interaction Project (PIIP)

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Project Number: H133G080132
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 08 $199,945; FY 09 $199,950; FY 10 $199,938; FY 11 (No-cost extension through 9/30/2012)

Abstract: The Parent-Infant Interaction Project (PIIP) develops an evidence-based curriculum for implementation by parents with intellectual disabilities and their professional or paraprofessional coaches within natural environments to enhance parent-infant interaction and child development. Goals of PIIP include: (1) develop a research-based curriculum, coaching model, and training materials for use by parents with intellectual disabilities and their coaches in a collaborative process to enhance the parent-infant relationship and nurture child development; (2) conduct single subject studies of the effects of the PIIP coaching model, curriculum, and training materials, including multiple-baseline design studies across goals and the collection of additional qualitative data; and (3) field-test and evaluate the coaching model, curriculum, and training materials through a multi-method study across three different types of early childhood/parent support programs. Partners in PIIP include Early Head Start and Early Intervention/Early Childhood Special Education, as well as a program providing supports for parents with intellectual disabilities. The PIIP coaching model incorporates innovative strategies and applies technology that is accessible to individuals with intellectual disabilities. Innovative strategies include a model for coaching that focuses on self-determination and empowerment of parents as advocates and decision-makers for themselves and their child. The Infant-Caregiver Interaction Scale provides a tool to guide collaborative observation, goal-setting, and continuous feedback for parents and their coaches. The project develops accessible technology, including a DVD of examples of interaction activities with video-modeling, for use in coaching parents as they learn strategies to enhance parent-infant interaction within daily play activities. Strategies for planning individualized accommodations includes easy-reading/picture activity schedules and menus, audio prompts, social stories, and self-management systems to address parent-child needs.
Field Initiated Projects (FIPs)
Oregon

Randomized Field-Test of the Internet-based Safer and Stronger Program for Women with Disabilities

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Project Number: H133G100237
Start Date: October 01, 2010
Length: 36 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 10 $200,000; FY 11 $200,000; FY 12 $200,000

Abstract: This project studies an Internet-based interpersonal violence (IPV) prevention program specifically designed to meet the unique needs of women with diverse disabilities. Researchers collaborate with three centers for independent living (CILs) to implement three interrelated studies: (1) a pilot study ensuring the consistent implementation of the field-test and the fidelity of protocols; (2) an Internet Safer and Stronger Program (SSP) Field-test Study; and (3) a Member-checking Focus Group Evaluation designed to provide qualitative feedback about receiving and delivering the Internet-based SSP. The SSP provides information about IPV, risk factors, and safety-promoting strategies while integrating survivor stories and affirming narration. The Internet SSP Field-test evaluates the feasibility and efficacy of the Internet SSP, delivered by CILs alone or in conjunction with support from a peer who is a female staff member with a disability. This study uses a within- and between-groups pre/post-test design with participants assessed at baseline, post-intervention, and three months follow-up. The SSP intervention, delivered alone or with peer support is measured by three outcome variables (abuse awareness, self-efficacy for addressing abuse, and use of safety-promoting behaviors) when compared to a health program. Project analyses also include a comparison of the two SSP interventions and an examination of whether abuse history moderates the effect of the SSP on outcomes. This project is designed to be applicable to domestic violence and disability-related service providers and offers an Internet-based abuse awareness program designed specifically for women with diverse disabilities who often lack access to community-based IPV prevention programs.
Investigating Environmental Factors Affecting Community Integration

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Project Number: H133G090036
Start Date: August 16, 2009
Length: 36 months
NIDRR Officer: Doris Werwie, PhD
NIDRR Funding: FY 09 $199,962; FY 10 $199,585; FY 11 $199,433
Abstract: This project examines environmental factors that can promote or impede participation in community life for persons with psychiatric disabilities who live independently. While recent research has documented how individual factors can affect integration (e.g., participation in activities, feelings of belonging), relatively little is known about the community-based factors that can affect community integration for persons with mental illness. The study has three specific aims: (1) document the range of housing and neighborhood environment conditions for persons with psychiatric disabilities who live in their own dwelling without resources from supported housing; (2) develop and test a framework of environmental factors that can promote or impede community integration across four domains: physical, social, psychological, and opportunities for integration; and (3) advance methodology for community integration research by (a) testing competing measures of physical, social, psychological integration, and integration opportunities, and (b) using Geographic Information Systems to facilitate analyses of environmental factors. This project addresses the gap in knowledge about environmental factors and integration by investigating how housing conditions, neighborhood conditions, interpersonal relationships tied to housing, and census indicators of community composition may affect community integration efforts of persons with psychiatric disabilities.
Field Initiated Projects (FIPs)
Texas

Development of an Internet-Based Self-Esteem Intervention for Women with Disabilities

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Project Number: H133G080042
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 08 $200,000; FY 09 $200,000; FY 10 $200,000; FY 11 (No-cost extension through 9/30/2012)

Abstract: This project uses an innovative, Internet-based technology called SecondLife, a 3-D, multi-user virtual environment, to deliver self-esteem enhancement interventions to women with disabilities. Project objectives include: (1) reviewing and refining previous self-esteem curricula; (2) developing and testing a methodology to teach participants to navigate SecondLife, and interact with other individuals using real-time voice dialogue; and (3) converting the self-esteem enhancement intervention into a format that uses real-time voice dialogue group interactions in SecondLife, supplemented with on-screen information and illustrations. This Internet-based intervention allows people with disabilities to access secure systematic online health promotion programs designed to increase ability to self-manage chronic conditions and disabilities, achieve improved health and mental health outcomes, and ultimately achieve full participation in their
Small Business Innovation Research (SBIR), Phase II
Oregon


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Project Number: H133S090138
Start Date: October 01, 2009
Length: 24 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 09 $249,821; FY 10 $249,592; FY 11 (No-cost extension through 9/30/2012)

Abstract: Phase II of this project continues the development of an intelligent computer-based task management application to augment the functional cognitive ability of individuals with disabilities in a community living setting who cannot use text-based and complicated commercial personal management applications. The computer-based application is unique in that it is cognitively accessible and includes intelligent features for context-aware task tracking. Users are able to manually enter data on the accomplishment of personal care and household management tasks. The application also integrates data on task accomplishment that are provided remotely by caregivers and by residential sensor networks, often referred to as “smart homes.” In either case, the user benefits from augmented self-management ability. The goal is to produce a research-tested, commercially deployable software application with components for use on desktop, mobile, and Web platforms that enable individuals with cognitive disabilities to use innovative information technology for increased and effective self-management.
LifeWorks: Development of an a Web-Based Life Management Application for Individuals with Cognitive Disabilities and Caregivers

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Project Number: H133S110051
Start Date: October 01, 2011
Length: 24 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 11 $249,724; FY 12 $248,746

Abstract: This project develops a prototype of a web-based self-management application for individuals with cognitive disabilities and those who support them. The application uses a database of an individual’s life and needs to provide relevant, actionable, and accessible data to the consumer, family members, and/or support staff. Features include cognitively accessible interface, push notifications for consumers and caregivers, easy data entry for daily event tracking, and social networking capabilities. This project conducts usability testing and effectiveness evaluation of the product working directly with consumers and caregivers representing the target user group. This includes experimental field studies of impact on self-management and quality of life.
The ultimate goal of NIDRR’s disability demographics effort is to generate new information that can be used by individuals with disabilities, service providers, policymakers, and others working to identify and eliminate disparities in employment, participation and community living, and health and function. NIDRR has long funded studies that mine data to address the full range of social, health, and economic facets of disability and that compare findings across data sources. There are significant correlates with disability, such as aging; and there are a variety of links between disability and other factors, including culture, race, and ethnicity. NIDRR also nurtures methodological work that addresses identified gaps in data, such as the sparse measurement of the interface between individual and environment.

Contents

Rehabilitation Research and Training Centers (RRTCs) ........................................................................................................3
Field Initiated Projects (FIPs) .............................................................................................................................................6
Rehabilitation Research and Training Centers (RRTCs)
Illinois

Rehabilitation Research and Training Center on Measuring Rehabilitation Outcomes and Effectiveness

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Project Number: H133B040032
Start Date: December 01, 2004
Length: 60 months
NIDRR Officer: Phillip Beatty, PhD
NIDRR Funding: FY 04 $700,000; FY 05 $700,000; FY 06 $700,000; FY 07 $700,000; FY 08 $700,000; FY 09 (No-cost extension through 11/30/2010); FY 10 (No-cost extension through 11/30/2011)

Abstract: The purpose of this RRTC is to provide national leadership on the functional assessment, outcomes, and health policy issues facing the medical rehabilitation community and the diverse consumers it seeks to serve. The Center conducts research; hosts forums for discussion; publishes in rehabilitation, health policy, and consumer literature; trains researchers in rehabilitation-focused health services research; and disseminates information to diverse consumer, provider, and academic audiences. The RRTC’s research seeks to (1) enable comparison of functional status measures across post-acute settings so information can be provided to consumers and other rehabilitation stakeholders about the outcomes and effectiveness of various post-acute care settings; (2) develop an innovative measure of community participation in a meaningful, reliable, and valid manner in order to better describe the long-term outcomes of rehabilitation services; (3) increase the efficiency of outcome data collection so more resources can be directed to patient care; and (4) examine how format and presentation style influences patient understanding of rehabilitation quality outcome indicators in order to provide information in ways that are helpful for consumers when selecting rehabilitation services. The project uses recent developments in item response theory, computer adaptive testing, and stakeholder input in test development, outcomes reporting, and quality indicator reporting. The expected outcomes are a rational basis for provision of rehabilitation services in post-acute care settings, increased efficiency of data collection, a better measure of community participation, and outcome reporting that is responsive to stakeholder needs. Dissemination activities include post-graduate and post-doctoral training opportunities, conferences, and a website that provides information on measurement of rehabilitation outcomes across the continuum of post-acute settings.
Rehabilitation Research and Training Centers (RRTCs)
Illinois

Rehabilitation Research and Training Center on Improving Measurement of Medical Rehabilitation Outcomes

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Center for Rehabilitation Outcomes Research
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Principal Investigator: Allen W. Heinemann, PhD
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Project Number: H133B090024
Start Date: October 01, 2009
Length: 60 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 09 $850,000; FY 10 $850,000; FY 11 $850,000; FY 12 $850,000; FY 13 $850,000

Abstract: This project focuses on combining innovative measurement, data collection, and reporting methods with practical concerns for usability, implementation, and multi-user communication. Measurement of the cognitive and environmental factors affecting participation is hampered by instruments that are not tailored appropriately to persons with disabilities or for use in time-pressed clinical settings. This project focuses on persons with traumatic brain injury, spinal cord injury, and stroke because these groups experience complex cognitive, physical, sensory, and emotional impairments that limit access to and use of standardized test protocols. Specific project goals include: (1) increasing the accessibility of measures of cognitive function for use in rehabilitation settings so that consumers’ needs and outcomes are documented; (2) examining the reliability, validity, and sensitivity of measures of cognitive function for persons with disabilities within major item banks including the NIH Toolbox, the Executive Function Performance Test, NeuroQOL, TBI-QOL, SCI-QOL, and SCI-CAT projects; (3) evaluating and refining measures of barriers and facilitators of community participation enabling better evaluation of the outcomes of rehabilitation services; (4) utilizing the large set of data to examine the validity of the cognitive items on the Continuity and Record Evaluation Tool, a standardized patient assessment instrument developed by the Centers for Medicare and Medicaid Services; and (5) evaluating the extent to which the International Classification of Functioning, Disability, and Health (ICF) represents disablement characteristics by mapping instruments collected as part of project activities to concepts within the ICF. This RRTC conducts research; hosts forums for discussion; publishes in the rehabilitation science, health policy, and consumer literature; trains new researchers in rehabilitation-focused health services research; and disseminates information to diverse scientific, clinician, consumer and policymaker audiences.
Rehabilitation Research and Training Center on Disability Statistics and Demographics

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Project Number: H133B080012
Start Date: October 01, 2008
Length: 60 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 08 $850,000; FY 09 $850,000; FY 10 $850,000; FY 11 $850,000; FY 12 $850,000

Abstract: The Rehabilitation Research and Training Center on Disability Statistics and Demographics (StatsRRTC) facilitates evidence-based decision making in many different service and policy arenas to benefit persons with disabilities, leading to improved education and employment outcomes. StatsRRTC is a collaborative effort that brings together the lead investigators from three current RRTCs: the StatsRRTC, Employment Service System RRTC, and Employment Policy RRTC; and partners them with leaders in the disability advocacy community from the American Association of People with Disabilities and leaders in vocational rehabilitation from the Council of State Administrators of Vocational Rehabilitation. Project activities include: (1) producing a set of guides to and meta-analyses of existing survey and administrative data sources; (2) conducting experiments to test alternative survey methods; (3) expanding and distributing the Annual Disability Statistics Compendium; (4) expanding and revising the Source Guide for Surveying People with Disabilities; (5) providing an information and referral technical assistance service; (6) providing stylized statistical estimates and methodological consulting for key stakeholders as a follow-up to outreach and training activities; and (7) conducting training designed to build capacity among consumers and within the vocational rehabilitation system and other support services systems related to data collection and analysis, secondary data analysis, and reporting processes. Project goals include: improving the knowledge of and access to existing data; generating the knowledge needed to improve future disability data collection; and strengthening connections between the data from and regarding respondents, researchers, and decision makers.
Field Initiated Projects (FIPs)
Maryland

Health Care Disparities in Access and Utilization among Individuals with Disabilities

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Project Number: H133G090133
Start Date: October 01, 2009
Length: 36 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 09 $194,848; FY 10 $196,063; FY 11 $199,232

Abstract: This project analyzes survey data to identify health disparities among individuals with disabilities. The project combines survey data from the National Health Interview Survey and the Medical Expenditure Panel Survey, pooling six years of data to enhance sample size. Through multivariate analyses, it examines two system level factors (health insurance and patient/provider interactions), and three individual level factors (race and ethnicity, socioeconomic status, and disability type), and their contribution to health care disparities. The measures of access and utilization mirror those included in the series of Agency for Healthcare Research and Quality National Healthcare Disparities reports. Researchers identify “doubly underserved” individuals: subpopulations with disabilities that are disparately impacted by system and individual characteristics. The project also examines the extent to which system and individual level factors differentially affect individuals with disabilities, relative to individuals without disabilities.
Impact of Prospective Payment and Rehabilitation Outcomes

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Project Number:  H133G080163
Start Date: October 01, 2008
Length: 36 months

NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 08 $199,386; FY 09 $198,085; FY 10 $199,969; FY 11 (No-cost extension through 9/30/2012)

Abstract: This project examines associations and trends in key rehabilitation outcomes before and after the introduction of prospective payment (PPS). Research objectives include: (1) to examine the impact of differences in the scoring and recording methods used to measure functional status pre-PPS (FIM Instrument) and under the PPS (Inpatient Rehabilitation Facility-Patient Assessment Instrument); and (2) to compare associations and trends in outcomes for three years pre-PPS (1999-2001) to three years under the PPS (2002-2004). Outcomes examined include length of stay, functional status at admission, discharge and follow-up (3 to 6 months), living setting pre-admission, incidence of hospital readmission, and mortality. Research objectives are addressed using two data sets. The Uniform Data System for Medical Rehabilitation (UDSMR) is used to examine the impact of changes in rating and coding functional assessment data introduced with the PPS in 2002 (Objective 1). Association and trends are explored using both the UDSMR database and Centers for Medicare and Medicaid Services (CMS) files (Objective 2). The CMS information includes the Inpatient Rehabilitation Facilities-Patient Assessment Instrument file, the Medicare Provider Analysis and Review file, and the Medicare Denominator file. The project examines data from major impairment groups including stroke, brain dysfunction, spinal cord injury, neurological deficits, and orthopedic conditions. Hierarchical linear and quasi-likelihood statistical models are used to analyze trends in data prior to PPS (three years) and during PPS (three years) adjusting for relevant covariates (age, gender, race/ethnicity, comorbidities, etc.). Finally, the project provides the information necessary for making evidence-based decisions related to future changes in rehabilitation practice, payment, and policy.
A National Assessment of the Rates and Correlates of Alcohol and Other Drug Use by College Students with Disabilities

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Project Number: H133G080123  
Start Date: October 01, 2008  
Length: 36 months  
NIDRR Officer: David W. Keer  
NIDRR Funding: FY 08 $199,999; FY 09 $200,000; FY 10 $199,999; FY 11 (No-cost extension through 09/30/2012)

Abstract: This project studies the rates of substance use and abuse, the correlates of such use, and the impact of such use on college students with disabilities. These students face a number of challenges that may inhibit their performance and limit their acquisition of college degrees. The failure to perform to standard or to complete a college degree can have severe and long-lasting consequences in terms of lifelong employment, community integration, and the overall health and well-being of persons with disabilities. Although there are many barriers to the successful acquisition of a college degree, much of the current research in the field of higher education centers on the negative effects of substance use and abuse. Use of alcohol and other drugs by college students, regardless of disability, is associated with a number of negative outcomes. Notable among these are school failure and drop-out, a wide variety of health concerns, and a number of legal issues. To date, little is known about the rates of substance use and abuse by college students with disabilities. Research with general samples of people with disabilities note that such individuals abuse alcohol and other drugs at rates 10 to 20 times that of the general population; preliminary studies with students with disabilities suggest that they are also heavy users of alcohol and other drugs. By detailing the state of affairs nationally, this study allows for a broad understanding of the rates of substance use by college students with disabilities; details the impact of such use on academic performance, health and well-being; allows for the determination of factors related to both substance use and abstinence; aids in the development of prevention efforts; and provides aggressive dissemination of information on such issues to a wide audience of consumers and service providers.
Knowledge Translation

For NIDRR, knowledge translation (KT) encompasses the multidimensional, active process of ensuring that new knowledge gained through the course of research ultimately improves the lives of people with disabilities and furthers their participation in society. KT involves not only knowledge validation and dissemination but also the transfer of technology, particularly products and devices, from the research and development setting to the commercial marketplace to make possible widespread utilization of the products or devices. NIDRR funds a number of KT projects focusing on different content areas, not only to assist NIDRR grantees in their knowledge translation efforts through technical assistance, training, and other activities, but also to generate new knowledge and understanding of KT in disability and rehabilitation context.

Contents

Disability and Rehabilitation Research Projects .................................................................3
Field Initiated Projects (FIPs) ..........................................................................................11
ADA Technical Assistance Projects ..................................................................................13
Utilization Projects ..........................................................................................................15
**National Spinal Cord Injury Statistical Center (NSCISC)**

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**Project Number:** H133A060039  
**Start Date:** October 01, 2006  
**Length:** 60 months  
**NIDRR Officer:** Kenneth D. Wood, PhD  
**NIDRR Funding:** FY 06 $625,000; FY 07 $625,000; FY 08 $625,000; FY 09 $625,000; FY 10 $625,000; FY 11 (No-cost extension through 9/30/2012)  
**Abstract:** The National Spinal Cord Injury Statistical Center (NSCISC) at the University of Alabama at Birmingham has been the home of the National Spinal Cord Injury Model Systems (SCIMS) Data Center since 1983. The NSCISC continues to expand its current activities and implement innovative new tasks to accomplish the following goals: (1) maintenance of the SCIMS database, (2) high-quality data in the SCIMS database, (3) high-quality data collected from database participants of all racial/ethnic backgrounds, (4) rigorous SCIMS database research conducted by all investigators, (5) enhanced continuity of the SCIMS database, and (6) improved database operations through collaboration. In particular, the project takes advantage of the latest Internet and centralized database technology to rewrite the database software from its current distributed format to a centralized web-based system, which significantly improves the capability to manage new data module projects, increases cost-efficiency, improves quality control, and enhances data security. To promote best research practices across the SCIMS, the Center establishes an annual online comprehensive training curriculum for SCIMS data collectors, conducts evaluative site visits, publishes a guide regarding proper use of the database, and refines standards on culturally appropriate SCI research. The project includes subcontracts with formerly-funded SCIMS centers to continue data collection for patients previously enrolled in their research. The Center continues to benefit from the active involvement of persons with SCI and productive partnerships with other NIDRR-funded centers in the design, implementation, and evaluation of these activities.
Disability and Rehabilitation Research Projects

Alabama

National Spinal Cord Injury Statistical Center

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Project Number: H133A110002
Start Date: October 01, 2011
Length: 60 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 11 $625,000; FY 12 $625,000; FY 13 $625,000; FY 14 $625,000; FY 15 $625,000

Abstract: With the ultimate goal of advancing knowledge of spinal cord injury (SCI) outcomes, the National Spinal Cord Injury Statistical Center (NSCISC) provides resources and services that support the longitudinal Spinal Cord Injury Model System (SCIMS) Database, ensure high-quality data, and promote rigorous research. Project activities are planned with several target populations in mind, individuals with SCI, SCIMS centers, researchers who intend to use the database, and any person who needs SCI statistics. Web-based data management system is upgraded with advanced functionality and user-friendly features to enhance security, quality control, and data retrieval/reporting as well as support SCIMS module projects and research. High-quality reliable data are ensured through utilization of a network of experts, refinement of the Standard Operating Procedures, implementation of a comprehensive certification program for data collectors, monitoring data quality and conducting site visits, enforcement of on-site quality assurance procedures, training, and technical assistance. A series of analyses are conducted to identify underlying factors that contribute to racial/ethnic differences in enrollment, retention, and responsiveness to interview questions, along with continued assessment of intercultural competence status and needs as a guide for the development of training materials. To increase the quantity and quality of SCIMS Database research, this project has four objectives: (1) intramural and collaborative research; (2) internship, award, and other training programs; (3) development of education and information resources for investigators; and (4) individual consultation and technical assistance. To enhance SCIMS Database continuity, two previously established mechanisms (subcontract and centralized data collection) are utilized for continued collection of follow-up data from unfunded SCIMS centers, and procedures are enacted to ensure high-quality reliable data. Moreover, this project implements an evaluation plan designed to assess the quality and quantity of project outputs with the impacts of advancing knowledge in SCI rehabilitation outcomes and facilitating changes in policy and clinical practice through SCIMS research.
Disability and Rehabilitation Research Projects
District of Columbia

Model Systems Knowledge Translation Center (MSKTC)

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Project Number: H133A110004
Start Date: October 01, 2011
Length: 60 months
NIDRR Officer: Pimjai Sudsawad, ScD
NIDRR Funding: FY 11 $800,000; FY 12 $799,999; FY 13 $799,999; FY 14 $800,000; FY 15 $799,999

Abstract: The mission of the MSKTC is to enhance the rigor and relevance of the model systems research and to communicate this research effectively to all potential audiences. This project has three goals: (1) enhanced understanding of the quality and relevance of the findings of NIDRR’s SCI, TBI, and Burn Model Systems programs; (2) enhanced knowledge of advances in SCI, TBI, and Burn research among consumers, clinicians, and other end users of such information; and (3) the centralization of SCI, TBI, and Burn Model Systems resources for effective and uniform dissemination and technical assistance. These goals serve to guide the Center’s strategies and activities to create an impact on the target population, including the Model Systems (MS) grantees and other researchers as well as the broader audience of people with disabilities and their families, clinicians and practitioners, and policymakers and advocates through services in three areas. Service Area 1 uses a systematic approach to identify, evaluate, and synthesize evidence-based research findings. Tasks under Service Area 1 include: (1) establishing and maintaining a Technical Review Committee, (2) establishing standards for systematic reviews, (3) conducting reviews and publishing results, and (4) conducting quick turnaround reviews. Service Area 2 offers a strategic approach in knowledge translation (KT) support to grantees. Tasks under Service Area 2 include: (1) KT technical assistance and training, (2) communities of practice focused on each injury area among all audiences, and (3) conducting consumer needs research. Service Area 3 creates a central location to host all the KT resources and uses a multifaceted approach to knowledge dissemination, in order to ensure that audiences have timely access to relevant information that (1) help facilitate the knowledge translation process; (2) inform decisions surrounding rehabilitation options in the areas of SCI, TBI, and Burn; and (3) inform the professional practices to key audiences. Tasks under Service Area 2 include: (1) web site redesign and maintenance, (2) MSKTC multimedia development, (3) an online dissemination toolkit development, and (4) outreach and dissemination.
Disability and Rehabilitation Research Projects
New York

Center on Knowledge Translation for Technology Transfer

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Project Number: H133A080050
Start Date: October 01, 2008
Length: 60 months
NIDRR Officer: Pimjai Sudsawad, ScD
NIDRR Funding: FY 08 $999,998; FY 09 $999,994; FY 10 $999,997; FY 11 $999,997; FY 12 $999,997

Abstract: The objective of this project is to study and apply the theory and practice of knowledge translation (KT) to the knowledge outputs of NIDRR technology grantees. Goals of this project are improved understanding of barriers to accomplishing KT for technology transfer (TT) and carriers to overcome them; advanced knowledge of the best models, methods, and measures for accomplishing KT for TT; and increased utilization of the validated best practices for KT for TT by the NIDRR grantees. Research Project 1 synthesizes current knowledge about KT theory and practice related to accomplishing technology transfer outcomes; establishes parallel models of practices for both knowledge translation and technology transfer; and creates an operational framework for the Knowledge To Action (KTA) model, by applying the technology transfer methods and measures promulgated by the Product Development Manager’s Association, to create counterparts in knowledge translation. Research Project 2 establishes parameters for defining new knowledge as an innovation, and establishes Grantee Innovation Profiles for participating RERC and SBIR grantees in wheeled mobility, sensory disability, and environmental access technology areas; and interviews representatives for the six categories of knowledge users (i.e., researchers, manufacturers, clinicians, policy makers, consumers, and brokers), to establish Knowledge Value Profiles for each user category. Research Project 3 conducts a series of six intervention studies in the three technology areas. They communicate a series of randomly selected innovations to the six user categories, either through standard knowledge dissemination practices, or through knowledge translation practices applied through the operational KTA model. Development Project 1 conducts a series of at least six technology transfer demonstration projects, working in collaboration with corporate partners, while RERC and/or SBIR grantees interact as participant observers. Development Project 2 creates a knowledgebase consisting of a data base structure customized for access by each category of knowledge user based on their respective value systems, along with all DRRP training materials publicly available in accessible and usable forms. A utilization project encourages NIDRR grantees to use the DRRP’s materials, and
implement the operational KTA model through coordinated dissemination, training, and technical assistance projects. This project also promotes the diffusion and utilization of innovative research-based knowledge by targeting each of the six categories of knowledge users with a parallel coordinated program of the same multiple methods.
Center for International Rehabilitation Research Information & Exchange (CIRRIE-3)

The Research Foundation of SUNY on behalf of the University at Buffalo
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Project Number: H133A100021
Start Date: October 01, 2010
Length: 60 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 10 $399,994; FY 11 $399,994; FY 12 $399,992; FY 13 $399,992; FY 14 $399,995

Abstract: This project establishes a comprehensive program to identify, organize and disseminate international research and development knowledge relevant to the disability and rehabilitation community in the U.S. The Center for International Rehabilitation Research Information and Exchange (CIRRIE-3) includes four coordinated sets of activities: database, dissemination, exchange, and cultural competence education. CIRRIE-3 continues to expand its Database of International Rehabilitation Research. In this cycle it is adding features making it comparable to major commercial databases. CIRRIE-3 continues to disseminate its previously created international information resources while developing new resources, including bibliographies on topics of interest to NIDRR-funded projects; databases of cross-walks of rehabilitation instruments to the ICF and resources on Universal Design; and access to international literature on Development methods for assistive technology. Additionally, CIRRIE-3 is developing a comparative profile of U.S. and international research in 50 topic areas and conducting a conference in 2011 on the WHO World Report on Disability and Rehabilitation. CIRRIE-3 is conducting a program for international exchanges of R&D personnel from NIDRR-funded projects and counterparts in other countries. Approximately 60 exchanges are occurring over the five-year cycle. The focus of the program is on building productive R&D collaborations. CIRRIE-3 continues to develop educational resources for use in training future rehabilitation professionals to work effectively with persons with disabilities who were born in other countries. CIRRIE-3 is developing simulations involving cross-cultural rehabilitation with high fidelity manikins and standardized patients trained to mirror foreign-born rehabilitation clients. The CIRRIE-3 program is global in scope and encompasses all of the NIDRR domains of disability and rehabilitation research and development.
Disability and Rehabilitation Research Projects

Texas

SEDL Center on Knowledge Translation for Employment Research

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Project Number: H133A100026
Start Date: October 01, 2010
Length: 60 months
NIDRR Officer: Pimjai Sudsawad, ScD
NIDRR Funding: FY 10 $650,000; FY 11 $650,000; FY 12 $650,000; FY 13 $650,000; FY 14 $650,000

Abstract: The Center on Knowledge Translation for Employment Research has a dual purpose: (1) assessing, describing, and informing relevant stakeholders about the current research base related to improving employment outcomes among individuals with disabilities; and (2) exploring and testing knowledge translation strategies that can increase the appropriate use of that research among four key audiences: individuals with disabilities, employers, policy makers, and vocational rehabilitation practitioners. To address those purposes, this project (1) reviews the research literature to identify evidence-based practices that can be used to improve employment outcomes for individuals with disabilities; (2) identifies gaps that need to be addressed in future research; (3) widely disseminates project findings; (4) conducts survey and interview research to explore factors that either impede or support the use of research findings among the four target audiences; (4) conducts several research studies to test ways of helping target audiences to access and use the evidence-based practices identified (i.e., testing knowledge translation strategies); and (5) provides training and technical assistance to researchers so that they can incorporate effective knowledge translation strategies into their research, development, and dissemination activities. This is a collaborative project with SEDL and Virginia Commonwealth University.
Disability and Rehabilitation Research Projects
Washington

Model Systems Knowledge Translation Center (MSKTC)

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Project Number: H133A060070
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Pimjai Sudsawad, ScD
NIDRR Funding: FY 06 $598,163; FY 07 $598,833; FY 08 $599,876; FY 09 $599,352; FY 10 $599,837; FY 11 (No-cost extension through 9/30/2012)
Abstract: The Model Systems Knowledge Translation Center (MSKTC) facilitates the dissemination of research-to-practice and consumer education for the model systems programs in traumatic brain injury (TBI), spinal cord injury (SCI), and burn injury. The MSKTC knowledge translation and dissemination efforts focus on research conducted by the model systems programs, identified best practices, and clinician and consumer education materials developed by the model systems. The MSKTC also works collaboratively with members of the MSKTC Research Advisory Board and experts in TBI, SCI, and burn injury to conduct systematic reviews of key areas of rehabilitation research relevant to the model systems projects. The MSKTC is housed within the University of Washington’s Center for Technology and Disability Studies in the Center for Human Development and Disability and builds on previously funded NIDRR knowledge translation efforts.
**Development of Quality Measures for Post-Stroke Rehabilitation**

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**Project Number:** H133G100182
**Start Date:** October 01, 2010
**Length:** 36 months

**NIDRR Officer:** Pimjai Sudsawad, ScD
**NIDRR Funding:** FY 10 $199,691; FY 11 $199,973; FY 12 $175,751

**Abstract:** This research project identifies quality measures appropriate for rehabilitation patients recovering from a stroke that meet the criteria established by the National Quality Forum. Study objectives include: (1) identifying candidate quality measures for post-stroke rehabilitation that are currently used or endorsed for use; (2) evaluating the importance, scientific acceptability, usability, and feasibility of candidate quality measures using National Quality Forum criteria; and (3) disseminating quality measures to stakeholders including the Centers for Medicare and Medicaid Services, private payers, and consumer organizations. The project addresses four research questions focusing on patients with stroke undergoing medical rehabilitation care: (1) what quality measures are used by rehabilitation providers; (2) what quality measures are endorsed by the National Quality Forum that may apply to post-stroke rehabilitation patients; (3) which of these quality measures meet the National Quality Forum criteria of importance, scientific acceptability, usability, and feasibility for patients with post-stroke rehabilitation; and (4) what research questions and issues need to be addressed within the next three to five years to advance quality measures? By creating standardized quality measures in which rehabilitation programs report quality; consumers, caregivers, and clinicians can select programs that optimize their health and function.
EVIDAAC: A Database of Appraised Evidence in Augmentative and Alternative Communication

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Project Number: H133G070150
Start Date: October 01, 2007
Length: 36 months

NIDRR Officer: Pimjai Sudsawad, ScD
NIDRR Funding: FY 07 $195,525; FY 08 $199,910; FY 09 $198,889; FY 10 (No-cost extension through 9/30/2011); FY 11 (No-cost extension through 9/30/2012)

Abstract: This project develops EVIDAAC, an accessible and usable database of appraised research evidence in augmentative and alternative communication (AAC) for practitioners (speech-language pathologists, occupational therapists, physical therapists, special educators, rehabilitation engineers, etc.), individuals using AAC, and their families. EVIDAAC provides access to pre-filtered evidence-based practice by critically appraising studies (randomized control trials [RCTs], non-RCTs, case series, single-subject experimental designs) and systematic reviews. This saves time and reduces the skill-burden associated with having to appraise evidence, a documented barrier to the utilization of evidence-based practice. EVIDAAC is developed in accordance with published quality criteria for health-related web sites using formative and process evaluation. Accessible web design principles are integrated into the development of the database, with regular assessment using Web Accessibility Initiative principles and guidelines. Its usability is tested with rigorous technologies; including structured usability tasks in controlled laboratory situations, and the determination of utilization patterns in real-life circumstances via web-log analysis. Results gleaned feed back into improving the database.
ADA Technical Assistance Projects
Washington

ADA Network Knowledge Translation Center

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Project Number: H133A110014
Start Date: October 01, 2011
Length: 60 months
NIDRR Officer: Pimjai Sudsawad, ScD
NIDRR Funding: FY 11 $850,000; FY 12 $850,000; FY 13 $850,000; FY 14 $850,000; FY 15 $850,000

Abstract: The purpose of the Americans with Disabilities Act (ADA) Network Knowledge Translation Center (ADA Network-KTC) is to ensure that information and products developed and identified through the 10 ADA regional centers are of high quality, based on the best available research evidence, and are deployed effectively to multiple key stakeholders; and to develop processes and technology to facilitate highly collaborative and efficient progress to accomplishing these goals. Stakeholders include: employers, researchers, educators, policy makers, staff of state and local government agencies, individuals with disabilities, family members, and project staff in the ADA regional centers and other related federal and privately-funded organizations. To achieve this purpose the ADA Network-KT Center has four project goals. Goal 1: Optimize the efficiency and impact of the ADA National Network’s training, technical assistance, and information dissemination by: (1) maintaining and further developing the ADA National Network’s website and ADA Document Portal, (2) developing an online system to enable the ADA Regional Centers to share training and technical assistance materials, (3) facilitating joint development of ADA products by the ADA Regional Centers to maximize resources and avoid duplication, and (4) organizing and providing logistical and financial support for annual meetings of the ADA Regional Centers. Goal 2: Increase the use of available ADA-related research findings to inform behavior, practices, or policies that improve equal access in society for individuals with disabilities by: (1) identifying topics of importance to ADA stakeholders in collaboration with the ADA Centers and other key informants and by conducting systematic reviews of the evidence; (2) identify topics for future research (knowledge gaps) to help individuals understand their rights and responsibilities under ADA; and (3) synthesizing information from systematic reviews, research publications, and expert consensus to develop stakeholder materials. Goal 3: Increase awareness and utilization of ADA-related research findings by appropriate ADA stakeholder groups by: (1) collaborating with the ADA Centers on developing individual KT plans that support a national KT implementation plan for the ADA National Network, and (2) coordinating and hosting one ADA research conference in year 5. Goal 4: Improve understanding of ADA stakeholders’ need for and receipt of ADA Network Services over time, including services to
address emerging issues related to compliance with ADA requirements by: (1) operating and maintaining the outcome measurement system, (2) collaborating with NIDRR and the ADA Regional Centers to improve usability and accessibility, (3) developing a data sharing plan to facilitate program improvement and research, (4) monitoring data quality and providing training and technical assistance on use of the database, and (5) development and implementation of a system for measuring and tracking outcomes of the ADA National Network.
Utilization Projects
Maryland

National Rehabilitation Information Center (NARIC)

HeiTech Services, Inc.
8201 Corporate Drive, Suite 600
Landover, MD 20785
naricinfo@heitechservices.com
www.naric.com

Principal Investigator: Mark X. Odum
Public Contact: Information Specialists 800/346-2742 (V); 301/459-5984 (TTY); 301/459-5900 (V);
Fax: 301/459-4263

Project Number: ED-OSE-10-0074
Start Date: August 01, 2010
Length: 60 months
NIDRR Officer: Pimjai Sudsawad, ScD
NIDRR Funding: FY 10 $2,162,839; FY 11 $1,713,263; FY 12 $1,886,654; FY 13 $1,916,970; FY 14
$2,001,740

Abstract: The National Rehabilitation Information Center (NARIC) maintains a research library of
more than 65,000 documents and responds to a wide range of information requests, providing facts and
referral, database searches, and document delivery. Through telephone and online information referral, NARIC disseminates information gathered from NIDRR-funded projects, other federal programs, and from journals, periodicals, newsletters, films, and videotapes. NARIC maintains REHABDATA, a bibliographic database on rehabilitation and disability issues, both in-house and online. Users are served in English and Spanish by telephone, mail, electronic communications, or in person. Current tasks include a crosswalk between the REHABDATA Thesaurus and the International Classification of Function (ICF); acquisition of digital media; maintaining and expanding a digital archive of original research documents; and knowledge translation activities in support of NIDRR’s mission including citation analysis, long term project tracking, and promotion of NIDRR sponsored research. NARIC also prepares and publishes the annual NIDRR Program Directory, available in database format from NARIC’s website, and several regular publications highlighting NIDRR research.
Utilization Projects
Maryland

ABLEDATA

ORC Macro
8630 Fenton Street, Suite 930
Silver Spring, MD 20910
abledata@macrointernational.com
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Principal Investigator: Katherine Belknap 301/608-8998, ext. 105
Public Contact: 800/227-0216 (V); 301/608-8998 (V); 301/608-8912 (TTY); Fax: 301/608-8958

Project Number: ED-04-CO-0018/0007
Start Date: October 01, 2008
Length: 60 months
NIDRR Officer: Pimjai Sudsawad, ScD
NIDRR Funding: FY 08 $779,573; FY 09 $779,573; FY 10 $779,573; FY 11 $779,573
Abstract: This project maintains and expands the ABLEDATA product information database, develops information and referral services that are responsive to the special technology product needs of consumers and professionals, and provides data to major dissemination points to ensure wide distribution and availability of the information to all who need it. The ABLEDATA database contains information on more than 34,000 commercially produced and custom-made assistive devices. Requests for information are answered via telephone, mail, electronic communications, or in person.
The Americans with Disabilities Act (ADA) opens more opportunities for persons with disabilities. It also places certain responsibilities on employers, transit and communication systems, state and local governments, and public accommodations. To assist covered parties to understand and comply with the ADA, NIDRR has funded a network of grantees to provide information, training, and technical assistance to businesses and agencies with duties and responsibilities under the ADA.

Contents

ADA Technical Assistance Projects........................................................................................................... 3
New England ADA National Network Regional Center - Region I

Institute for Human Centered Design, Inc.
200 Portland Street, First Floor
Boston, MA 02114
adininfo@newenglandada.org
www.NewEnglandADA.org

Principal Investigator: Valerie Fletcher 617/695-1225, ext. 226
Public Contact: Oce Harrison, EdD, Project Director 800/949-4232 (V/TTY in CT, ME, MA, NH, RI, and VT), 617/695-1225 (V/TTY); Fax: 617/482-8099

Project Number: H133A110028
Start Date: October 01, 2011
Length: 60 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 11 $1,000,000; FY 12 $1,000,000; FY 13 $1,000,000; FY 14 $1,000,000; FY 15 $1,000,000
Abstract: The New England ADA Center meets the growing demands and complex challenges of providing outreach, training, technical assistance, information dissemination, and capacity building through Americans with Disabilities Act (ADA) network services. These services are tailored to meet the needs and preferences of people with rights and with responsibilities under the ADA services include information and training products for individual, business, and government needs at the local, regional, and national levels. To increase capacity building among priority audiences the Center expands ADA network services with the following initiatives beyond the core services: (1) a set of new digital and interactive information tools that integrate recent ADA changes (Title II Action Guide, Title III Action Guide), (2) five new distance learning courses in the format previously developed web-based multi-media courses, and (3) new, in-person training packages related to accessible information and communication technology. The center addresses persistent gaps in the field in an collaboration with the IHCD Studio that includes: (1) field-based training for cities and towns, (2) an ADA accessible design 8-unit comprehensive course for architects and designers, and (3) a hands-on training program for people with disabilities and other accessibility advocates on how to read an architectural drawing to check for compliance.
ADA Technical Assistance Projects
Region II - NJ, NY, PR, and VI

Northeast ADA National Network Regional Center - Region II

Cornell University
Office of Sponsored Programs
201 Dolgen Hall
Ithaca, NY 14853-3901
northeastada@cornell.edu
www.northeastada.org

Principal Investigator: Wendy Strobel Gower, Project Director 607/255-6751

Project Number: H133A110020
Start Date: October 01, 2011
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 11 $1,112,165; FY 12 $1,112,165; FY 13 $1,112,165; FY 14 $1,112,165; FY 15 $1,112,165

Abstract: The Northeast ADA Center at Cornell University provides a series of training programs, an extensive set of dissemination activities and ongoing, on-demand technical assistance to inform Americans with Disabilities Act (ADA) stakeholders in federal Region II (New York, New Jersey, Puerto Rico, and the U.S. Virgin Islands), of their rights and responsibilities under all Titles of this law. The center provides a comprehensive series of five trainings, four disseminations, three technical assistance, and three collaboration projects. Additionally the center conducts rigorous training with a network of new and advanced trainers; develops an online ADA-focused curriculum; develops online tools for mid-level managers and supervisors; educates on the ADA, and new DOJ and EEOC regulations; addresses emerging issues including veterans, emergency management, and IT accessibility; and offers continued on-demand training. Information dissemination via the web, e-mail, and phone complements the above training activities, while also focusing on maximizing outreach to diverse stakeholders. The goal of this center is to expand the availability and accessibility of information on the ADA, while building the capacity of networks of stakeholders to make use of this information with a long-term goal of increasing inclusion and integration of individuals with disabilities in all economic and social areas of everyday life.
Mid-Atlantic ADA National Network Regional Center - Region III

TransCen, Inc.
451 Hungerford Drive, Suite 700
Rockville, MD 20850-4151
adainfo@transcen.org
www.adainfo.org

Principal Investigator: Richard G. Luecking, PhD 301/424-2002
Public Contact: Marian S. Vessels, Project Director 800/949-4232 (V/TTY, in DC, DE, MD, PA, VA, and WV); 301/217-0124 (V/TTY); Fax: 301/217-0754

Project Number: H133A110017
Start Date: October 01, 2011
Length: 60 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 11 $1,000,000; FY 12 $1,000,000; FY 13 $1,000,000; FY 14 $1,000,000; FY 15 $1,000,000

Abstract: The Mid-Atlantic ADA Center (Region III) identifies and implements a variety of approaches designed to assist individuals with disabilities in gaining improved access to employment and other areas of community life. The Mid-Atlantic ADA Center implements an operational plan of specific objectives and tasks associated with four major project goals: (1) improving the understanding by individuals and entities of their rights and responsibilities under the Americans with Disabilities Act (ADA); (2) building the capacity of local and state entities to provide training, technical assistance, and information dissemination on ADA related topics; (3) improving employment and other life outcomes of individuals with disabilities; and (4) increasing access by individuals with disabilities to lodging, restaurant, and other services from, as well as employment opportunities within, the hospitality industry. Project activities include: (1) training, technical assistance, and information dissemination to general ADA constituencies on all titles of the act; (2) outreach to individual statewide coalitions, AT consortiums, and regional training network to increase the capacity of other organizations to provide locally focused training, technical assistance, and dissemination of all titles of the ADA; (3) identification of problematic areas where research and informational campaigns might aid in the avoidance of, or solutions to, problems associated with the access to programs, services, and facilities; and (4) research on organizational and individual factors that affect decisions to provide reasonable accommodations and resulting in employment outcomes.
ADA Technical Assistance Projects
Region IV - AL, FL, GA, KY, MS, NC, SC, and TN

DBTAC - Southeast ADA Center - Region IV

Syracuse University
Burton Blatt Institute
1419 Mayson Street
Atlanta, GA 30324
sedbtacproject@law.syr.edu
www.sedbtac.org

Principal Investigator: Peter D. Blanck, PhD, JD 315/443-9703 KY, MS, NC, SC, and TN); 404/541-9001 (V/TTY); Fax: 404/541-9002

Project Number: H133A060094
Start Date: October 01, 2006
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 06 $1,105,000; FY 07 $1,105,000; FY 08 $1,105,000; FY 09 $1,105,000; FY 10 $1,105,000; FY 11 (No-cost extension through 9/30/12)
Abstract: The DBTAC: Southeast ADA Center (Southeast DBTAC) provides technical assistance, training, and information dissemination for Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee. Southeast DBTAC meets ADA-related information, training, and technical assistance needs of multiple public and private stakeholders through the provision of five core services: (1) information dissemination, (2) education and training, (3) technical assistance, (4) information referral, and (5) public awareness events. The Southeast DBTAC’s research plan extends the state of knowledge about employer corporate culture and business practices, and ADA impact on civic action to reduce and eliminate barriers to full civic, social, and economic participation for Americans with disabilities. The Southeast DBTAC is led by a consortium that includes four nonprofit institutions recognized for their knowledge of civil rights protections and impact across covered environments, access, and use of assistive technology (AT), employment and independent living, and consumer self-direction and advocacy. The organizations with a history of collaborative activity are Burton Blatt Institute of Syracuse University, Center for Assistive Technology and Environmental Access (CATEA) at Georgia Institute of Technology, Living Independence for Everyone of Jackson, Mississippi, and Partnerships in Assistive Technology of North Carolina. To continue responsiveness to employers, large and small within the region, the Southeast DBTAC established a Business Leadership Council (BLC) with ten stakeholders with a record of hiring and advancing workers with disabilities. The BLC provides advice and important linkages to the business community throughout the southeast to exchange research findings and knowledge that improves opportunities for employment for persons with disabilities. Half of core staff are persons with disabilities and/or represent historically underrepresented groups because of race, gender, national origin, and age. People with disabilities continue to direct core components of the Center’s activities related to training and technical assistance and information dissemination. The Southeast DBTAC has an extensive collaborative network of over 99 local affiliates in all eight states in the region that builds on the strengths and experiences of a diverse cross-section of individuals with and without disabilities representing disability, business, and governmental entities.
Southeast ADA National Network Regional Center - Region IV

Syracuse University
Burton Blatt Institute
1419 Mayson Street
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sedbtacproject@law.syr.edu
www.sedbtac.org

Principal Investigator: Peter D. Blanck, PhD, JD 315/443-9703 (V/TTY); Fax: 404/541-9002

Project Number: H133A110021
Start Date: October 01, 2011
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 11 $1,241,643; FY 12 $1,242,940; FY 13 $1,244,127; FY 14 $1,242,860; FY 15 $1,243,316

Abstract: The Southeast ADA Center Consortium (“Center”) consists of over 100 organizations and entities across eight states representing all Americans with Disabilities Act (ADA) stakeholders, including people with disabilities, businesses, state and local government agencies, service providers, vocational rehabilitation agencies, and others. The Southeast ADA Center: (1) facilitates implementation of and compliance with the ADA through training, technical assistance, and broad dissemination of accurate, timely information; (2) conducts outreach to a diverse audience of stakeholders; (3) builds the ADA knowledge and implementation capacity of the state and local affiliates; and (4) advances the social, civic, and economic participation of people with disabilities through targeted outreach, knowledge translation, and capacity building in the region. The Center improves understanding by ADA stakeholders of their rights and responsibilities under the ADA, related laws, and improves knowledge about evidence-based best practices for advancing civil rights and increasing disability equality using a Knowledge-to-Action based framework for knowledge translation that incorporates (outreach, training, dissemination, technical assistance, and capacity-building) to the next level and ensures behavioral and practice-oriented changes by ADA stakeholders. A comprehensive plan of continuous quality improvement and evaluation tracks these mid-term outcomes to demonstrate change across the region.
Great Lakes ADA National Network Regional Center - Region V

University of Illinois at Chicago
Department of Disability and Human Development
1640 West Roosevelt Road, Room 405
Chicago, IL 60608-6904
adata@adagreatlakes.org
www.adagreatlakes.org; ada-audio.org;
www.accessibilityonline.org; www.accessibletech.org;
www.adacaselaw.org; www.adatraining.org; www.adaconferences.org

Principal Investigator: Robin A. Jones 312/996-1059
Public Contact: Robin A. Jones, Project Director 800/949-4232 (V/TTY, in IL, IN, MI, MN, OH, and WI); 312/413-1407 (V/TTY); Fax: 312/413-1856

Project Number: H133A110029
Start Date: October 01, 2011
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 11 $1,246,000; FY 12 $1,246,000; FY 13 $1,246,000; FY 14 $1,246,000; FY 15 $1,246,000

Abstract: The Great Lakes ADA Center promotes awareness and compliance with the Americans with Disabilities Act (ADA). Project goals and objectives center on the provision of high quality, timely, and accurate technical assistance, training, and material dissemination to identified target audiences. The Great Lakes ADA Center provides responsive and proactive services utilizing a comprehensive service delivery model. The technical assistance, training, and information needs of the individual and their families, employers, business, government, educational entities, design professionals, and disabled veterans employment programs are part of an on-going needs assessment, and programs and activities are tailored accordingly. Project activities and goals include: (1) operation of a toll-free number and use of current and emerging technologies for information and referral; (2) enhancement of the Center’s existing regional network of individuals and organizations who can provide on-site consultation, technical assistance, and training as needed; (3) conducting and sponsoring training events and activities at the local, state, and regional level focused on raising awareness of the ADA; (4) development and dissemination of technical assistance and training products and tools that are evidence based; (5) identification and dissemination of best practices related to the recruitment, hiring and retention of qualified individuals with disabilities by employers and employment training programs; (6) promotion of the acquisition and utilization of accessible information technology by employers, business, government and educational institutions; and (7) utilization of existing and emerging technology to promote the exchange of information including websites, list serves, e-newsletters, mobile applications, social media, multi-faceted distance learning strategies and techniques, self-paced learning, and web-based assessment tools. Through partnerships and collaboration at the local, state, regional, and national level the Center maximizes resources ensuring that a high quality and quantity of activity occurs.
ADA Technical Assistance Projects
Region VI - AR, LA, NM, OK, and TX

DBTAC - Southwest ADA Center - Region VI

The Institute for Rehabilitation and Research (TIRR)
Independent Living Research Utilization (ILRU)
2323 South Shepherd, Suite 1000
Houston, TX 77019-7024
swdbtac@ilru.org
www.southwestada.org; www.dlrp.org

Principal Investigator: Wendy Wilkinson OK, and TX); 713/520-0232 (V); 713/520-5136 (TTY); Fax: 713/520-5785

Project Number: H133A060091
Start Date: October 01, 2006
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 06 $1,104,007; FY 07 $1,104,738; FY 08 $1,104,885; FY 09 $1,104,796; FY 10 $1,104,800; FY 11 (No-cost extension through 9/30/2012);
Abstract: The Southwest DBTAC provides a comprehensive array of training, technical assistance, and dissemination services on the ADA and other disability-related laws in the five states of Federal Region VI. The goals of these activities are to improve the employment outcomes of individuals with disabilities and maximize their full inclusion into society. Through a collaborative structure of partners, the Southwest DBTAC provides an array of services including: (1) research activities that identify impediments to compliance with the ADA and individuals’ access to technology, postsecondary education, and the workforce, as well as tested solutions and innovative approaches to eliminate these impediments; (2) training activities that offer comprehensive, accurate, and timely information on the ADA’s requirements, developments in case law, policy, and implementation to promote compliance with the ADA; (3) dissemination activities that increase knowledge about the ADA and DBTAC services through an effective, coordinated resource network for Region VI; and (4) technical assistance activities that respond to the needs of individuals and entities on the ADA and foster the development of new and promising practices that can be shared with others. Southwest DBTAC’s network includes such organizations as the New Mexico Technology Assistance Project, the Southwest Education Development Laboratory, Arkansas Technology and Curriculum Access Center, Bureaus of Apprenticeship Training or State Apprenticeship Councils in each state, Valley Association of Independent Living, North Harris College, and other organizations and businesses that have demonstrated success in improving the lives of individuals with disabilities.
ADA Technical Assistance Projects
Region VI - AR, LA, NM, OK, and TX

Southwest ADA National Network Regional Center - Region VI

The Institute for Rehabilitation and Research (TIRR)
Independent Living Research Utilization (ILRU)
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www.southwestada.org; www.dlrp.org

Principal Investigator: Wendy Wilkinson OK, and TX); 713/520-0232 (V); 713/520-5136 (TTY); Fax: 713/520-5785

Project Number: H133A110027
Start Date: October 01, 2011
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 11 $1,110,822; FY 12 $1,110,958; FY 13 $1,110,458; FY 14 $1,111,192; FY 15 $1,111,032

Abstract: The Southwest ADA Center at ILRU provides outreach, training, technical assistance, information, dissemination, and capacity building to the target population of individuals and entities with rights and responsibilities under the Americans with Disabilities Act (ADA), including local, regional, and national groups representing stakeholders. Special target audiences include: minority individuals with disabilities, postsecondary institutions, small businesses, veterans with disabilities, individuals newly covered by the ADA Amendments Act (ADAAA) of 2008, employers, hospitality industry, and emergency preparedness professionals. The purpose of the Southwest ADA Center is to maximize the full inclusion and integration into society of individuals with disabilities, especially individuals with severe disabilities, and to improve services authorized under the Rehabilitation Act. The goal of the Center is to improve understanding by stakeholders of their rights and responsibilities under the ADA by implementing a sustained program of ADA Network Services, which include: (1) high impact training at national, regional, state, and local levels with a large cadre of experienced, qualified, and well-trained trainers using the highest quality training materials vetted by the ADA Knowledge Translation (KT) Center, other ADA Centers, affiliates, trainers, and targeted stakeholders, including materials from U.S. Departments of Justice and Education, other ADA Centers, federally funded projects and ILRU; (2) dissemination of knowledge about the rights and responsibilities of the ADA utilizing technology ranging from print mail to the latest popular social media tools and networking websites to reach the broadest audiences; (3) timely, relevant, accurate technical assistance activities that respond to the needs of individuals and entities that are well-managed, appropriately staffed and evaluated regularly to identify trends to improve future services; (4) a collaborating group of 55+ experienced, skilled, and well-respected individuals and organizations from Region VI and around the country to assist ILRU’s highly skilled and experienced personnel deliver proposed services to targeted stakeholders; (6) collaboration with the ADA KT Center to record and analyze data about stakeholder requests for information and services; and (7) enhancement of efficiency and effectiveness of the overall ADA Network Services by partnering with ADA KT Center and Regional Centers to develop and distribute products and services relevant to ADA stakeholders in multiple regions.
Great Plains ADA National Network Regional Center - Region VII

University of Missouri at Columbia
100 Corporate Lake Drive
Columbia, MO 65203
ada@missouri.edu
www.adaproject.org

Principal Investigator: Jim de Jong
Public Contact: Jim de Jong, Project Director 800/949-4232 (V/TTY, in IA, KS, MO, and NE);
573/882-3600 (V/TTY); Fax: 573/884-4925

Project Number: H133A110022
Start Date: October 01, 2011
Length: 60 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 11 $1,000,000; FY 12 $1,000,000; FY 13 $999,999; FY 14 $1,000,000; FY 15 $1,000,000

Abstract: The Great Plains ADA Center continues to expand services as the ADA National Network Regional Center for federal Region VII, serving Kansas, Iowa, Missouri, and Nebraska. The mission of the Center is to ensure the full opportunity for participation of persons with disabilities and their families in all facets of American life by providing professional-quality services to Americans with Disabilities Act (ADA) stakeholders. Target populations include all entities and individuals with disability-related issues that have rights and responsibilities under the ADA. The Great Plains ADA Center: (1) implements a sustained program of outreach, training, technical assistance, information dissemination, and capacity building (collectively ADA Network Services); (2) provides information to ADA stakeholders on both longstanding ADA requirements as well as the ADA Amendments Act, the 2010 Standards for Accessible Design, and subsequent judicial/regulatory changes; (3) identifies best practices through collaborative initiatives addressing emerging critical issues such as Olmstead implementation, emergency preparedness, and the professionalization of ADA Coordinators; (4) sponsors the National ADA Symposium, which offers a comprehensive matrix of training opportunities presented by nationally recognized authorities and experts in their fields; and (5) partners with the ADA Network Knowledge Translation Center and other ADA Regional Centers to develop, provide, and distribute ADA training and technical assistance materials and other informational products and services. Through a collaborative structure of partnerships with local, regional and national organizations the Center provides core service delivery of ADA knowledge to the stakeholders of Region VII.
Rocky Mountain ADA National Network Regional Center - Region VIII

Meeting the Challenge, Inc.
3630 Sinton Road, Suite 103
Colorado Springs, CO 80907-5072
rmdbtac@mtc-inc.com
www.adainformation.org

Principal Investigator: Jana Burke, PhD, Project Director 719/444-0268
Public Contact: 800/949-4232 (V/TTY, in CO, MT, ND, SD, UT, and WY); 719/444-0268 (V/TTY); Fax: 719/444-0269

Project Number: H133A110018
Start Date: October 01, 2011
Length: 60 months
NIDRR Officer: Pimjai Sudsawad, ScD
NIDRR Funding: FY 11 $1,000,000; FY 12 $1,000,000; FY 13 $1,000,000; FY 14 $1,000,000; FY 15 $1,000,000

Abstract: The Rocky Mountain ADA Center presents a comprehensive program of training, dissemination, and technical assistance activities designed to move toward full implementation of the Americans with Disabilities Act (ADA) throughout the region. The Center continues its program of technical assistance based on the concept of mass customization to address the specific needs of stakeholders across the region. The training program takes advantage of technology and customized curricula to ensure maximum impact of training activities. Dissemination efforts provide tailored materials that provide actionable information for the specific needs of stakeholders. The Center also has an extensive plan of evaluation and ongoing regional needs assessment research to maximize the efficiency and effectiveness of the ADA Network services.
ADA Technical Assistance Projects
Region IX - AZ, CA, HI, NV, and the Pacific Basin

DBTAC - Pacific ADA Center - Region IX

Public Health Institute
555 12th Street; Suite 130
Oakland, CA 94607-4046
adatech@adapacific.com
www.adapacific.org

Principal Investigator: Erica C. Jones 510/285-5600 (V/TTY)
Public Contact: Erica C. Jones, Project Director 800/949-4232 (V/TTY, in AZ, CA, HI, NV, and the Pacific Basin); 510/285-5600 (V/TTY); Fax: 510/285-5614

Project Number: H133A060098
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 06 $1,105,000; FY 07 $1,105,000; FY 08 $1,105,000; FY 09 $1,105,000; FY 10 $1,105,000; FY 11 (No-cost extension through 02/03/12);
Abstract: The Pacific DBTAC provides technical assistance, training, and information dissemination for Arizona, California, Hawaii, Nevada, and the Pacific Basin. The program places a special emphasis on increasing employment, reasonable accommodation, and retention of persons with disabilities; particularly through outreach to high growth industries, and on enhancing participatory/community living opportunities for persons with disabilities. In addition to enhancements in established training, dissemination, and technical assistance services, the program includes a research program designed to enhance compliance with ADA rules and regulations, expand employment and community living for persons with disabilities, and make significant contributions to the literature in the field. The research program includes two randomized, controlled trials operated by the Center in collaboration with the DBTAC Coordination, Outreach, and Research Center; a collaborative research initiative led by Cornell University that includes a partnership with three additional DBTACs and the Society for Human Resource Management; and two five-year special initiatives operated in conjunction with the Center’s training and technical assistance programs; one to test the effectiveness of selected online disability-related training modules, and the other to develop innovative outreach and training approaches directed toward the hospitality industry.
ADA Technical Assistance Projects
Region IX - AZ, CA, HI, NV, and the Pacific Basin

Pacific ADA National Network Regional Center - Region IX

Public Health Institute
555 12th Street, Suite 130
Oakland, CA 94607-4046
adatech@adapacific.com
www.adapacific.org

Principal Investigator: Erica C. Jones 510/285-5600 (V/TTY)
Public Contact: Erica C. Jones, Project Director 800/949-4232 (V/TTY, in AZ, CA, HI, NV, and the Pacific Basin); 510/285-5600 (V/TTY); Fax: 510/285-5614

Project Number: H133A110024
Start Date: October 01, 2011
Length: 60 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 11 $1,246,000; FY 12 $1,246,000; FY 13 $1,246,000; FY 14 $1,246,000

Abstract: The Pacific ADA Center implements an integrated, multi-dimensional initiative that facilitates enhanced awareness, understanding, compliance, and implementation of the Americans with Disabilities Act (ADA) in all states and territories in within the region. The program places special emphasis on collaborations by expanding the existing Pacific Region ADA Network of affiliate and local community organizations to maximize meeting the grassroots level needs of ADA stakeholders (such as employers, businesses, state and local governments, and individuals with disabilities), as well as the development of resources in the emerging areas of accessible information technology and emergency preparedness. Pacific ADA Center goals include: (1) improving understanding regarding rights and responsibilities and implementation of the Americans with Disabilities Act of 1990, as amended (ADA), the ADA Amendments Act of 2008 (ADAAA) and corresponding regulations for Title I from the U.S. Equal Employment Opportunity Commission, the regulations for Title II and III of the ADA published by the U.S. Department of Justice in 2010, as well as emerging compliance issues in information technologies and emergency preparedness, and continuing developments in ADA case law, policy, and implementation through comprehensive training, dissemination, and technical assistance activities to individuals with rights and responsibilities under the ADA; (2) improving understanding of ADA stakeholders’ needs for, and receipt of, Region IX services over time through data entry and analysis of Center activities in conjunction with the ADA National Network made up of the ADA Knowledge Translation (KT) Center and other ADA Regional Centers; and (3) enhancing the efficiency and effectiveness of ADA information dissemination, awareness, and referral activities by establishing effective, coordinated local, regional, and national resource networks, including by partnering with the ADA KT Center and other regional ADA Centers to develop, implement, and evaluate materials, products, trainings, and services that are useful to ADA stakeholders. The Pacific ADA Center conducts a comprehensive evaluation that monitors the quality, scope, and effectiveness of all Center programs and activities, including a quantitative evaluation program that tracks programmatic outputs related to Center services, and a qualitative evaluation program designed to assess the impacts and outcomes of our work.
ADA Technical Assistance Projects
Region X - AK, ID, OR, and WA

Northwest ADA National Network Regional Center - Region X

University of Washington
The Center for Continuing Education in Rehabilitation
6912 220th Street SW, Suite 105
Mountlake Terrace, WA 98043
dbtacnw@u.washington.edu
www.dbtacnorthwest.org

Principal Investigator: Kathe Matrone, PhD 425/771-7436 WA); 425/248-2480 (V); Fax: 425/774-9303

Project Number: H133A110015
Start Date: October 01, 2011
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 11 $1,000,000; FY 12 $1,000,000; FY 13 $1,000,000; FY 14 $1,000,000; FY 15 $1,000,000

Abstract: The purpose of the ADA National Network Regional Center – Region X (Northwest ADA Center) is to provide a sustained program of outreach, training, technical assistance, information dissemination, and capacity building to Americans with Disabilities Act (ADA) stakeholders in Region X. These ADA Network Services assist any individual or entity with rights and responsibilities under the ADA in understanding those rights and responsibilities. These services address established ADA requirements, more recent legislative and regulatory changes, as well as information in emerging areas. The Northwest ADA Center also participates with the ADA Knowledge Translation Center and other ADA Regional Centers in assessing the needs and documenting the receipt of ADA Network Services, as well as enhancing efficiency and effectiveness of ADA Network Services. The Northwest ADA Center achieves these outcomes through three major delivery strategies: (1) services provided throughout the region (regional office activities), (2) state anchor activities (state partners in AK, ID, OR, WA), and (3) community impact partners (local partners). Project activities within these delivery strategies include: outreach; training; technical assistance; dissemination of information; capacity building; maintaining online resources (i.e. website, databases); developing projects and tools; offering distance education; data analysis and needs determination; and identifying, developing, and maintaining local partnerships and collaborations.
Capacity Building for Rehabilitation Research and Training

In the arena of capacity building, NIDRR has focused its efforts on the personal and professional development of scientists, advocates, and people with disabilities, and is expanding this approach to include development of the capacity of institutions and organizations, especially those that address the needs of underserved populations. At the individual level, NIDRR focuses on capacity building to ensure a source of researchers to carry out the research agenda. In addition, NIDRR capacity building at this level enhances the ability of researchers to generate useful new knowledge. NIDRR historically has sought to increase the number of individuals from underrepresented groups in this effort, particularly those with disabilities. At the organizational or systems level, NIDRR capacity building supports the framework for carrying out individual level research work. At the systems level, all NIDRR programs may be said to involve capacity building, in that NIDRR funding is intended to increase the capacity of the field to conduct high quality research directed at its long-term goals and objectives.

Contents

Rehabilitation Research and Training Centers (RRTCs) ....................................................... 3
Disability and Rehabilitation Research Projects ................................................................. 6
Fellowships (Distinguished) .................................................................................................. 9
Fellowships (Merit) ............................................................................................................... 14
Advanced Rehabilitation Research Training Projects ....................................................... 24
University of Illinois at Chicago National Research and Training Center on Psychiatric Disability

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Project Number: H133B050003
Start Date: October 01, 2005
Length: 60 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 05 $500,000; FY 06 $500,000; FY 07 $500,000; FY 08 $1,300,000; FY 09 $500,000; FY 10 (No-cost extension through 9/30/2011); FY 11 (No-cost extension through 9/30/2012)
Other Funding: FY 05 $800,000 Centers for Mental Health Services (CMHS); FY 06 $800,000 CMHS; FY 07 $800,000 CMHS; FY 08 $800,000 CMHS; FY 09 $800,000 CMHS

Abstract: The University of Illinois at Chicago National Research and Training Center on Psychiatric Disability (UIC-NRTC) promotes access to effective consumer-centered and community-based practices for adults with serious mental illness. The Center is conducting five rigorous research projects to enhance the state of evidence-based practice (EBP) in this field: (1) a randomized controlled trial (RCT) study of Wellness Recovery Action Planning (WRAP) to gather evidence regarding its effectiveness; (2) an RCT to evaluate the effectiveness of BRIDGES, a 10-week peer-led education course designed to provide mental health consumers with basic education about the etiology and treatment of mental illness, self-help skills, and recovery principles; (3) an RCT of peer support services delivered by Georgia’s Certified Peer Specialists at consumer-run Peer Support Centers in order to determine the outcomes of service recipients; (4) a self-directed care program in which adults with serious mental illnesses are given control of financial resources to self-direct their own recovery; and (5) a project using data from 12 clinical trials studies of consumer-operated service programs to create a national data repository to promote research and develop scholarship in this area. The Center also conducts state of the art training, dissemination, and technical assistance projects designed to enhance the leadership skills of people with psychiatric disabilities, and evaluate a self-advocacy skills training program delivered to clients of a large psychosocial rehabilitation agency. Additional projects evaluate self-advocacy skills training programs and implement training programs to prepare consumer leaders in the State of California to take part in systems change in their local communities. UIC-NRTC is embarking on an academic curriculum transformation project starting at UIC in the medical, social, and behavioral sciences to incorporate principles of recovery and EBP for people with psychiatric disabilities. The UIC-NRTC is designing and administering a no-cost online certification program, providing comprehensive introduction of knowledge required by peer providers. Additionally, the UIC-NRTC is providing training and developing proj-
ects and tools to assist individuals in recovery to gain the skills necessary for community integration by enhancing the research capacity of three federally-funded consumer-run Technical Assistance Centers. Finally, the UIC-NRTC is offering an annual series of online workshops; web-based continuing education courses; and a state-of-science national conference (2008) focusing on EBP, research implementation, consumer-centered systems, workforce development, and other emerging trends.
**Rehabilitation Research and Training Centers (RRTCs)**

**Illinois**

### RRTC on Psychiatric Disability and Co-occurring Medical Conditions

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**Project Number:** H133B100028  
**Start Date:** October 01, 2010  
**NIDRR Officer:** David W. Keer  
**NIDRR Funding:** FY 10 $649,976; FY 11 $649,976; FY 12 $649,976; FY 13 $649,976; FY 14 $649,976

**Abstract:** The Rehabilitation Research Training Center (RRTC) on Psychiatric Disability and Co-occurring Medical Conditions conducts a series of projects to identify and reduce health disparities among people with psychiatric disabilities while promoting wellness and recovery, enhancing employment outcomes, and providing targeted education and training. Research projects include a seven-state health screening of people with psychiatric disabilities to estimate the prevalence of medical co-morbidities and people's health care needs. Also included are two randomized controlled trial studies on: (1) an electronic decision support system to motivate smoking cessation treatment, and (2) the Georgia Peer Support Whole Health model to determine its effectiveness in helping people set and achieve personal health goals. Another project involves assessment of the impact of using a disease registry to improve health and mental health care coordination for people with co-occurring diabetes and psychiatric disabilities. The final research project involves developing and testing a new model combining evidence-based practice supported employment with peer wellness promotion. Training projects include adaptation of an evidence-based weight management intervention into a curricular format for use by clinicians and peer providers, as well as a how-to health screening manual to be tested in three locations to promote public policy shifts that improve medical care. Another program equips medical students and residents with knowledge about evidence-based medicine when treating co-occurring psychiatric disability and medical conditions, while another project explores the utility of an electronic performance tracking and outcomes monitoring system linking statewide peer-run self-help centers. Also offered is an on-line instructional program, as well as the creation and evaluation a web-based employee wellness program for a peer workforce employed in five states. Also included is a project to create large-scale system change by using Medicaid dollars to fund peer-delivered illness prevention and health promotion services. Finally, the Center is convening a state of the science national conference in 2014 resulting in a comprehensive report.
Disability and Rehabilitation Research Projects
New Hampshire


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Project Number: H133A080063
Start Date: October 01, 2008
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 08 $354,345; FY 09 $355,566; FY 10 $349,740; FY 11 $353,228; FY 12 $355,891

Abstract: The goal of the three projects conducted by this center is to understand the broad service experience of African-Americans in psychiatric rehabilitation. The first project assesses the influence on rehabilitation of living in independent housing units in small, relationship-centered buildings that accommodate other people in recovery from mental illness. Seven of these small communities, each with approximately 120 apartments, are the focus of this project. These are located in and around Washington DC, and are studied longitudinally for three years using focus groups, interviews, and ethnography to assess influence of living in such a building on recovery and community integration. The second project examines the process of rehabilitation for African-Americans with a co-occurring severe mental illness and substance use disorder. Participants are those whose primary substance use is illegal drugs, and who are receiving either (1) dual diagnosis case management; (2) case management plus group therapy; or (3) case management plus contingency management. Participants are followed quantitatively and qualitatively over 18 months to assess how African Americans respond to these treatments, as well as their subjective perception of treatment delivery and impact. The final project is a study of the service experience of African-Americans in supported employment. Participants in six different supported employment programs are assessed quantitatively, for drop-outs, engagement, and missed appointments, and qualitatively through interviews and participant observation to understand the dynamics of the patient-provider interaction. The aim of this research is to assess the cultural competence of such programs, with an eye to building improved models tailored to African-Americans. This research involves a collaboration between Dartmouth Psychiatric Research Center and Howard University College of Medicine, Department of Psychiatry.
Center on Health Outcomes Research and Capacity Building for Underserved Populations with SCI and TBI

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Project Number: H133A080064  
Start Date: October 01, 2008  
Length: 60 months  
NIDRR Officer: Shelley Reeves  
NIDRR Funding: FY 08 $353,133; FY 09 $353,134; FY 10 $353,134; FY 11 $354,133; FY 12 $353,133

Abstract: This project builds the capacity of institutions that address the needs of underserved populations by: (1) conducting two innovative studies to generate new knowledge on the health of three underserved racial-ethnic groups with traumatic neurologic injuries; (2) providing capacity building through collaboration with South Carolina State University, a historic Black university, specialized instruction of undergraduate and graduate students, and widespread training to institutions and organizations that represent underserved populations; and (3) providing technical assistance to a wide array of target audiences to enhance the capacity to meet the needs of underserved populations. In Study 1, researchers interview 500 African-Americans from population-based surveillance systems with spinal cord injuries (SCI) or traumatic brain injuries (TBI) and compare their health behaviors, access to services, and the prevalence of chronic diseases with African-Americans in the general population (based on CDC surveillance). Researchers then identify the extent to which disparities observed in the general population are magnified after injury. Study 2 involves interviews with 836 participants with SCI, 575 of whom come from underserved populations (African-Americans, Hispanics, and American Indians) in order to identify psychological, environmental, and behavioral predictors of secondary health conditions. Mediational models are tested to identify the risk and protective factors most strongly associated with disparities in health outcomes (e.g., pain, depression, pressure ulcers) and the extent to which disparities disappear when accounting for these factors. Researchers also determine whether the predictive model is invariant across race-ethnicity (i.e., whether the significant predictors are the same across different racial-ethnic groups) and, if not, which predictors are most important for each. Capacity building efforts include workshops, mentorship of undergraduate and graduate students, and technical assistance.
Empowerment: Building Research Infrastructure Capacity

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Project Number: H133A080060
Start Date: October 01, 2008
Length: 60 months
NIDRR Officer: Pimjai Sudsawad, ScD
NIDRR Funding: FY 08 $356,550; FY 09 $356,373; FY 10 $356,373; FY 11 $356,614; FY 12 $356,593

Abstract: This project identifies and evaluates current practice and methods in the conduct of minority disability research, offers research findings, and improves the capacity of minority institutions and persons with disabilities to effectively conduct and disseminate such research thereby advancing the state of the art and capacity in this research area. The project conducts three primary studies: (1) a national survey that examines the experiences of Americans with disabilities from underrepresented racial and ethnic minority groups to illuminate the current capacity of the public rehabilitation and disability system, and what research methods, dissemination practices, and strategies are needed to advance culturally competent research in the field; (2) a longitudinal study of post-injury unemployment for minority persons with traumatic brain and spinal cord injuries; and (3) prevalence and trends in employment discrimination due to disability for different ethnic groups. In addition to these three studies, the project has seven objectives: (1) establish meaningful collaborations and partnerships with historically black universities, (2) convene a major Think Tank Summit in Year 1 that becomes an ongoing Minority Disability Research Consortium, (3) create and implement an ongoing interactive web portal, (4) mentor interested minority students and faculty members, (5) infuse minority disability research best practices into research courses, (6) teach grant writing and publishing skills, and (7) conduct a State-of-the-Science Conference. The proceedings from such a conference and the results from the three studies lead to a major project outcome of a Handbook on Minority Disability Research. Other project outcomes include but are not limited to published papers from the three studies; a national network of individuals with disabilities and minorities from which the efficacy of research and dissemination practices can be evaluated in an ongoing manner; a web database of exemplary research studies, and trained minority students and university faculty who can implement minority disability research best practices identified by this effort and produce more research, including funded research via NIDRR grants, in the future.
The Effectiveness of a 3D Virtual Reality Vocational Problem Solving Skill Training Program to Enhance Employment Opportunities for Persons with TBI: An Exploratory Study

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Project Number: H133F100025
Start Date: October 01, 2010
Length: 12 months

NIDRR Officer: Margaret Campbell, PhD
NIDRR Funding: FY 10 $75,000; FY 11 (No-cost extension through 9/30/2012)

Abstract: This project examines the effectiveness of an artificial intelligent-3D virtual reality vocational problem solving skill training program in enhancing employment opportunities for persons with traumatic brain injury (TBI) in addition to building upon existing literature on using virtual reality technology in vocational rehabilitation (VR). Participants are persons with mild to moderate TBI, as operationally defined by the level of altered consciousness experienced by a person following injury and by common features such as Glasgow Coma Scale, the duration of loss of consciousness and duration and the duration of post traumatic amnesia. Participants are recruited from community rehabilitation facilities and centers that serve people with TBI located in Hong Kong. These individuals have already gone through acute and sub-acute rehabilitation phases and now are involved in vocational rehabilitation. The selection criteria for this study are: age between 18 and 65; mild to moderate TBI; sufficient attention and memory; medically stable; and with no psychiatric and visual disability. A quasi-experimental design is used to compare the effectiveness of a 3-D VR vocational problem solving skill training program with the conventional psycho-educational approach training. Forty participants with mild or moderate TBI with n=20 in each group are randomly assigned to each training program. Each group receives 20 training sessions with 20 minutes per session on two job skills, car washing and clerical work. Six month follow-up on the employment outcomes are collected using the Wisconsin Card Sorting Test, the Tower of London test, and the Vocational Cognitive Rating Scale in performing pre-post comparisons on problem solving skills. Project outcomes include: (1) demonstrating the feasibility and effectiveness of using virtual reality technology in employment training with persons with TBI, and (2) filling the gaps in the literature in applying VR in functional job skills training.
Evaluation of a Training Program to Enhance Clinical Supervision of State Vocational Rehabilitation Supervisors

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Project Number: H133F100003
Start Date: October 01, 2010
Length: 12 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 10 $75,000; FY 11 (No-cost extension through 9/30/2012)

Abstract: This study involves the development, delivery, and evaluation of a training program designed to enhance clinical supervision within the state vocational rehabilitation (SVR) program. As defined in this study, clinical supervision involves a supportive and developmental relationship between the SVR supervisor and counselor where the focus is to improve counselor skill development and case management decisions that lead to successful VR outcomes. This project develops, implements, and evaluates a training program specifically designed for practicing SVR supervisors to improve clinical supervision practices. The study uses multiple outcome measures to assess changes in clinical supervision knowledge, self-efficacy, behavior, and the working supervisory relationship between SVR supervisors and counselors. Using an experimental design (randomized assignment), supervisors interested in participating in the training program are either assigned to a training or no training group. In order to further evaluate and validate findings, counselors are also asked to complete parallel measures of their perceptions regarding supervisor knowledge, self-efficacy, behavior, and the working relationship within clinical supervision. The training program involves three days of on-site training followed by a six-month follow-up period to support initial skill development. Assessments are taken on three occasions: prior to, one-month, and six months after the on-site training to develop/enhance clinical supervision among SVR supervisors. Further, experimental measures to assess effective clinical supervision behavior and self-efficacy is under development by a Research Advisory Board of current and retired SVR personnel. This board is also involved with the development of the initial on-site training program.
Comparison of Transition Programs for Students with Intellectual Disability: Are Experiences, Supports, and Outcomes Different for those in Postsecondary Education Programs?

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Project Number: H133F110042
Start Date: October 01, 2011
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 11 $75,000

Abstract: The purpose of this study is to evaluate postsecondary programs (PSE) for students with intellectual disabilities (ID), and determine how programs are designed to provide services to young adults with ID. Students with disabilities, in particular students with ID, continue to lag behind their peers without disabilities in terms of their post-school outcomes. In this study, six different post-secondary education programs that provide educational and/or transition supports to students with ID between the ages of 18 and 22 participate in an in-depth, qualitative study. Information is collected from students, teachers, faculty, program administrators, and/or parents. Similarly, information about the educational and transition supports and services to youth with ID between the ages of eighteen and twenty-two who are enrolled in school-based transition programs is also collected to determine the differences and similarities between the two settings, types of programs, and outcomes anticipated for their participants. The framework for evaluation builds upon research-based universal design for learning approach to academic instructional design and implementation, and links this to evidence-based practices for transition. This framework provides an opportunity to greater understand the opportunities and experiences provided to students with ID in transition programs that are PSE and school-based as well as establishing the groundwork for future research, policy, and advocacy on transition services for students with ID.
Furthering Collaboration Among Disability and Aging Research Networks

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Project Number: H133F110019
Start Date: October 01, 2011
Length: 12 months
NIDRR Officer: Margaret Campbell, PhD
NIDRR Funding: FY 11 $75,000

Abstract: The long-term objectives of this study are to assess and directly target the disconnection between aging and disability researchers via two interrelated projects: (1) a bibliometric analysis of the citation network present in aging and disability journals over time, which reveals how the research networks have or have not interacted, and (2) the empirical standardization and testing of a key research term (“secondary health conditions”) with relevance to both aging and disability research networks. Project 1 includes collaboration with members of a specialized research laboratory with expertise in bibliometric network analysis. This project analyzes the Thompson Reuters Journal Citation Reports database, which contains more than 150 million individual articles published over the past 17 years. Project 2 involves formation and testing of a structural equation model of the construct of “secondary conditions.” Project activities include consultation with leading experts in bibliometric network analysis (project 1), and in large database management and structural equation modeling (project 2).
Role of Sensation and Sensory Stimulation to Improve Hand Grip in Persons with Stroke

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Project Number: H133F110005
Start Date: October 01, 2011
Length: 12 months
NIDRR Officer: Margaret Campbell, PhD
NIDRR Funding: FY 11 $75,000

Abstract: This project analyzes and evaluates the key mechanisms limiting hand function following stroke to develop mechanism-based rehabilitation methods to improve hand function. Specifically, this project identifies the biomechanical and neural mechanisms underlying impaired hand power grip following stroke and evaluates the effect of cutaneous stimulation on stroke survivors’ digit force direction during power grip. Based on the central hypothesis that abnormal paretic digit force direction following stroke contributes to unstable power grip, and cutaneous stimulation of the forearm corrects this abnormal digit force direction during power grip, this project determines mechanisms for unstable power grip and the effectiveness of sensory stimulation in enhancing paretic grip patterns to develop assistive devices and/or long-term sensorimotor training to specifically address the identified mechanisms, enhance sensation, and improve paretic grip for stroke survivors. This project has two aims: (1) determine the role of sensory deficit in stroke survivors’ altered digit force direction, and (2) determine the effect of cutaneous stimulation on power grip pattern in stroke. The two aims are accomplished using a novel custom-developed grip dynamometer that enables measurement of digit force direction for each phalanx. Expected outcomes include: (1) interpreting the biomechanical and neurologic mechanisms underlying paretic hand grip impairment, and (2) determining the efficacy of sensory stimulation in correcting altered digit force direction in the paretic hand of stroke survivors. Project outcomes provide critical information on both underlying mechanisms and quantitative paretic grip characteristics that can be exploited to design novel interventions such as an assistive glove correcting digit force direction and a portable sensory stimulation device enhancing sensation of the upper extremity and motor function. In addition, the data and knowledge obtained are incorporated into sensory re-training and physical therapy to enhance functional recovery in persons with stroke; thereby increasing stroke survivors’ ability to perform activities of daily living, functional independence, and quality of life.
Motor Unit Control Property Changes Post-Stroke: A High-Yield Surface EMG Decomposition Analysis

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Project Number: H133F110033
Start Date: October 01, 2011
Length: 12 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 11 $65,000

Abstract: This research project investigates the origins of hemispheric stroke-induced muscle weakness. Specifically, this project examines the associations between weakness and motor unit control properties (i.e. recruitment and firing rate). An examination is performed using the most recently developed high-yield surface electromyogram (EMG) decomposition technique, which allows tracking single motor unit activity up to maximum voluntary contraction. Different degrees of compression of motor unit recruitment range and reduction of motor unit firing rates in paretic muscles of stroke survivors are observed. Examination of motor unit properties post-stroke assists in identifying specific mechanisms of muscle weakness, and thereby help to guide rehabilitation. Additionally this data is significant in the development of theoretical models examining relationships between motor unit and whole muscle properties post-stroke.
Examining the Relationship between Anger and Attributions of Hostile Intent after Traumatic Brain Injury

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Project Number: H133F110013
Start Date: October 01, 2011
Length: 12 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 11 $65,000

Abstract: This research study determines if participants with traumatic brain injury (TBI) who have higher trait anger/aggression are more inclined to perceive people's behaviors as having hostile or negative intentions (even when they are not), and if misattributions of negative intent are related to inappropriate anger responses. Problems with anger and aggression are common after TBI and are routinely linked with pervasive and negative psychosocial outcomes. There is a demand for research to better understand anger and aggression after TBI in order develop suitable methods to treat these impairments. In this study, participants with moderate to severe TBI, who are a minimum of six months post-injury and between the ages of 18 and 65 years are recruited. Participants are provided with scenarios describing others' behaviors (in reference to the participant) that have been predetermined by a normative sample to have hostile, benign, or ambiguous intentions. Using a 9-point Likert scale, participants rate their perceptions of intent, hostility, and anger response. Trait anger/aggression is then measured with the Buss-Perry Aggression Questionnaire. For each scenario type, the Spearman Rho is used to calculate correlations between trait anger/aggression and hostility ratings, trait anger/aggression and anger response, and hostility ratings and anger responses. Participants with higher trait anger/aggression are expected to have a bias perceiving more hostile/negative intentions for ambiguous and benign behaviors. Additionally stronger hostility ratings associated with stronger anger responses provide a correlation between biased perceptions and hostile intentions contributing to frequent and inappropriate anger responses after TBI. This study establishes pilot data critical for planning future studies and project findings have significant implications for cognitive behavioral therapy treatment.
Is There Really No Place Like Home? An Exploratory Study of the Impact of Non-Visitatable Homes on Wheelchair Users

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Project Number: H133F110017
Start Date: October 01, 2011
Length: 12 months
NIDRR Officer: Hugh Berry, EdD
NIDRR Funding: FY 11 $65,000

Abstract: This study explores the experiences of wheelchair users regarding barriers encountered in visiting or attempting to visit others’ homes. Inaccessible homes of family and friends present barriers that may reduce both community participation and social support for people using wheelchairs. This problem has generated a national “visitability” policy initiative to promote accessible features in newly-built single-family homes that permit visiting by those with mobility disabilities. This project attempts to discover how wheelchair users interpret their experiences through four project objectives: (1) conducting phone interviews with a stratified purposive sample of 15 to 20 wheelchair users, (2) analyzing data to derive the essence of the experience, (3) generating a list of survey questions for a quantitative investigation based on the knowledge gained, and (4) conducting several focus groups of wheelchair users to obtain feedback on the relevance and efficiency of the survey questions generated. Study outcomes and products include: (1) obtaining data to further support the visitability policy initiative, and (2) developing a survey instrument for quantitative exploration of this experience. Other possible products include educational tools for creating temporary home accessibility to facilitate visitability, and insight into ways of initiating discussion of visitability for both wheelchair users and their family and friends.
Consequences of Wheelchair Tie-Down and Occupant Restraint System Practices on Wheelchair Passenger Safety in Fixed-Route Transit

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Project Number: H133F100032
Start Date: October 01, 2010
Length: 12 months

NIDRR Officer: William V. Schutz, PhD, MSW, MPH
NIDRR Funding: FY 10 $65,000; FY 11 (No-cost extension through 3/31/2012)

Abstract: This study consists of three major phases describing the consequences of the misuse and disuse of wheelchair and tie-down occupant restraint systems (WTORS) for wheelchair passengers on large accessible transit vehicles (LATVs). Phase I includes a case study of adverse events involving wheelchair seated passengers on LATVs; Phase II includes driving experiments using a wheelchair seated anthropomorphic testing device onboard a LATV; and Phase III consists of developing, validating, and verifying a computer simulation model of a wheelchair passenger onboard a LATV. Using the model, a parametric sensitivity analysis is conducted to investigate the influence of various model parameters on wheelchair and passenger outcomes, and to identify the consequences of WTORS disuse and misuse providing the rationale for new transit agency policies regarding wheelchair transportation safety.
Fellowships (Merit)
Massachusetts

Sibling Connections to Employment: The Role of Adult Siblings of People with Intellectual and Developmental Disabilities in Supporting the Competitive Employment of Their Brothers and Sisters

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Project Number: H133F110018
Start Date: October 01, 2011
Length: 12 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 11 $65,000

Abstract: This project examines how adult siblings of people with intellectual and developmental disabilities (I/DD) support their brothers and sisters in identifying and maintaining competitive employment. People with I/DD are living longer than ever before. This increased lifespan also extends opportunities for community participation, employment, and social interaction. Research suggests that adult siblings of people with I/DD will become key components of the future generation of family support. Since adult siblings have a vested interest in maximizing the independence of their brother or sister with I/DD, they may be a natural support to their sibling in the area of employment. Project objectives include: (1) identifying key strategies that brothers and sisters use in supporting their siblings with disabilities in (a) finding employment and (b) maintaining employment; (2) developing a module that incorporates these strategies to teach adult siblings of people with I/DD how to help their adult brothers and sisters identify and maintain competitive community employment; (3) conducting a formative evaluation to establish the relevance of these modules for adult siblings of people with I/DD; and (4) providing recommendations for further development of the module for adult siblings of people with I/DD. The result is a module that teaches adult siblings to identify and mobilize social networks to support competitive employment of their brother or sister. This study uses exploratory, multi-phase qualitative study utilizing focus groups triangulated with expert input from a Sibling Employment Interest Group (SEIG). The SEIG includes 6 to 10 adult siblings of people with I/DD, self-advocates with I/DD, and leaders in competitive employment. The study is implemented in five phases. In the Preliminary Phase, the SEIG identifies gaps in the literature on sibling employment support and develop questions for Phase I. Qualitative on-line focus groups are used to identify strategies that siblings use to identify and maintain competitive employment for their brothers and sisters with I/DD. Phase I findings are incorporated into a “Sibling Employment Support” module that incorporates a social networking approach. In Phase II, a qualitative focus group is held with 6 to 10 adult siblings from Boston area service and advocacy agencies to determine if the module learning objectives, content, and activities are meaningful and
relevant to adult siblings of people with I/DD seeking or maintaining competitive employment. During the Wrap-Up Phase, finalized revisions to the sibling employment module based on Phase II findings are completed and potential audiences and venues for future dissemination are identified.
Fellowships (Merit)
Massachusetts

Cardiovascular Fitness, Cognition, Mood, and Function in Community-dwelling People with Traumatic Brain Injury (TBI)

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Project Number: H133F110027
Start Date: October 01, 2011
Length: 12 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 11 $65,000

Abstract: This study explores the relationship between cardiovascular fitness, cognition, and mood and function in a community-dwelling population in recovery from moderate-to-severe TBI. This descriptive study includes community-dwelling patients referred from University of Washington Brain Injury Rehabilitation clinic and TBI Model System database who are within 24 months of TBI and who have a documented impairment in memory or executive function at the time of injury. Participants undergo VO2max assessment, neuropsychological evaluation of memory and executive function, and complete surveys of mood, community function, and TBI symptomatology. A three-variable correlation analysis, adjusted for time since injury, is performed to evaluate the relationship between VO2max, executive function, memory, and mood.
Evaluating a Novel Intervention to Reduce Instability in Patients with Stroke

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Project Number: H133F100010
Start Date: October 01, 2010
Length: 12 months
NIDRR Officer: William V. Schutz, PhD, MSW, MPH
NIDRR Funding: FY 10 $65,000; FY 11 (No-cost extension through 9/30/2012)
Abstract: This project promotes effective balance behaviors of individuals who have had a stroke and determines if an intervention augmenting lower limb somatosensory signals through vibration of the feet effectively increases their segmental degrees of freedom and reduces their sensitivity to disorienting visual motion. Two components to this project include: (1) instituting a training paradigm that gradually increases the postural demands with a progressively unstable base of support, thus providing augmented feedback under their feet to enhance attention to feedback about changes in position of the base of support; (2) testing whether repeated experience with this augmented feedback carries over to compensatory balance responses when standing posture is perturbed within a dynamic visual environment immediately after and two weeks after the training period.
Fellowships (Merit)
Pennsylvania

Development of a Physical Activity Monitor System for Manual Wheelchair Users

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Project Number: H133F110032
Start Date: October 01, 2011
NIDRR Officer: William V. Schutz, PhD, MSW, MPH
NIDRR Funding: FY 11 $65,000

Abstract: This study develops a Physical Activity Monitor System (PAMS) that enables persons who use manual wheelchairs, researchers, and clinicians to collect, quantify, and categorize physical activity (PA) levels. Lack of regular physical activity in the general population is a top public health concern but this problem is even more acute among people with disabilities who use manual wheelchairs. Providing an accurate estimate of PA levels in MWUs assists researchers and clinicians to quantify day-to-day PA levels in free-living environments, leading to recommendations for a healthier lifestyle. PAMS allows MWUs to track their own PA participation, encouraging them to increase PA levels, thus leading to improved health, increased community participation, enhanced quality of life, and a sense of empowerment. The PAMS is developed by integrating three components to measure overall PA levels in manual wheelchair users (MWUs): (1) a wheel rotation data logger that captures wheelchair wheel movement, (2) a wearable accelerometer device (wocket) that tracks upper arm accelerations, and (3) a smart phone that uses an internal accelerometer to track whole body acceleration. Engineering validation tests are conducted to test the integrated PAMS. Real-time feedback of PA levels is provided through the smart phone. Additionally, the software on the smart phone uses innovative data modeling techniques to process multi-modal sensor data to quantify PA levels into distance travelled, velocity of wheelchair, and time spent in wheelchair-related activities. This research incorporates a participatory action design model design by involving consumers (end-users) in the development process of the PAMS. Project activities include: (1) a pilot study of MWUs performing various physical activities during the algorithms’ development phase; (2) the performance of PAMS is evaluated through focus groups involving MWUs, researchers, and clinicians increasing the chances of technology acceptance in MWUs; and (3) preliminary and final research outcomes are presented at Annual Rehabilitation Science and Assistive Technology Society of North America (RESNA) Conference and IEEE Engineering in Medicine and Biology Society Conference, as well as publication in peer reviewed journals.
**Omega Fatty Acids in Neurological Recovery**

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**Principal Investigator:** Christian N. Shenouda, MD  
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**Project Number:** H133F110028  
**Start Date:** October 01, 2011  
**Length:** 12 months  
**NIDRR Officer:** Theresa San Agustin, MD  
**NIDRR Funding:** FY 11 $65,000

**Abstract:** This study assesses the efficacy of docosahexaenoic acid/eicosapentaenoic acid (DHA/EPA) compared to placebo on motor recovery and functional impact in participants with acute ischemic brain lesions. Stroke is the leading cause of serious, long-term disability in the United States, with about 75,000 new strokes annually. More than 50% of stroke survivors have residual motor and functional deficits which have an impact on their participation and quality of life. There are no pharmaceutical interventions to improve recovery except for Tissue Plasminogen Activator (tPA), which has a lengthy list of exclusion criteria including the need to be administered within three hours of onset. DHA/EPA are naturally occurring omega-3 fatty acids contained in fish oils. Fish oils, which have been demonstrated to reduce cardiovascular disease in animal studies, show promising results in enhancing neurological recovery after stroke. This research study is a 90-day prospective, double-blind, randomized 1-to-1 controlled pilot study with two groups (active drug and placebo) with 20 enrolled participants with acute ischemic stroke in an inpatient rehabilitation unit in a hospital designated as a Primary Stroke center. Patients receiving DHA/EPA are expected to have improved motor abilities and functional performance as measured by Fugl-Meyer Assessment of Motor Recovery after Stroke Scale and the Stroke Impact Scale. In addition to measuring the effect on motor impairment and function, enrolled subjects are evaluated for adverse effects to the DHA/EPA through blood tests establishing a baseline, and rechecking at 45 and 90 days.
Advanced Rehabilitation Research Training Projects
California

Advanced Rehabilitation Research Training in Neuromuscular and Neurodevelopmental Disorders

Regents of the University of California at Davis
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Principal Investigator: Craig M. McDonald, MD 916/734-2923
Public Contact: Patricia Settje, Education Coordinator 916/7345292

Project Number: H133P110005
Start Date: October 01, 2011
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 11 $150,000; FY 12 $150,000; FY 13 $150,000; FY 14 $150,000; FY 15 $150,000

Abstract: The Advanced Rehabilitation Research Training at UC Davis (ARRT) provides core research methodology training, advanced research training, research experience, mentorship, and career development support for clinicians, allied health professionals, and post-doctoral students committed to developing productive careers in rehabilitation research. The aim of the ARRT is to produce rigorously-trained, extramurally-competitive and scientifically-productive independent investigators or physician-scientists who improve the health outcomes, participation, and quality of life of individuals with disabilities. Over the course of five years this ARRT trains ten postdoctoral or physician trainees in a two-year comprehensive program to develop specialized and multidisciplinary research skills. The focus of the research training is a mentored period of hypothesis-driven clinical research in areas related to the rehabilitation of individuals with neuromuscular diseases or neurodevelopmental disorders. The training provides core research competency in the following areas: (1) rehabilitation concepts and research methodology, (2) clinical epidemiology and study design, (3) methods in clinical research, (4) strategies for writing grants and publications, (5) health informatics, (6) medical statistics, and (7) responsible conduct of research. Advanced coursework and clinical training in neuromuscular diseases and neurodevelopmental disorders completes the didactic coursework. Each trainee is required to develop his/her own research project and grant proposal, author a scientific publication, and present findings at professional meetings and conferences. Rigorous and periodic assessment of the individual trainee’s progress, as well as a periodic evaluation of the training program ensures the development of successful research training providing a research foundation that cultivates continual mentorship and provides multidisciplinary research opportunities for trainees to engage in productive careers that benefit the lives of individuals with neuromuscular and neurodevelopmental disorders.
Advanced Rehabilitation Research Training Projects
District of Columbia

Advanced Rehabilitation Research Training in Neurorehabilitation

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Project Number: H133P100015
Start Date: October 01, 2010
Length: 60 months
NIDRR Officer: Margaret Campbell, PhD
NIDRR Funding: FY 10 $150,000; FY 11 $150,000; FY 12 $150,000; FY 13 $150,000; FY 14 $150,000

Abstract: This project develops a comprehensive training program incorporating hands-on research experience within a high-quality laboratory setting for post-doctoral fellows focusing on the recovery of function after a central nervous system (CNS) injury. This training program targets individuals with advanced rehabilitation-related degrees (physicians, physiatrists, neurologists, neurosurgeons, PhD trained physical and occupational therapists, and biomedical engineers). The program co-directors and training faculty are experienced mentors and researchers with both clinical and basic science experience in nervous system responses to CNS injury and recovery of function. This project promotes interactions between basic and clinical research to develop effective interventions and promote functional recovery after CNS injuries, such as brain and spinal cord trauma and stroke. Didactic courses provide a firm basis in all areas of neuroscience research, including the basic sciences, the clinical aspects of neurological disorders, clinical research methodology, and cutting edge technologies. Participating fellows receive formal training through courses, workshops, and seminars covering such topics as scientific writing, grant preparation, teaching methodologies, scientific resources and technologies for neuroscience research, and ethics in science and research, with guidance in career opportunities. Additionally, participating fellows receive personalized career mentoring and assistance in developing the specific skills necessary for a career success. This project’s goal is to provide the strongest possible education for early career development of neuroscience rehabilitation researchers while contributing to rehabilitation research and improving the quality of life for individuals with spinal cord injury, traumatic brain injury, and stroke.
Advanced Rehabilitation Research Training Projects
Illinois

Advanced Training in Translational and Transformational Research to Improve Vocational Outcomes for Persons with Disabilities

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Principal Investigator: Renee Taylor, PhD
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Project Number: H133P060003
Start Date: September 01, 2006
Length: 60 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 06 $150,000; FY 07 $150,000; FY 08 $150,000; FY 09 $150,000; FY 10 $150,000; FY 11 (No-cost extension through 8/31/2012)

Abstract: This project provides an intensive, interdisciplinary postdoctoral training program that actively engages scholars in research designed to improve employment for persons with disabilities. This advanced training program focuses on sub-populations of people with disabilities who are likely to encounter the greatest number of barriers to accessing employment and relevant vocational services. Moreover, the training program emphasizes preparing scholars to conduct research that has real world impact (i.e., guiding and changing services, programs, organizations, and policies that influence employment of persons with disabilities). This training program emphasizes: (1) translational scholarship that uses empirical knowledge to develop, refine, and test optimal services and environmental strategies to support employment; and (2) transformational scholarship employing participatory methodologies that involve stakeholders in the research process and directly improve services, programs, organizations, and policies. The training is strongly informed by concepts from disability studies that highlight the importance of relevant services that address the perspectives of persons with disabilities and that address environmental barriers to employment. The postdoctoral training program recruits and enrolls seven highly qualified postdoctoral trainees from a variety of disciplines. Particular efforts are made to recruit postdoctoral trainees with disabilities as well as those from diverse backgrounds. Each trainee completes an intensive two-year advanced training program designed to assure acquisition of key skills critical to successful research careers. The training program includes: (1) didactic preparation, (2) close mentoring by highly qualified researchers, (3) immersion in ongoing research, and (4) field placement in carefully selected programs or organizations where employment of people with disabilities is being addressed. Trainees undergo a structured and closely supervised training process with a range of opportunities for didactic and experiential training and with common expected milestones. At the same time, each trainee’s program is individually designed to assure that the trainee has access to the most rigorous and relevant concepts and research methodologies for his/her chosen focus for studying vocational needs, services, and outcomes. The project monitors and assures high quality training, and supports trainees to develop capacity to enter productive research careers that directly improve services, programs, and policies and that remove barriers to the employment of people with disabilities.
Advanced Rehabilitation Research Training Project in Rehabilitation Services Research

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Principal Investigator: Allen W. Heinemann, PhD
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Project Number: H133P080006
Start Date: July 01, 2008
Length: 60 months
NIDRR Officer: Doris Werwie, PhD
NIDRR Funding: FY 08 $150,000; FY 09 $150,000; FY 10 $150,000; FY 11 $150,000; FY 12 $150,000

Abstract: This project provides training to seven post-doctoral fellows as part of the institute-led health services training program at Northwestern University. This well-functioning interdisciplinary program involves a substantial number of health services research faculty who work closely with one another to direct a rigorous and relevant interdisciplinary curriculum for training health services researchers. The program includes carefully matched mentors, didactic course work, original research, grant writing, and scientific publishing over a two-year program. Seven fellows develop new skills to enhance their previous training in order to pursue a research career in rehabilitation-related health services research.
Advanced Rehabilitation Research Training Projects
Illinois

Advanced Training in Translational and Transformational Research to Improve Outcomes for People with Disabilities

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Project Number: H133P110004
Start Date: October 01, 2011
Length: 60 months
NIDRR Officer: Margaret Campbell, PhD
NIDRR Funding: FY 11 $149,988; FY 12 $149,989; FY 13 $149,826; FY 14 $149,978; FY 15 $149,987

Abstract: The University of Illinois at Chicago provides an intensive, interdisciplinary postdoctoral training program that actively engages scholars in research designed to improve the health, employment, and community engagement and participation outcomes for persons with disabilities. This advanced training program focuses on sub-populations of disabled persons who are most likely to encounter the greatest number of barriers in community life: minorities, persons with intellectual and developmental disabilities, persons with severe physical disabilities, and older adults. The training program emphasizes preparing scholars to conduct research that has real world impact (i.e., guiding and changing services, programs, organizations, and policies that influence the lives of persons with disabilities). Areas of emphasis include: (1) translational scholarship that uses empirical knowledge to develop, refine, and test optimal services and environmental strategies to support these outcomes; and (2) transformational scholarship that employs participatory methodologies that involve stakeholders in the research process and directly improve services, programs, organizations and policies. The postdoctoral training program recruits and enrolls seven highly qualified postdoctoral fellows from a variety of disciplines. Particular effort is made to recruit postdoctoral trainees with disabilities as well as those from ethnically diverse backgrounds. Each trainee completes an intensive advanced training program (average of two years) designed to assure acquisition of key skills critical to successful research careers. The training program includes: (1) didactic preparation, (2) close mentoring by highly qualified researchers, (3) immersion in ongoing research, and (4) field placement in carefully selected programs or organizations that serve the target populations. Each trainee’s program is individually designed to assure that the trainee has access to the most rigorous and relevant concepts and research methodologies for his/her chosen focus (health promotion, employment, and/or community engagement and participation). The project monitors and assures high quality training, and supports trainees to develop capacity to enter productive research careers that directly improve services, programs, policies, and societal attitudes toward people with disabilities.
Advanced Rehabilitation Research Training Projects
Illinois

Rehabilitation Sciences for Engineers and Basic Scientists: An Advanced Training Program

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Project Number: H133P110013
Start Date: October 01, 2011
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 11 $149,902; FY 12 $149,987; FY 13 $149,947; FY 14 $149,946; FY 15 $149,968

Abstract: The goal of this program is to increase the number of postdoctoral engineers and scientists trained to perform research aimed at solving problems of persons with disabilities. To meet this objective, special attention is given to the following areas of expertise: neurologic disorders, musculoskeletal injuries, biomechanics, and prosthetics and orthotics. Targeted technical and scientific training is provided by faculty with relevant technical expertise in multiple departments at Northwestern University. This training is coordinated with intensive clinical and scientific instruction, and experience provided by faculty with relevant clinical expertise in multiple departments of the university. Postdoctoral trainees also receive training and develop experience in community-based settings. Postdoctoral trainees are recruited using regional and national advertising in appropriate engineering and scientific publications, and via appropriate web advertising and email list-servers. With the help of national organizations dedicated to improving minority participation in science, minority scientists/engineers are recruited to participate in the training programs. Similar efforts are made to attract disabled scientists and engineers.
**Advanced Rehabilitation Research Training Projects**

**Maryland**

**University of Maryland Advanced Neuromotor Rehabilitation Research Training (UMANRRT)**

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**Principal Investigator:** Mark W. Rogers, PhD  
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**Project Number:** H133P100014  
**Start Date:** October 01, 2010  
**Length:** 60 months  
**NIDRR Officer:** Margaret Campbell, PhD  
**NIDRR Funding:** FY 10 $150,000; FY 11 $150,000; FY 12 $150,000; FY 13 $150,000; FY 14 $150,000

**Abstract:** The University of Maryland Advanced Neuromotor Rehabilitation Training (UMANRRT) program trains post-doctoral fellows in interdisciplinary rehabilitation research with a primary focus on neuromuscular disorders including Parkinson’s disease and stroke. The UMANRRT training program targets doctorally prepared professionals with backgrounds in bioengineering, physical therapy, occupational therapy, and the movement sciences. The overall goal of the UMANRRT program is training post-doctoral fellows to further develop and refine the skills needed to conduct high quality, independent, interdisciplinary, funded research in the rehabilitation of clinical populations with neuromotor disorders. Specific project objectives include: (1) recruiting and selecting highly qualified candidates to become UMANRRT post-doctoral fellows; (2) providing a scientifically-based, multidisciplinary training program that includes collaboration among affiliated institutions; (3) providing mentoring and collaborative opportunities with established researchers at University of Maryland at Baltimore and affiliated institutions; (4) providing fellows with interdisciplinary neuromotor rehabilitation research leadership experience by involving them in research projects where at least one is led by the fellow; (5) providing opportunities for participation in presentations, publications, and grant development; and (6) providing opportunities to develop teaching and mentoring skills for transitioning to a junior faculty role.
Advanced Rehabilitation Research Training Projects
Massachusetts

Advanced Research Training Program in Psychiatric Rehabilitation

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Project Number: H133P070001
Start Date: September 01, 2007
Length: 60 months
NIDRR Office: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 07 $149,986; FY 08 $149,994; FY 09 $149,995; FY 10 $149,991; FY 11 $149,980

Abstract: This project conducts two consecutive cycles of 2.25 year postdoctoral fellowship in psychiatric rehabilitation research, offered to six fellows over the course of the project. The recruitment efforts target consumers, with the expectation of selecting one or more consumers. In order to optimize the training experience, three fellows are in residence during each cycle. While the fellowship is designed to provide a broad-based intensive training in psychiatric rehabilitation research, the six fellows develop a particular expertise in conducting recovery-oriented research given the current research profile of the Center for Psychiatric Rehabilitation at Boston University. Through a variety of training modalities, fellows acquire competencies in the following areas: psychiatric rehabilitation and recovery framework, consumer advocacy and self-help, research design/methodology, statistics, computer literacy, conduct of applied rehabilitation research, and grant and professional writing. The goals of this project are to: (1) recruit six individuals with doctoral-level clinical training who are committed to pursuing a career in psychiatric rehabilitation research; (2) provide fellows with intensive state-of-the-art didactic experience as well as exposure to collegial collaboration relevant to psychiatric rehabilitation research; (3) provide fellows with a research practicum consisting of a mentored participation in an ongoing project in psychiatric rehabilitation or recovery, (4) development and implementation of an original pilot study and preparation of a grant submission, and publications relevant to each fellow’s area of research interest; and (5) evaluate the overall research training program, including recruitment, didactic training, and research practicum.
The UMHS/AACIL Rehabilitation Research Training Program

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Project Number: H133P090008
Start Date: September 01, 2009
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 09 $149,999; FY 10 $149,996; FY 11 $149,788; FY 12 $149,999; FY 13 $149,996

Abstract: This training program aims to train a team of interdisciplinary researchers; six new PhD fellows and ten MD Resident Physicians, to produce knowledge in rehabilitation research and advances evidence-based practice thus improving the lives of persons with disabilities. This program grew out of a long-term collaboration between the University of Michigan Department of Physical Medicine and Rehabilitation (PM&R) and the Ann Arbor Center for Independent Living(AACIL) and builds upon the successful structures and experiences developed with other departments, schools, and universities. Training opportunities include participation in existing research programs funded by NIDRR, the National Institutes of Health, Paralyzed Veterans of America, and at the University of Michigan as well as opportunities for conducting research in conjunction with the AACIL. A variety of didactic and practical experiences make up this research training program. These include participation in academic courses available at the University of Michigan, research seminars, presentations and lectures at meetings and national conferences,and an opportunity to work collaboratively on research projects being conducted at many sites. Fellows and trainees may select from a focus on three content areas: (1) community participation, including social and environmental factors effecting independent living; (2) health and function; and (3) assistive technologies. Cross cutting themes covered in all content areas include health disparities and community needs of underserved populations with disabilities, women’s health, and aging with disability. Special efforts are made to recruit and train researchers from racial and ethnic minority backgrounds as well as individuals with disabilities. Through this research training experience, fellows and PM&R Residents acquire and enhance specific research skills; learn how to collaborate effectively across important rehabilitation areas and disciplines; and demonstrate a capacity to apply the results of research to the problems of persons with disabilities. The objectives of this research training are: (1) to provide training to qualified individuals within a multidisciplinary perspective to evaluate research quality and to produce excellence; (2) to orient training toward advancement of science and addressing the needs of persons with disabilities through development of evidence-based practice and community-based participatory research; (3)to prepare researchers to conduct studies in new settings,
including home, schools, and community-based organizations; (4) to foster research skills that result in successful research proposals addressing issues relevant to persons with disabilities; and (5) to promote productive partnerships and collaborations that lead to successful careers in areas with a shortage of qualified researchers.
Advanced Rehabilitation Research Training Projects
New Jersey

Advanced Rehabilitation Research Training Center on Neuro-musculoskeletal Rehabilitation

University of Medicine and Dentistry of New Jersey/
New Jersey Medical School (UMDNJ/NJMS) and
Kessler Medical Rehabilitation Research and Education Center (KMRREC)
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Project Number: H133P070007
Start Date: September 01, 2007
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 07 $149,559; FY 08 $149,847; FY 09 $149,723; FY 10 $149,999; FY 11 $149,847

Abstract: This post-doctoral research interdisciplinary training program on neuro-musculoskeletal rehabilitation provides postdoctoral research opportunities to qualified individuals interested in research, and academic careers related to rehabilitation research. Over the course of the program, nine postdoctoral fellows plan, conduct, and disseminate research, and may choose to conduct research in neuro-musculoskeletal rehabilitation. Each fellow conducts rehabilitation research for a two-year term. Anticipated measurable outcomes include published research studies, presentations at national scientific meetings, submission of grant proposals, completion of research related courses, training in techniques of dissemination, and the development of interdisciplinary research networks. In addition to participation in research activities, each fellow completes a series of core courses and directed study on interdisciplinary research, HIPAA, and the ethics for the recruitment of human subjects in rehabilitation research. The activities of each postdoctoral fellow are directed and monitored by a fellowship mentor with a demonstrated ability to implement, conduct, and disseminate the results of research investigations contributing to the advancement of rehabilitation science. Core faculty involved in the program represent departments/divisions of physical therapy, occupational therapy, rehabilitation science, biomedical engineering, biomechanics, computer science, and mechanical-aerospace engineering. The goal of this project is to provide young investigators a stimulating environment, with an atmosphere of enthusiasm tempered by rigorous methodology that instills the desire to improve the everyday lives of persons with disabilities.
Advanced Rehabilitation Research Training Projects
New Jersey

Advanced Rehabilitation Research Training Center on Neurocognitive Rehabilitation

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Project Number: H133P090009
Start Date: July 01, 2009
Length: 60 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 09 $149,689; FY 10 $149,995; FY 11 $149,689; FY 12 $149,995; FY 13 $149,689

Abstract: The Advanced Rehabilitation Research Training Center (ARRT) on Neurocognitive Rehabilitation provides young scientists with the multidisciplinary skills necessary to continue to advance the scientific knowledge of neurological illness and injury, its impact on everyday life, vocational functioning and brain functioning, and effective means of identifying new rehabilitation interventions. This is accomplished by providing multiple training opportunities for scientists and clinicians in clinically-focused rehabilitation research. The ARRT supports the training of post-doctoral fellows in neuropsychology, cognitive neuroscience, outcomes, and clinical rehabilitation. The program provides advanced multidisciplinary rehabilitation research and training opportunities for clinical researchers including: (1) clinically trained PhD specialists (e.g. neuropsychologists, rehabilitation psychologists), (2) MD specialists in psychiatry or behavioral neurology, and (3) non-clinical cognitive neuroscientists with a commitment to conduct clinical rehabilitation research. The training program is based on an Individualized Research Training Plan designed by the trainee in close collaboration with his/her mentors. Training activities: (1) are relevant to the fellow’s strengths, weaknesses, and interests; (2) provide guidance, mentoring, and technical knowledge; (3) develop fellows and independent researchers; and (4) lead to the publication of research findings.
Mt. Sinai Advanced Rehabilitation Research Training

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Public Contact: 212/241-6547

Project Number: H133P100016
Start Date: October 01, 2010
Length: 60 months

NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 10 $142,046; FY 11 $138,302; FY 12 $142,646; FY 13 $147,163; FY 14 $149,970

Abstract: The Mt. Sinai Advanced Rehabilitation Research Training program increases the number of well-trained clinical rehabilitation research in the areas of traumatic brain injury and spinal cord injury. Project objectives include: (1) attracting well-qualified candidates from minority and disability backgrounds and from diverse social science fields into the field of rehabilitation research, (2) increasing knowledge of rehabilitation research methods through didactics and participation in professional development activities, (3) enhancing research capacity by completing independent research projects locally or in collaboration with other institutions, (4) increasing involvement in consumer-related experiences, (5) improving presentation abilities to both professionals and consumers, (6) increasing scientific writing abilities through collaboration with faculty on proposal writing and preparation of research findings for submission to peer-reviewed journals, (7) increasing knowledge of funding mechanisms and development of competitive grant applications to funding agencies, and (8) enhancing vocational preparation through supervised training of mentoring research activities of trainees in earlier stages of training. A two-year postdoctoral fellowship is offered to five qualified applicants over the course of five years. Training activities are classified under three modules: (1) didactics (including seminars and conferences), (2) hands-on participation in research (including participation in ongoing research at the Brain Injury Research Center and development of independent projects), and (3) mentoring (including individual and research team). The training in research capacity building is enhanced through collaboration with other institutions. Trainees devote 80 percent of their time to research and 20 percent of their time to clinical activities. Two-way evaluations are conducted every six months. Objective performance indicators are used to assess the project success.
Advanced Rehabilitation Research Training Projects
New York

Advanced Rehabilitation Research and Disability Policy Training Center

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Principal Investigator: James L. Bellini, PhD
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Project Number: H133P070004
Start Date: August 01, 2007
Length: 60 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 07 $149,986; FY 08 $149,994; FY 09 $149,969; FY 10 $149,914; FY 11 $149,960

Abstract: This project provides advanced training in rehabilitation research outcomes and disability policy research for seven trainees over the life of the project. The project offers an individualized training program to accommodate the needs of various postdoctoral researchers and others with advanced degrees who hold leadership positions in rehabilitation research and related policy areas. Participants can pursue one of two traineeships: full-time, two-year (four trainees) and full-time, one-year (three trainees). The project offers a set of core training experiences including: advanced rehabilitation research seminar, individual mentoring in research and grant proposal-writing, a practicum in research ethics and human subjects protections, and a practicum in the peer-review process and editorial decision-making. Trainees also select advanced training in one of two strands: rehabilitation outcomes research, and disability policy research. Each strand includes 9 to 15 credits of coursework in advanced rehabilitation research or disability policy research (with a Certificate of Advanced Study in Disability Studies) and an internship at a rehabilitation or disability policy research project. Trainee capstone experiences include the preparation and submission of peer-reviewed articles, conference papers, or grant proposals as well as the preparation of research training packages for dissemination through the project.
Advanced Rehabilitation Research Training Projects
Pennsylvania

Career Advancement for Engineers in the Science of Rehabilitation
(CAESOR)

University of Pittsburgh
School of Health and Rehabilitation Sciences
Rehabilitation Science and Technology
4020 Forbes Tower
Pittsburgh, PA 15260
mrh35@pitt.edu

Principal Investigator: Dan Ding, PhD
Public Contact: Mary Goldberg, CAESOR Coordinator 412/954-5287; Fax: 412/954-5340

Project Number: H133P090010
Start Date: October 01, 2009
Length: 60 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 09 $149,972; FY 10 $149,962; FY 11 $149,971; FY 12 $149,952; FY 13 $149,966

Abstract: The goal of the Career Advancement for Engineers in the Science of Rehabilitation (CAESOR) program is to increase the number of rigorously trained, extramurally competitive, and scientifically productive engineering researchers in the field of rehabilitation science and engineering. To that end, CAESOR provides two years of advanced rehabilitation research training for 8 to 10 highly qualified postdoctoral trainees from basic engineering disciplines who are committed to a career in rehabilitation research. CAESOR utilizes a rehabilitation research team consisting of a focused cadre of mentors with interdisciplinary expertise in engineering, clinical, and psychosocial disciplines to provide the trainees with a balanced exposure to research, clinical, and academic approaches to rehabilitation and disability issues. The comprehensive training provides: (1) immersion in a mentored rehabilitation research experience by matching postdoctoral trainees with highly successful research mentors; (2) complementary didactics including core and individualized components that teach and enhance the critical skills necessary for a successful research career (such as grant writing, ethics, and issues in human subject research), and topics that are not usually covered in traditional engineering curricula (such as medical and social aspects of disability, research methods, and statistical analysis); (3) involvement in mentored clinical experience to gain clinical insights and better understanding of clinical decision making process; and (4) participation in a community practicum to understand the real user needs and contextual constraints of technology. The capstone experience for the postdoctoral trainees is the submission of an extramural research proposal.
Interdisciplinary Rehabilitation Research Training Program

University of Texas Medical Branch
301 University Boulevard
Galveston, TX 77555-1137
bacammar@utmb.edu

Principal Investigator: Kenneth J. Ottenbacher, PhD
Public Contact: Beth Cammarn 409/747-1637; Fax: 409/747-1638

Project Number: H133P110012
Start Date: October 01, 2011
Length: 60 months
NIDRR Officer: Margaret Campbell, PhD
NIDRR Funding: FY 11 $149,999; FY 12 $149,999; FY 13 $149,999; FY 14 $149,999; FY 15 $149,999

Abstract: The Interdisciplinary Rehabilitation Research Training Program provides postdoctoral research opportunities to qualified individuals interested in academic and clinical careers related to disability, rehabilitation, and recovery. Postdoctoral fellows plan, conduct, and disseminate research involving rehabilitation outcomes with a focus on older persons with disabilities and chronic disease. The research is accomplished in collaboration with an interdisciplinary team focusing in one of the following areas: muscle biology of rehabilitation, clinical and community rehabilitation, and population-based health services rehabilitation. Each postdoctoral fellow identifies a primary mentor who is a member of one of three research teams, has an established research program, and a record of external funding. The trainee and mentor develop an individualized career development plan. The plan includes a core curriculum of formal (credit bearing) and informal learning experiences, seminars, and workshops that are completed by all the fellows. The career development plan includes a series of learning activities directly related to the trainees’ area of research focus. Outcomes include published research studies, presentations at national scientific meetings, submission of grant proposals, training in methods of dissemination, and participation in interdisciplinary research networks. The activities of each postdoctoral fellow are monitored by the primary mentor and members of the research team. All trainees complete a community-based practicum experience that includes structured opportunities to interact with health care providers and consumers in a community context. Fellows also have the opportunity to earn a Master’s in Public Health degree as part of the postdoctoral training program. Finally, the fellows are assisted by program faculty in identifying and securing professional positions providing the opportunity to conduct and disseminate the results of research advancing rehabilitation science and evidence-based practice.
Advanced Rehabilitation Research Training Projects
Texas

Advanced Rehabilitation Research Training

Baylor College of Medicine
Department of Physical Medicine and Rehabilitation
One Baylor Plaza, Room 600d
Houston, TX 77030
fchiou@bcm.tmc.edu
www.bcm.edu/pmr/education/index.cfm?pmid=5648

Principal Investigator: Faye C. Tan, MD; Angelle M. Sander, PhD
Public Contact: 713/873-3875; Fax: 713/873-3874

Project Number: H133P080007
Start Date: July 01, 2008
Length: 60 months

NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 08 $150,000; FY 09 $150,000; FY 10 $150,000; FY 11 $150,000; FY 12 $150,000

Abstract: The purpose of this program is to train post-doctoral fellows in the skills necessary to become independent investigators in rehabilitation. Fellows must be competent in each major facet of the research process--problem identification, analysis of the current state of knowledge, hypothesis generation based on familiarity with applicable theory, research project design, mastery of relevant techniques and instrumentation, statistical analysis, interpretation of findings, and preparation of technical reports and publications. Through this program, fellows develop research expertise in one of two potential training tracks: (1) traumatic brain injury/stroke or (2) spinal cord injury. For each track, the International Classification of Functioning, Disability and Health (ICF) cell-to-society model has been applied so that the fellow can select from any portion of the spectrum for his/her area of research focus. Mentors for this program develop an individualized training plan for each fellow that includes: (1) participation in research projects of the primary and secondary mentors, (2) development and implementation of an independent research project, and (3) required didactic course work drawn from the Baylor College of Medicine Fundamentals of Clinical Investigation within the Clinical Scientist Training Program (K-30) and the Department of Physical Medicine and Rehabilitation.
Advanced Research Training Program in Neurobehavioral Recovery and Intervention

Virginia Commonwealth University
Department of Physical Medicine and Rehabilitation
Box 980542
Richmond, VA 23298-0542
jskreutz@vcu.edu
www.pmr.vcu.edu/programs/neuropsychology/arrt_fellowship.aspx

Principal Investigator: Jeffrey S. Kreutzer, PhD 804/828-9055
Public Contact: Juan Carlos Arango-Lasprilla, PhD 804/828-8797; Fax: 804/828-2378

Project Number: H133P090013
Start Date: September 01, 2009
Length: 60 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 09 $148,985; FY 10 $149,475; FY 11 $148,895; FY 12 $149,404; FY 13 $149,404

Abstract: This project is an advanced rehabilitation research training (ARRT) program for individuals with advanced degrees who are committed to a career in rehabilitation research with a focus on neurobehavioral recovery and intervention. Training and research activities address brain injury, aneurysms, brain tumors, and other neurological disorders. Individualized research training plans emphasizing scientific rigor guide fellows’ choices of training activities. Outstanding mentors, didactic experiences, and collaborative and independent research activities provide the foundation for the Virginia Commonwealth University ARRT program. Mentors include internationally and nationally renowned, distinguished scientists from the fields of rehabilitation medicine, neuropsychology, psychiatry, neurosurgery, and vocational rehabilitation. Core courses on ethics, conduct in scientific research, and grant writing are complemented by grand rounds and graduate courses. All fellows must complete and submit a grant application during the second year of their fellowship.
University of Washington Advanced Rehabilitation Research Training

University of Washington
Department of Rehabilitation Medicine
1959 NE Pacific Street
Box 356490
Seattle, WA 98195-6490

Principal Investigator: Kurt Johnson, PhD; Deborah Kartin, PT, PhD
Public Contact: 206/598-5338; Fax: 206/685-3244

Project Number: H133P080008
Start Date: July 01, 2008
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 08 $149,491; FY 09 $149,411; FY 10 $149,494; FY 11 $149,997; FY 12 $149,652

Abstract: The University of Washington Advanced Rehabilitation Research Training program (UW-ARRT) provides advanced rehabilitation research training for five to six highly qualified postdoctoral trainees to enable them to become successful rehabilitation researchers, and to conduct formative and summative evaluation of the training. UW-ARRT focuses on development of rehabilitation researchers with emphasis on design and implementation of rehabilitation research, dissemination of research, and grant writing. The comprehensive training program provides: (1) immersion in a mentored rehabilitation research experience by matching postdoctoral trainees with highly successful rehabilitation researchers, and (2) complementary didactics (core and individualized) to support trainees’ development as rehabilitation researchers. Core curriculum is built on an on-going bimonthly seminar specifically designed to: (1) teach and enhance the critical skills necessary for a successful research career (a general research skills seminar to be held once/month), and (2) provide for interaction among trainees interested in developing successful research careers in Rehabilitation sciences and an interdisciplinary cohort of mentors/advisors who have active and successful Rehabilitation sciences research programs. The individualized didactic curriculum allows a postdoctoral trainee to enroll, as needed, in additional coursework in research methods, statistical analysis, and rehabilitation science.
Advanced Rehabilitation Research Training Projects
Wisconsin

**Advanced Rehabilitation Research Training in Pediatric Mobility**

Marquette University
Orthopaedic and Rehabilitation Engineering Center
735 North 17th Street
PO Box 1881
Milwaukee, WI 53201
depps@mcw.edu
www.orec.org

**Principal Investigator:** Gerald F. Harris, PhD 414/288-1586
**Public Contact:** Deborah Epps, Project Administrator 414/288-0696; Fax: 414/288-0713

**Project Number:** H133P080005
**Start Date:** September 01, 2008
**NIDRR Officer:** Thomas Corfman
**NIDRR Funding:** FY 08 $150,000; FY 09 $150,000; FY 10 $150,000; FY 11 $150,000; FY 12 $150,000

**Abstract:** The goal of this project is to develop in-depth expertise, enthusiasm, and productivity in rehabilitation research to increase the number of physicians and engineers qualified to conduct independent, transdisciplinary research on problems related to disability, rehabilitation, and pediatric mobility. The program is specifically designed to give postdoctoral trainees the skills needed to become productive, independent rehabilitation researchers. The research component of the training program consists of three mentorship teams capable of providing a 20 to 25 percent support effort on a continued basis. Qualified trainees are enrolled in the research training program for 24 to 36 months. Three research areas (RAs) support opportunities for career oriented contributions to the field of pediatric mobility. The RAs are Skeletal and Connective Tissue Biology, Assistive Devices, and Foot and Ankle Mobility. Fellowship research requirements include pilot study completion and refinement, multiple journal article submissions, and completion of extramural proposal(s). The capstone experience for the postdoctoral trainees is the completion of a sponsored workshop in their field of study with nationally recognized leaders in attendance. A team of mentors with qualifications specific to each of these RAs support candidates entering the program to enhance their current skills and offer additional, high level training and experience.
Advanced Rehabilitation Research Training (ARRT) in Pediatric to Adult Transition

Marquette University
Orthopaedic and Rehabilitation Engineering Center
735 North 17th Street
PO Box 1881
Milwaukee, WI 53201
depps@mcw.edu
www.orec.org

Principal Investigator: Gerald F. Harris, PhD 414/288-0698
Public Contact: Deborah Epps, Project Administrator 414/288-0696; Fax: 414/288-0713

Project Number: H133P100008
Start Date: October 01, 2010
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 10 $150,000; FY 11 $150,000; FY 12 $150,000; FY 13 $150,000; FY 14 $150,000

Abstract: This Advanced Rehabilitation Research Training (ARRT) provides advanced education and training in rehabilitation research to selected engineers and clinician researchers with a background and interest in rehabilitation medicine. Participating fellows develop in-depth expertise, enthusiasm, and productivity in rehabilitation research with experience in community-based research settings and with organizations representing individuals with disabilities with the fundamental goal of training individuals to become career researchers. The program is structured to support post-doctoral physicians, engineers, physical therapists, and psychologists who seek advanced rehabilitation research training. This program offers directed mentorship, research training, and formal didactic components, and includes a cross-disciplinary course structure for all fellows. Three research areas (RAs) support opportunities for career oriented contributions to the field of pediatric to adult transition. These RAs include: Function and Outcomes Assessment, Biomaterials and Skeletal Biology, and Motion and Mobility. A team of mentors with qualifications specific to each of these RAs support candidates entering the program to enhance their current skills and offer additional high level training and experience. Trainees attend courses, symposia, and seminars in four in-depth areas, including Evidence Based Research, Scientific Writing and Grantsmanship, Biostatistics and Outcomes Assessment, and Motion and Mobility Analysis. At the completion of the program all trainees are expected to have completed necessary pilot work, written and submitted several journal manuscripts, prepared two extramural proposals, and gained experience in managing a functional research team. The program also includes support for career planning and job search assistance.
Subject Index
No subject index was created for this version of the NIDRR Program Directory. The Directory remains in database format at www.naric.com/research/pd. This format is considerably more effective for subject-oriented organization of the material in the Directory.

For assistance in searching the Program Directory database, contact the staff at NARIC at 800/346-2742 or email jchaiken@heitechservices.com
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CreateAbility Concepts, Inc. H133S110009 Marion, IN 3-61
CreateAbility Concepts, Inc. H133S110010 Marion, IN 3-60
Criterion Health, Inc. H133S100082 Terre Haute, IN 3-69
Dartmouth College H133A080063 Lebanon, NH 8-6
Dartmouth College H133G090206 Hanover, NH 1-26
Dawn Neumann, PhD H133F110013 Indianapolis, IN 8-15
Dorothy E. Nary H133F110017 Lawrence, KS 8-16
Duke University H133E080011 Durham, NC 3-16
Easter Seals Wisconsin, Inc. H133G100029 Madison, WI 3-50
Eastern Kentucky University H133G110019 Richmond, KY 4-24
Farus, LLC H133S110053 Mountain View, CA 3-67
Feinberg School of Medicine H133B040032 Chicago, IL 5-3
Gallaudet University H133E080006 Washington, DC 3-5
Georgetown University H133P100015 Washington, DC 8-25
Georgia Institute of Technology H133E070026 Atlanta, GA 3-6
Georgia Institute of Technology H133E080003 Atlanta, GA 3-7
Georgia Institute of Technology H133E110002 Atlanta, GA 3-8
Georgia Institute of Technology H133G070063 Atlanta, GA 3-31
Good Nutrition Ideas, LLC H133S110006 Missoula, MT 2-87
HeiTech Services, Inc. ED-OSE-10-0074 Landover, MD 6-15
Hunter College of CUNY H133B080012 New York, NY 5-5
Hunter College of CUNY H133B100011 New York, NY 1-11
Institute for Disabilities Research and Training, Inc. H133S110002 Wheaton, MD 3-63
Institute for Human Centered Design, Inc. H133A110028 Boston, MA 7-3
Ivan R. Molton, PhD H133F110019 Seattle, WA 8-12
James T. Herbert, PhD H133F100003 University Park, PA 8-10
Jennifer M. Devine H133F110027 Boston, MA 8-20
JFK Johnson Rehabilitation Institute H133A070030 Edison, NJ 2-26
Jill Slaboda, PhD H133F100010 Philadelphia, PA 8-21
John C. Kramer H133F110018 Arlington, MA 8-18
Johns Hopkins School of Medicine H133A070045 Baltimore, MD 2-21
Kent State University H133G080158 Kent, OH 4-33
Kessler Foundation H133A070037 West Orange, NJ 2-27
Kessler Foundation H133G070138 West Orange, NJ 2-77
Kessler Foundation H133G080136 West Orange, NJ 3-43
Kessler Foundation H133G090078 West Orange, NJ 2-78
Kessler Medical Rehabilitation Research and Education Corporation (KMRREC) H133N110020 West Orange, NJ 2-57
Koronis Biomedical Technologies Corporation H133S110011 Maple Grove, MN 3-65
Koronis Biomedical Technologies Corporation H133S110049 Maple Grove, MN 3-74
Koronis Biomedical Technologies  
Corporation H133S110050  Maple Grove, MN  3-73
Los Amigos Research and Education  
Institute H133G100268  Downey, CA  3-25
Los Amigos Research and Education  
Institute H133N110018  Downey, CA  2-44
Marquette University H133E100007  Milwaukee, WI  3-22
Marquette University H133P080005  Milwaukee, WI  8-43
Marquette University H133P100008  Milwaukee, WI  8-44
Mayo Clinic H133A070013  Rochester, MN  2-24
Medical University of South Carolina H133A080064  Charleston, SC  8-7
Medical University of South Carolina H133B090005  Charleston, SC  2-7
Medical University of South Carolina H133G090059  Charleston, SC  2-83
Medical University of South Carolina H133G110157  Charleston, SC  2-84
MedStar Research Institute H133B090002  Washington, DC  2-4
MedStar Research Institute H133N060028  Washington, DC  2-46
Meeting the Challenge, Inc. H133A110018  Colorado Springs, CO  7-12
MetroHealth System H133N060017  Cleveland, OH  2-58
Minnesota HealthSolutions H133S110034  Saint Paul, MN  3-66
Mississippi State University H133B100022  Mississippi State, MS  1-7
Motion Control, Inc. H133S100080  Salt Lake City, UT  3-76
Mount Sinai School of Medicine H133A070033  New York, NY  2-28
Mount Sinai School of Medicine H133A080053  New York, NY  2-29
Mount Sinai School of Medicine H133P100016  New York, NY  8-36
Na Jin Seo H133F110005  Milwaukee, WI  8-13
National Public Radio H133G090139  Washington, DC  3-29
National Rehabilitation Hospital H133G100174  Washington, DC  3-30
Northeastern University H133G070150  Boston, MA  6-12
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Northwestern University H133G110266  Chicago, IL  3-35
Northwestern University H133P080006  Chicago, IL  8-27
Northwestern University H133P110013  Chicago, IL  8-29
Ohio Valley Center for Brain Injury  
Prevention and Rehabilitation H133A070029  Columbus, OH  2-32
ORC Macro ED-04-CO-0018/  
0007  Silver Spring, MD  6-16
Oregon Health and Science University H133G070214  Portland, OR  2-80
Oregon Health and Science University H133G080162  Portland, OR  3-47
Oregon Health and Science University H133G110083  Portland, OR  2-81
Oregon State University H133G090242  Corvallis, OR  3-44
OrthoCare Innovations, LLC H133S100094  Oklahoma City, OK  3-75
Pennsylvania State University H133G100234  University Park, PA  1-30
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<td>8-17</td>
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</tbody>
</table>
Projects by State
**Alabama**
National Spinal Cord Injury Statistical Center ................................................................. 6-3, 6-4
UAB Model Spinal Cord Injury Care System ........................................................................ 2-42
UAB Spinal Cord Injury Model System ................................................................................ 2-43
University of Alabama at Birmingham (UAB) Traumatic Brain Injury Model System (UAB TBIMS) .................................................. 2-11

**Arizona**
Deaf Interpreter Certification Project: Certifying Intermediary Interpreters Who Are Deaf to Ensure Effective Communication for the Deaf, Hard of Hearing, and Deaf-Blind ................................................. 4-18

**Arkansas**
Beyond Hearing Aids: Training Resources to Improve the Capacity of VR Professionals Serving Consumers who are Hard of Hearing and Late Deafened .................................................................................. 1-20

**California**
A New Measure of Subjective Fatigue in Persons with Traumatic Brain Injury .................. 2-65
A Robotic Powered Wheelchair Trainer with Haptic Guidance as Needed ......................... 3-26
Advanced Rehabilitation Research Training in Neuromuscular and Neurodevelopmental Disorders .............................................................................................................. 8-24
DBTAC - Pacific ADA Center - Region IX .............................................................................. 7-13
Development of a Robust Sensory Feedback System for Persons with Lower-Limb Sensory Deficits ........................................................................................................ 3-67
Electronic Tactile Displays for Braille Text and Graphics .................................................. 3-27
Families with Disabilities through the Life Cycle: Disability Culture Perspectives .......... 4-15
Global Access Information Navigator ................................................................................. 3-24
Goal-Oriented Browsing: The Next-Generation Web Accessibility Technology for People with Visual Impairments .......................................................... 3-52
Modular Orthoses Prescription System (MOPS) ................................................................ 3-25
National Center for Parents with Disabilities and Their Families .................................. 4-14
Northern California Traumatic Brain Injury Model System of Care .............................. 2-12
Pacific ADA National Network Regional Center - Region IX ........................................ 7-14
Personal Assistance Services (PAS) in the 21st Century ................................................. 4-3
Rehabilitation Engineering Research Center for Successful Aging with Disability: Optimizing Participation Through Technology (OPTT-RERC) ........................................................................ 2-10
Rehabilitation Engineering Research Center: Develop and Evaluate Technology for Low Vision, Blindness, and Multi-Sensory Loss ................................................................. 3-3
Rehabilitation Research and Training Center in Neuromuscular Diseases (RRTC-NMD) .................................................................................................................. 2-3
Southern California Spinal Cord Injury Model System at Rancho Los Amigos National Rehabilitation Center .......................................................... 2-44
Technology Access in Resource-Limited Environments .................................................. 3-23
Ubiquitous Web Access for People with Visual Impairments ........................................... 3-53

**Colorado**
Collaborative Spinal Cord Injury Model Systems Centers Program: Improving Spinal Cord Injury Rehabilitation Outcomes ............................................................................. 2-14
Developing a Relevant Instrument to Assess Caregiver Distress and Benefit in Spinal Cord Injury ........................................................................................................ 2-67
Development and Evaluation of an Independently Usable Interface to Facebook for Individuals with Intellectual Disabilities ............................................................................. 3-54
Executive Function and Participation in Daily Life in Children with Down Syndrome .......... 1-49
National Data and Statistical Center for the TBI Model Systems .......................... 2-16
Rehabilitation Engineering Research Center for Cognitive Rehabilitation .............. 3-4
Rocky Mountain ADA National Network Regional Center - Region VIII ............. 7-12
The Rocky Mountain Regional Brain Injury System (RMRBIS) ......................... 2-15
The Rocky Mountain Regional Spinal Injury System ........................................ 2-45
UCHSC Burn Model System Data Coordination Center (BMS/DCC) ..................... 2-13
Visual Impact: A Cloud-Based Activity Support System to Facilitate Independence for Individuals with Intellectual Disabilities ............................................. 3-56

**Delaware**
Multimodal Access to Information Graphics ....................................................... 3-28

**District of Columbia**
Advanced Rehabilitation Research Training in Neurorehabilitation .................. 8-25
Model Systems Knowledge Translation Center (MSKTC) ..................................... 6-5
National Capital Spinal Cord Injury Model System ............................................. 2-46
Over-Ground Gait Training with a Novel Dynamic Body-Weight Support System .......... 3-30
Rehabilitation Engineering Research Center on Hearing Enhancement ................ 3-5
Rehabilitation Research and Training Center on Secondary Conditions in Spinal Cord Injury .......................................................... 2-4
The Captioned Braille Radio Initiative: Providing Emergency Information for Individuals who are Deaf-Blind ............................................. 3-29

**Florida**
Exercise Treatment of Obesity-Related Secondary Conditions in Adults with Paraplegia ................................................................. 2-68
Mobile Communication App for Deaf and Hard of Hearing ............................... 3-57
Mobile Signing Math Dictionaries with Mouth Morphemes for Deaf and Hard of Hearing Students ......................................................... 3-58
Sleep Disordered Breathing in Persons with Chronic Tetraplegia: Characterization and Intervention ......................................................... 2-69
South Florida Regional Spinal Cord Injury Model System ................................. 2-47

**Georgia**
Assessing Safety Risk after Traumatic Brain Injury ........................................... 4-20
DBTAC - Southeast ADA Center - Region IV ...................................................... 7-6
Language and Literacy Outcomes of Preschool Children with Traumatic Brain Injury 4-21
Rehabilitation Engineering Research Center for Wheeled Mobility in Everyday Life .......................................................... 3-7
Rehabilitation Engineering Research Center for Wireless Technologies .............. 3-8
Rehabilitation Engineering Research Center on Workplace Accommodations .... 3-6
Southeast ADA National Network Regional Center - Region IV ......................... 7-7
Southeastern Regional Spinal Cord Injury Model System at Shepherd Center .......... 2-48
Workplace Accommodation Wizard: An Assessment and Accommodation Tool for Employers .......................................................... 3-31

**Idaho**
Foot Operated Mouse for the Disability Market .................................................. 3-59

**Illinois**
A Supported Employment Program for People with HIV/AIDS ........................ 1-22
Advanced Rehabilitation Research Training Project in Rehabilitation Services Research ......................................................... 8-27
Advanced Training in Translational and Transformational Research to Improve Outcomes for People with Disabilities ...... 8-28
Advanced Training in Translational and Transformational Research to Improve Vocational Outcomes for Persons with Disabilities .................................................. 8-26
Development of a Low-Cost Dilatancy-Based System for Orthotic Fabrication....... 3-35
Development of a Web-Based Nemeth Code (Braille Mathematics) Tutorial For Use by Individuals Who Are Blind ............ 3-37
Development of an Advanced Prosthetic Microcontroller System .................. 3-33
Development of Quality Measures for Post-Stroke Rehabilitation ...................... 6-11
Evaluating the Efficacy of an Occupational Intervention Targeting Young Adult Brain Tumor Survivors ............................................... 1-21
Falls-Based Training to Improve Balance and Mobility Post-Stroke .................. 2-71
Great Lakes ADA National Network Regional Center - Region V .................... 7-8
Midwest Regional Spinal Cord Injury Care System (MRSCIS) .......................... 2-49
Midwest Regional Spinal Cord Injury Care System (MRSCIS) ......................... 2-50
Midwest Regional Traumatic Brain Injury Model System: Innovative Approaches to Improve Cognition, Function, and Community Living ........................................... 2-18
Motor Unit Control Property Changes Post-Stroke: A High-Yield Surface EMG Decomposition Analysis ......................................................... 8-14
Noninvasive Examination of ALS Using Surface EMG .................................. 2-70
Rehabilitation Engineering Research Center for Prosthetics and Orthotics .......... 3-13
Rehabilitation Engineering Research Center on Recreational Technologies and Exercise Physiology Benefiting Persons with Disabilities (RERC RecTech) .... 3-10
Rehabilitation Research and Training Center on Aging with Developmental Disabilities: Lifespan Health and Function ...................................................... 4-4
Rehabilitation Research and Training Center on Enhancing the Functional and Employment Outcomes of Individuals Who Experience a Stroke ......................... 2-5
Rehabilitation Research and Training Center on Improving Measurement of Medical Rehabilitation Outcomes ...................... 5-4
Rehabilitation Research and Training Center on Measuring Rehabilitation Outcomes and Effectiveness ........................................ 5-3
Rehabilitation Robotics and Telemanipulation Machines Assisting Recovery from Stroke Rehabilitation Engineering Research Center (MARS-RERC) ........................................... 3-11
Rehabilitation Sciences for Engineers and Basic Scientists: An Advanced Training Program .................................................. 8-29
RRTC on Psychiatric Disability and Co-occurring Medical Conditions ............. 8-3
The Development of a Commercial Rehabilitation Device to Regain Arm Function Following Stroke ................................. 3-34
The Effect of Resistance to Participant-Supported Reaching on Workspace of the Hand in Severe Chronic Stroke ......................... 3-36
The Effectiveness of a 3D Virtual Reality Vocational Problem Solving Skill Training Program to Enhance Employment Opportunities for Persons with TBI: An Exploratory Study ........................................ 8-9
UIC Obesity Research Project on Prevalence, Adaptations, and KT in Youth and Young Adults with Disabilities from Diverse Race/Ethnic Backgrounds .......... 2-19
University of Illinois at Chicago National Research and Training Center on Psychiatric Disability .............................................. 8-5
Video Gaming Technology to Promote Health and Fitness Among Adolescents with Disabilities ................................................. 3-32

Indiana
A Navigation and Object-Location System to Assist Blind and Low-Vision Individuals in Indoor Environments ....................... 3-68
Examining the Relationship between Anger and Attributions of Hostile Intent after Traumatic Brain Injury ................. 8-15
Projects by State

iUtileyes: A Talking SmartPhone and Tablet Application that Helps People Who are Blind or Visually Impaired to Fully Utilize Devices with Visual Flat-Panel Displays.................................................... 3-60
NEADL: Novel Electronic Aid for Daily Living System for People Who Cannot Use Their Hands...................................................... 3-61
Variable Position Mid-Wheel Drive System for Power Wheelchairs .......... 3-69

**Kansas**
Accommodations and ADA for Post-Secondary Students with Disabilities ...... 4-23
Is There Really No Place Like Home?: An Exploratory Study of the Impact of Non-Visitble Homes on Wheelchair Users .......... 8-16
Rehabilitation Research and Training Center on Community Living .......... 4-6
Rehabilitation Research and Training Center on Measurement and Interdependence in Community Living (RRTC/MICL) ................... 4-5
The Nexus of Employment, Health and Disability: A Study of Health Status and Quality of Life among Medicaid Buy-In Participants ........................................ 1-23
Weight Loss by Individuals with Physical Disabilities .......................... 2-72

**Kentucky**
Consequences of Wheelchair Tie-Down and Occupant Restraint System Practices on Wheelchair Passenger Safety in Fixed-Route Transit................................. 8-17
Frazier Rehab and Neuroscience Spinal Cord Injury Model System (FRNSCIMS) .. 2-51

In-depth Assessment of Wheelchair Ramp Activities and Incidents on Public Transit Buses ......................................................... 3-39
TerpTube: An Accessible Online Portfolio for Deaf Mentors and Sign Language Interpreters ................................................. 4-24

**Maryland**
ABLEDATA........................................................................... 6-16
Center for Transition to Employment for Youth with Disabilities ................ 1-14
Computer and Online Software that Provides ASL Translation and Publishing Capabilities ................................................. 3-63
Health Care Disparities in Access and Utilization among Individuals with Disabilities ................................................. 5-6
Johns Hopkins University Burn Injury Rehabilitation Model System (JHU-BIMS) .......................................................... 2-21
Mid-Atlantic ADA National Network Regional Center - Region III ............ 7-5
National Rehabilitation Information Center (NARIC) ............................ 6-15
University of Maryland Advanced Neuromotor Rehabilitation Research Training (UMANRRT) ..................................... 8-30

**Massachusetts**
A Center on Postsecondary Education for Students with Intellectual Disabilities ...... 4-16
Access to Electronic and Personal Health Records .................................. 3-40
Advanced Research Training Program in Psychiatric Rehabilitation .............. 8-31
Cardiovascular Fitness, Cognition, Mood, and Function in Community-dwelling People with Traumatic Brain Injury (TBI) ............................................. 8-20
Cooling System for Multiple Sclerosis Patients........................................ 3-70
Do Animations Facilitate Symbol Understanding in Children with Autism? ... 4-26
<table>
<thead>
<tr>
<th>State</th>
<th>Project Description</th>
<th>Page</th>
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<tbody>
<tr>
<td>Michigan</td>
<td>Preparations for In-Home Testing of Brain-Computer Interfaces Operating Assistive Technology</td>
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<td>Rehabilitation Engineering Research Center on Wheelchair Transportation Safety</td>
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<td>The Effects of a Bicycle Training Intervention on Health, Physical Activity, Sleep, and Community Participation in Youth with Down Syndrome and Autism Spectrum Disorders</td>
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<td>The UMHS/AACIL Rehabilitation Research Training Program</td>
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<td>Minnesota</td>
<td>Virtual Environment for Social Information Processing (VESIP) Phase II</td>
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<td>Minnesota Automatic Accident Prevention System for Independent Wheelchair Users</td>
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<td>Connectivity to Modern Electronics for the Hearing Disabled</td>
<td>3-72</td>
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<td>Health Care Coordination for Individuals with Physical Disabilities: Critical Elements and Consumer Outcomes</td>
<td>2-23</td>
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<td>Improved Hearing Aid Connection to Public Induction Loops</td>
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<td>Indoor Route Following Tool for the Blind</td>
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<td>Low-cost Computer Graphics Screen Reader for the Vision Impaired</td>
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<td>Mayo Clinic Traumatic Brain Injury Model System</td>
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<td>Neurocognitive Training to Improve Executive Function</td>
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<td>Rehabilitation Research and Training Center for Community Living and Employment for Individuals with Intellectual and Developmental Disabilities</td>
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<td>Michigan Addressing Self-Management Skills through Electronic Gaming: Meeting the Needs of Underserved Individuals with SCI</td>
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<td>Auditory and Visual Working Memory in Children with Cerebral Palsy</td>
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<td>Michigan Traumatic Brain Injury Model System (SEMTBIS)</td>
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<td>Neuroanatomical Correlates of Positive Psychology Among People with Traumatic Brain Injury: A Biopsychosocial Model</td>
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Mississippi
RRTC on Employment Outcomes for Individuals Who Are Blind or Visually Impaired .................................................. 1-7

Missouri
Great Plains ADA National Network Regional Center - Region VII .............. 7-11

Montana
MenuChoice: Nutrition Program for Community-Based Group Homes for Persons with Intellectual or Developmental Disabilities .................................................. 2-87
Participation Interference Patterns: Investigating the Relative Impact of Pain and Environmental Barriers on Participation .................................................. 4-28
Rehabilitation Research and Training Center on Disability in Rural Communities.. 1-8

Nebraska
Investigation of Interventions for Sitting Postural Control in Young Children with Moderate to Severe Cerebral Palsy .......... 2-75

New Hampshire
A Prospective National Study of Sustaining IPS Through Vocational Rehabilitation and Mental Health Collaboration .................. 1-28
A Randomized Controlled Trial of Two Vocational Models for Individuals with Psychiatric Disabilities and Criminal Justice Involvement ........................................ 1-27
Building Knowledge and Capacity in the Rehabilitation and Recovery of African-Americans Suffering from Severe Mental Illness: The Dartmouth-Howard Collaboration. 8-6
Cognitive Remediation, Illness Self-Management, and Supported Employment in Severe Mental Illness ........................................ 1-26
Development of an Employment Consultation Staff Training Model for Workplace Inclusion ........................................ 1-24
Health and Health Care Disparities Among Individuals with Disabilities .......... 2-25
RRTC on Employment Policy and Measurement ........................................ 1-9
Sustainable Implementation of Family-Centered Transition Planning for Young Adults with Autism Spectrum Disorders .... 1-25

New Jersey
Advanced Rehabilitation Research Training Center on Neurocognitive Rehabilitation ........................................ 8-35
Advanced Rehabilitation Research Training Center on Neuro-musculoskeletal Rehabilitation ........................................ 8-34
Developing Executive Functioning through Cognitive Remediation for College Students with Psychiatric Disabilities .... 2-76
Improved Weight Bearing Evaluation of Knee Osteoarthritis .............. 3-43
Improving New Learning and Memory in TBI: Applying fMRI to Measure Outcome .................................................. 2-78
JFK-Johnson Rehabilitation Institute TBI Model System ......................... 2-26
Northern New Jersey Spinal Cord Injury System .................................. 2-57
Northern New Jersey Traumatic Brain Injury System (NNJTBIS) ............. 2-27
Quality of Life in Traumatic Brain Injury Research and Practice: Development of the TBI-QOL ........................................ 2-77

New York
Advanced Rehabilitation Research and Disability Policy Training Center ........ 8-37
Center for International Rehabilitation Research Information & Exchange (CIRRIE-3) .................................................. 6-8
Center on Effective Delivery of Rehabilitation Technology by Vocational Rehabilitation Agencies .................. 1-17
Center on Knowledge Translation for Technology Transfer ...................... 6-6
Classification and Measurement of Medical Rehabilitation Interventions .......... 2-29
Cornell RRTC on Employer Practices Related to Employment Outcomes Among Individuals With Disabilities .......... 1-10
Demand-Side Employment Placement Models.......................................................... 1-16
Mt. Sinai Advanced Rehabilitation Research Training ........................................... 8-36
New York Traumatic Brain Injury Model System (NYTBIMS) .......................... 2-28
Northeast ADA National Network Regional Center - Region II ......................... 7-4
Organizational Practices to Increase Employment Opportunities for People with Disabilities: The Power of Social Networks.......................................................... 1-29
Peer-to-Peer Project: A Peer Support Network for Students with Significant Intellectual and Developmental Disabilities in Higher Education .......................................................... 4-29
Rehabilitation Research and Training Center on Disability Statistics and Demographics .......................................................... 5-5
Rehabilitation Research and Training Center: Individual-Level Characteristics Related to Employment among Individuals with Disabilities .......................................................... 1-11
RERC on Universal Design in the Built Environment........................................... 3-15

North Carolina
Carolinas Traumatic Brain Injury Rehabilitation and Research System (CTBIRRS) ............................................................................ 2-30
Improving Cervical and Breast Cancer Screening for Women with Intellectual Disabilities .......................................................... 2-79
Improving Money Management Skills in Veterans with Psychiatric Disabilities ............................................................................ 4-30
Rehabilitation Engineering Research Center for Communication Enhancement (AAC-RERC) .......................................................... 3-16
TBI Model System Collaborative Study of Amantadine for Post TBI Irritability and Aggression .......................................................... 2-31

Ohio
Deaf Off Drugs and Alcohol: Evaluating a Technology-Assisted E-Therapy Program for SUD Treatment ...................................................... 4-32
Developing College Campuses as Transition Settings for Students with Severe and Multiple Disabilities Aged 18-21 .......................................................... 4-33
Individualized Planning for the First Year Following Acute Rehabilitation Project .......................................................... 2-33
Northeast Ohio Regional Spinal Cord Injury System ........................................... 2-58
Ohio Regional TBI Model System .................................................................. 2-32
Rehabilitation Research and Training Center on Interventions for Children and Youth with TBI .......................................................... 2-6
Web Therapy to Improve Outcomes After Traumatic Brain Injury in Young Children .......................................................... 4-31

Oklahoma
Haptic Feedback Improvements for Prostheses...................................................... 3-75

Oregon
ADL Access: A Cognitively Accessible Software Application for Augmented Self-Management of Activities of Daily Living .......................................................... 4-37
Defining Success: Web-Based Transition Training for Students with Traumatic Brain Injury .......................................................... 4-34
Development of a Web-based Tool for Families Impacted by the Cognitive, Behavioral, and Social Challenges of Traumatic Brain Injury .......................................................... 3-46
HealthChecker: Development of an Accessible Web-Based Application for Self-Assessment of Personal Health and Wellness by Individuals with Cognitive Disabilities .......................................................... 3-46
LifeWorks: Development of an a Web-Based Life Management Application for Individuals with Cognitive Disabilities and Caregivers .......................................................... 4-40
Parent-Infant Interaction Project (PIIP) .......................................................... 4-35

Projects by State
Promoting Adoption and Implementation of the Healing Pathways Program to Reduce Depressive Symptoms in Women with Physical Disabilities ........................................... 2-81
Randomized Field-Test of the Internet-based Safer and Stronger Program for Women with Disabilities ........................................... 4-36
Rehabilitation Research and Training Center for Pathways to Positive Futures: Supporting Successful Transition for Youth and Young Adults with Serious Mental Health Conditions ........................................... 4-10
Researching Accessibility Gaps in Transit Hub Communication Systems and Standards ........................................... 3-44
School Transition & re-Entry Program (STEP): Systematic Hospital-to-School Transition for Students with Traumatic Brain Injury ........................................... 4-17
Systematic Study of the Effectiveness of AAC Intervention to Improve Conversation in Individuals with Degenerative Language Disorders ........................................... 3-47
The TATE Project: Training Assistive Technology in the Environment ........................................... 3-45

Pennsylvania
Career Advancement for Engineers in the Science of Rehabilitation (CAESOR) ... 8-38
Development of a Physical Activity Monitor System for Manual Wheelchair Users ........................................... 8-22
Evaluating a Novel Intervention to Reduce Instability in Patients with Stroke ........................................... 8-21
Evaluation of a Training Program to Enhance Clinical Supervision of State Vocational Rehabilitation Supervisors ... 1-30
Evaluation of a Training Program to Enhance Clinical Supervision of State Vocational Rehabilitation Supervisors ... 8-10
Regional Spinal Cord Injury Center of the Delaware Valley ........................................... 2-59
Rehabilitation Engineering Research Center on Accessible Public Transportation ........................................... 3-18
Rehabilitation Engineering Research Center on Spinal Cord Injury ........................................... 3-17
Rehabilitation Engineering Research Center on Telerehabilitation ........................................... 3-19
Rehabilitation Research and Training Center on Participation and Community Living of Individuals with Psychiatric Disabilities ........................................... 4-12
The Moss Traumatic Brain Injury Model System ........................................... 2-34
University of Pittsburgh Model Center on Spinal Cord Injury ........................................... 2-60
University of Pittsburgh Model Center on Spinal Cord Injury ........................................... 2-61
Zolpidem and Restoration of Consciousness: An Exploration of the Mechanism of Action ........................................... 2-82

South Carolina
Ambulation and Secondary Complications: Participants with Chronic Spinal Cord Injury ........................................... 2-83
Center on Health Outcomes Research and Capacity Building for Underserved Populations with SCI and TBI ........................................... 8-7
Investigating Environmental Factors Affecting Community Integration ........................................... 4-37
Rehabilitation Research and Training Center on Secondary Conditions in Individuals with SCI ........................................... 2-7

Texas
Advanced Rehabilitation Research Training ........................................... 8-40
DBTAC- Southwest ADA Center - Region VI ........................................... 7-9
Developing Strategies to Foster Community Integration and Participation (CIP) for Individuals with Traumatic Brain Injury ........................................... 4-13
Development of an Internet-Based Self-Esteem Intervention for Women with Disabilities ........................................... 4-38
Impact of Prospective Payment and Rehabilitation Outcomes .................................................. 5-7
Interdisciplinary Rehabilitation Research Training Program ............................................... 8-39
North Texas Burn Rehabilitation Model System (NTBRMS) ........................................ 2-35
North Texas Traumatic Brain Injury Model System (NT-TBIMS) ........................................ 2-36
Pediatric Burn Injury Rehabilitation Model System .................................................. 2-37
SEDL Center on Knowledge Translation for Employment Research ................................ 6-9
SEDL’s Vocational Rehabilitation Service Models for Individuals with Autism Spectrum Disorders ........................................... 1-18
Southwest ADA National Network Regional Center - Region VI .................................. 7-10
Texas Model Spinal Cord Injury System .......................................................... 2-62
The Texas Traumatic Brain Injury Model System of TIRR ........................................ 2-38

Utah
Experimental Research on Pedestrian and Evacuation Behaviors of Individuals with Disabilities; Theory Development Necessary to Characterize Individual-Based Models ........................................... 3-48
New Electro-Hydraulic Foot Prosthesis .................................................................................. 3-76

Virginia
Comparison of Transition Programs for Students with Intellectual Disability: Are Experiences, Supports, and Outcomes Different for those in Postsecondary Education Programs? .................................................. 8-11
A National Assessment of the Rates and Correlates of Alcohol and Other Drug Use by College Students with Disabilities .................................................................................. 5-8
Advanced Research Training Program in Neurobehavioral Recovery and Intervention ........................................... 8-41
Empowerment: Building Research Infrastructure Capacity ........................................ 8-8
Enhancing Outcome-Based Performance Measures for the Public Vocational Rehabilitation Program: Developing Return on Investment Models .................................................. 1-31
Virginia Commonwealth Traumatic Brain Injury Model System ........................................ 2-39
Vocational Rehabilitation Service Models for Individuals with Autism Spectrum Disorders (VCU ASC Career Links) ........................................... 1-19

Washington
ADA Network Knowledge Translation Center .......................................................... 6-13
Furthering Collaboration Among Disability and Aging Research Networks ........................................... 8-12
Model Systems Knowledge Translation Center (MSKTC) ........................................ 6-10
Multiple Sclerosis Rehabilitation Research and Training Center ........................................... 2-8
Natural History of Headache Following Mild Traumatic Brain Injury ........................................... 2-86
Northwest ADA National Network Regional Center - Region X ...................................... 7-15
Northwest Regional Spinal Cord Injury System .......................................................... 2-63
Omega Fatty Acids in Neurological Recovery .......................................................................... 8-23
Rehabilitation Research and Training Center on Aging with a Physical Disability: Reducing Secondary Conditions and Enhancing Health and Participation, Including Employment ........................................... 2-9
Telephone and In-Person Cognitive Behavioral Therapy for Depression After Traumatic Brain Injury ........................................... 2-85
University of Washington Advanced Rehabilitation Research Training ........................................... 8-42
University of Washington Burn Model System .......................................................... 2-40
University of Washington Traumatic Brain Injury Model System ........................................ 2-41

West Virginia
Making Small Visual Displays Accessible to People with Vision Loss ........................................... 3-49
Wisconsin
Access Mainstreet: Universal Design
Information Tool (UD-IT)......................... 3-51
Advanced Rehabilitation Research
Training (ARRT) in Pediatric to Adult Transition ........................................... 8-44
Advanced Rehabilitation Research
Training in Pediatric Mobility.................. 8-43
Agricultural Assistive Technology Training ......................................................... 3-50
Creating Evidence-Based Vocational Rehabilitation (VR) Service Delivery Practices . 1-13
Improving Work Ability Among Breast Cancer Survivors............................... 1-32
Rehabilitation Engineering Research
Center for Universal Interface and Information Technology Access.................. 3-20
Rehabilitation Engineering Research
Center on Technologies for Children with Orthopedic Disabilities ..................... 3-22
Rehabilitation Engineering Research
Center on Telecommunications Access....... 3-21
Role of Sensation and Sensory Stimulation to Improve Hand Grip in Persons with Stroke ................................................................. 8-13
Principal Investigators
Abery, Brian, PhD
University of Minnesota
612/625-5592 ............................................ 2-23

Acosta, Ana Maria, PhD
Northwestern University
312/503-4435 .................................................. 3-34, 3-36

Aisen, Mindy L., MD
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562/401-7161 ............................................ 2-44

Allen, David, PhD
Portland State University
503/725-4687 ............................................ 4-35

Anderson, Shane
Koronis Biomedical Technologies Corporation
763/515-5355 .................................................. 3-74

Apple, David F., Jr., MD
Shepherd Center, Inc.
404/350-7582 ............................................ 2-48

Arango-Lasprilla, Juan Carlos, PhD
Virginia Commonwealth University
804/828-8797 .................................................. 8-8

Bakke, Matthew H., PhD
Gallaudet University
202/651-5335 .................................................. 3-5

Barner, Kenneth, PhD
University of Delaware
302/831-6937 .................................................. 3-28

Barrance, Peter, PhD
Kessler Foundation
973/324-3550 .................................................. 3-43, 8-34

Belant, Mary-Kay
Mississippi State University
662/325-2001 .................................................. 1-7

Belknap, Katherine
ORC Macro
301/608-8998, ext. 105 ........................................ 6-16

Bell, Kathleen R., MD
University of Washington
206/221-6511 .................................................. 2-41, 2-86

Bellini, James L., PhD
Syracuse University
315/443-9655 .................................................. 8-37

Bertocci, Gina, PhD
University of Michigan
734/936-1103 .................................................. 3-13

Beukelman, David, PhD
Duke University
919/684-6271 .................................................. 3-16

Blanck, Peter D., PhD, JD
Syracuse University
315/443-9703 .................................................. 1-16, 1-17, 7-6, 7-7

Bodine, Cathy PhD
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303/315-1281 .................................................. 3-4

Bogner, Jennifer, PhD
Ohio Valley Center for Brain Injury Prevention and Rehabilitation
614/293-3830 .................................................. 2-32

Bombardier, Charles H., PhD
University of Washington
206/731-3665 .................................................. 2-63, 2-64

Bond, Gary R., PhD
Trustees of Dartmouth College
603/448-0263 .................................................. 1-27, 1-28

Boninger, Michael L., MD
University of Pittsburgh
412/365-4861 .................................................. 2-60, 2-61

Boone, Steven E., PhD
University of Arkansas for Medical Sciences
501/686-7348 .................................................. 1-20
<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
<th>Phone</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borodin, Yevgen</td>
<td>Charmtech Labs, LLC</td>
<td>516/313-7356</td>
<td>3-52, 3-53</td>
</tr>
<tr>
<td>Brabyn, John A., PhD</td>
<td>The Smith-Kettlewell Eye Research Institute</td>
<td>415/345-2110</td>
<td>3-3</td>
</tr>
<tr>
<td>Bregman, Barbara S., PhD</td>
<td>Georgetown University</td>
<td>202/687-1452</td>
<td>8-25</td>
</tr>
<tr>
<td>Brienza, David M., PhD</td>
<td>University of Pittsburgh</td>
<td>412/624-6383</td>
<td>3-17, 3-19</td>
</tr>
<tr>
<td>Brooks, Larry, PhD</td>
<td>University of Miami</td>
<td>305/243-9516</td>
<td>2-47</td>
</tr>
<tr>
<td>Brown, Allen W., MD</td>
<td>Mayo Clinic</td>
<td>507/255-3116</td>
<td>2-24</td>
</tr>
<tr>
<td>Brown, David A., PhD</td>
<td>Northwestern University</td>
<td>312/908-0976</td>
<td>2-71</td>
</tr>
<tr>
<td>Bruyère, Susanne M., PhD</td>
<td>Cornell University</td>
<td>607/255-9536 (V), 607/255-2891 (TTY)</td>
<td>1-10</td>
</tr>
<tr>
<td>Burns, Stephen P., MD</td>
<td>University of Washington</td>
<td>206/731-3665</td>
<td>2-63, 2-64</td>
</tr>
<tr>
<td>Buzhardt, Jay, PhD</td>
<td>University of Kansas Medical Center</td>
<td>913/945-6604</td>
<td>3-38</td>
</tr>
<tr>
<td>Capella McDonnall, Michele, PhD</td>
<td>Mississippi State University</td>
<td>662/325-2001</td>
<td>1-7</td>
</tr>
<tr>
<td>Carberry, Sandee</td>
<td>University of Delaware</td>
<td>302/831-6937</td>
<td>3-28</td>
</tr>
<tr>
<td>Cardenas, Diana D., MD</td>
<td>University of Miami</td>
<td>305/243-9516</td>
<td>2-47</td>
</tr>
<tr>
<td>Cardoso, Elizabeth, PhD</td>
<td>Hunter College of CUNY</td>
<td>212/772-4736</td>
<td>5-5</td>
</tr>
<tr>
<td>Cavenaugh, Brenda, PhD</td>
<td>Mississippi State University</td>
<td>662/325-2001</td>
<td>1-7</td>
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<tr>
<td>Chan, Fong, PhD</td>
<td>University of Wisconsin-Madison</td>
<td>608/262-2137</td>
<td>1-13</td>
</tr>
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<td>Charlifue, Susan, PhD</td>
<td>Craig Hospital</td>
<td>303/789-8220</td>
<td>2-45, 2-67</td>
</tr>
<tr>
<td>Chaubey, Pravin</td>
<td>OrthoCare Innovations, LLC</td>
<td>405/271-2466</td>
<td>3-75</td>
</tr>
<tr>
<td>Chen, David, MD</td>
<td>Rehabilitation Institute of Chicago (RIC)</td>
<td>312/238-0764</td>
<td>2-49, 2-50</td>
</tr>
<tr>
<td>Chen, Yuying, MD, PhD</td>
<td>University of Alabama at Birmingham</td>
<td>205/934-3320</td>
<td>6-3, 6-4</td>
</tr>
<tr>
<td>Chiaravalloti, Nancy D., PhD</td>
<td>Kessler Foundation</td>
<td>973/530-3640</td>
<td>2-27, 2-78, 8-35</td>
</tr>
<tr>
<td>Chiodo, Anthony, MD</td>
<td>University of Michigan</td>
<td>734/763-0971</td>
<td>2-55, 2-56</td>
</tr>
</tbody>
</table>
Christensen, Keith, PhD
Utah State University
435/797-0507 ........................................... 3-48

Cicerone, Keith D., PhD
JFK Johnson Rehabilitation Institute
732/906-2640 ........................................... 2-26

Cook, Judith A., PhD
University of Illinois at Chicago
312/355-3921 ........................................... 8-3, 8-5

Copeland, Jana, PhD
Meeting the Challenge, Inc.
719/444-0268 ........................................... 7-12

Corrigan, John D., PhD
Ohio Valley Center for Brain Injury Prevention and Rehabilitation
614/293-3830 ........................................... 2-32, 2-33

Crossman, Jacob
Soar Technology, Inc.
734/887-7613 ........................................... 3-71

Crudden, Adele
Mississippi State University
662/325-2001 ........................................... 1-7

Culjat, Martin, PhD
Farus, LLC
310/869-5504 ........................................... 3-67

Dague, Bryan, EdD
University of New Hampshire
603/228-2084 ........................................... 1-25

Daunhauer, Lisa, ScD
Colorado State University
970/491-7870 ........................................... 1-49

Davies, Daniel K.
AbleLink Technologies, Inc.
719/592-0347 ........................................... 3-54, 3-55, 3-56

Davis, Maryann, PhD
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508/856-8718 ........................................... 1-6

de Jong, Jim
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800/949-4232 (V/TTY, in IA, KS, MO, and NE), 573/882-3600 (V/TTY) ........................................... 7-11

Dean, David H., PhD
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804/289-8559 ........................................... 1-31

DeRuyter, Frank, PhD
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919/684-6271 ........................................... 3-16

Deutsch, Anne, RN, PhD, CRRN
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312/238-2826 ........................................... 6-11

Devine, Jennifer M., MD
206/963-5638 ........................................... 8-20

Dewald, Julius, PhD
Northwestern University
312/503-4435 ........................................... 3-36

Dikjers, Marcel, PhD
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212/659-8587 ........................................... 2-29

Dikman, Suriyya, PhD
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206/221-6511 ........................................... 2-86

Ding, Dan, PhD
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412/954-5287 ........................................... 8-38

Donovan, William, MD
The Institute for Rehabilitation and Research (TIRR)
713/797-5023 ........................................... 2-62
Drum, Charles, JD, PhD  
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Garfinkel, Steven, PhD  
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919/918-2306, 703/993-1940
Giesen, Marty  
Mississippi State University  
662/325-2001 .............................................. 1-7

Glang, Ann E., PhD  
Western Oregon University  
541/346-0594 ........................................... 3-46, 4-17

Goldberg, Larry  
WGBH Educational Foundation  
617/300-3722 ............................................. 3-40

Gonzalez, Roseann, PhD  
University of Arizona  
520/621-3615 ............................................. 4-18

Gordon, Wayne A., PhD  
Mount Sinai School of Medicine  
212/659-9372 ............................................. 2-28

Gower, Wendy Strobel  
Cornell University  
607/255-6751 ............................................. 7-4

Graves, Daniel E., PhD  
University of Louisville Research Foundation, Inc  
502/582-7443 ............................................. 2-51, 2-62

Grigal, Meg, PhD  
University of Massachusetts Boston  
617/590-8082 ............................................. 4-16

Groah, Suzanne L., MD  
MedStar Research Institute  
202/877-1196 ............................................. 2-4, 2-46

Haarbauer-Krupa, Juliet, PhD  
Children’s Healthcare of Atlanta, Inc.  
404/785-3284 ............................................. 4-21

Hagner, David, PhD  
University of New Hampshire  
603/228-2084 ............................................. 1-24, 1-25

Hall, Jean P., PhD  
University of Kansas Center for Research  
785/864-7083 ............................................. 1-23

Hammond, Flora M., MD  
Carolina's HealthCare System  
704/355-4330 ............................................. 2-30, 2-31

Hanks, Robin A., PhD  
Wayne State University  
313/745-9763 ............................................. 2-22, 2-74

Harbour, Wendy S., PhD  
Syracuse University  
315/443-1288 ............................................. 4-29

Harkema, Susan, PhD  
University of Louisville Research Foundation, Inc  
502/582-7443 ............................................. 2-51

Harkins, Judy, PhD  
University of Wisconsin-Madison  
202/561-5257 ............................................. 3-21

Harrington, Charlene, PhD, RN  
University of California at San Francisco  
415/476-4030 ............................................. 4-3

Harris, Gerald F., PhD  
Marquette University  
414/288-0698 ............................................. 3-22, 8-43, 8-44

Harrison-Felix, Cynthia, PhD  
Craig Hospital  
303/789-8565 ............................................. 2-16

Hart, Debra, PhD  
University of Massachusetts Boston  
617/590-8082 ............................................. 4-16

Hart, Tessa, PhD  
Albert Einstein Healthcare Network  
215/663-6153 ............................................. 2-34
Hassounah, Dena, PhD
Oregon Health and Science University
503/494-2714 2-80, 2-81

Havey, Gary D.
Advanced Medical Electronics Corporation
763/463-4814 3-72

Hayner, Stephanie, PhD
Santa Clara Valley Medical Center (SCVMC)
408/793-6446, 408/793-6433 2-12

Heinemann, Allen W., PhD
Feinberg School of Medicine
312/238-2802 2-50, 5-3, 5-4, 8-27

Heitzman-Powell, Linda S., PhD
University of Kansas Medical Center
913/945-6604 3-38, 4-22

Helfrich, Christine A., PhD
Boston University
617/353-8947 4-25

Heller, Tamar, PhD
The Board of Trustees of the University of Illinois
312/413-1467 4-4, 8-28

Hendricks, D.J., EdD
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304/293-7186, ext. 111 1-16

Herbert, James T., PhD
814/865-1887 1-30, 8-10

Hirtemath, Shivayogi V.
412/538-0020 8-22

Hoffman, Jeanne M., PhD
University of Washington
206/221-6511 2-86

Hoffman, Jeanne M., PhD
University of Washington
206/731-3665 2-63, 2-64

Hornyak, Joseph, MD
University of Michigan
734/615-1904 4-27

Houtenville, Andrew J., PhD
University of New Hampshire
603/862-4004 1-9

Hudson, Lesley M.
Shepherd Center, Inc.
404/350-7582 2-48

Huggins, Jane, PhD
University of Michigan
734/936-7170 3-41

Humphries, Kathleen PhD
Good Nutrition Ideas, LLC
406/396-1033 2-87

Hunter-Zaworski, Katharine, PhD
Oregon State University
541/737-4982 3-44

Hurdich, Jason
Vcom3D, Inc.
407/737-7310 3-57, 3-58

Ipsen, Catherine, PhD
University of Montana
406/243-4562 4-28

Jackson, Amie B., MD
University of Alabama at Birmingham
205/934-3330 2-42, 2-43
Jensen, Mark P. PhD
University of Washington
206/543-3185 ................................. 2-9

Jette, Alan, PT, PhD
Boston University Medical Center Gaylord Hospital
Hospital for Special Care
617/638-1985 ................................. 2-53

Johnson, Kurt PhD
University of Washington
206/543-3677 ................................. 6-10

Johnson, Kurt PhD
University of Washington
206/543-3677 ................................. 6-13, 8-42

Jones, Erica C., MPH
Public Health Institute
510/285-5600 (V/TTY) .................. 7-13, 7-14

Jones, Robin A.
University of Illinois at Chicago
312/996-1059 ................................. 7-8

Kaelin, Daryl, MD
University of Louisville Research Foundation,
Inc
502/582-7443 ................................. 2-51

Kapperman, Gaylen, EdD
Research and Development Institute
815/895-3078 ................................. 3-37

Karg, Patricia
University of Michigan
734/936-1103 ................................. 3-13

Kartin, Deborah, PT PhD
University of Washington
206/598-5338 ................................. 8-42

Kaufman, Jacqueline, PhD
University of Michigan
734/936-7052 ................................. 2-73

Kaye, Stephen H., PhD
University of California at San Francisco
415/476-4030 ................................. 4-3

Keating, Thomas, PhD
Assistech Systems, LLC
541/342-3763 ................................. 2-88, 4-37, 4-40

Keysor, Julie, J., PhD
Trustees of Boston University
617/353-2735 ................................. 4-7

Kiernan, William E. PhD
University of Massachusetts
Boston
617/287-4311 ................................. 1-15

King, Tricia, PhD
Children’s Healthcare of Atlanta, Inc.
404/785-3284 ................................. 4-21

Kirshbaum, Megan, PhD
Through the Looking Glass
510/848-1112 ................................. 4-14, 4-15

Kloos, Bret, PhD
University of South Carolina
803/777-2704 ................................. 4-37

Koroloff, Nancy M., PhD
Portland State University
503/725-9675 ................................. 4-10

Kowalske, Karen
The University of Texas
Southwestern Medical Center
214/648-2288 ................................. 2-35

Kraft, George H., MD
University of Washington
206/543-7272 ................................. 2-8

Kramer, John C.
312/436-1839 ................................. 8-18
Kramer, Kevin
Advanced Medical Electronics Corporation
763/515-5315 .......................... 3-64

Krause, James S. PhD
Medical University of South Carolina
843/792-1337 ................. 2-7, 2-83, 2-84, 8-7

Kreutzer, Jeffrey S., PhD
Virginia Commonwealth University
804/828-9055 ..................... 2-39, 8-41

Kruse, Doug, PhD
Syracuse University
732/445-5991 .......................... 1-16

Kuiken, Todd A., MD, PhD
Rehabilitation Institute of Chicago (RIC)
312/238-1362 .......................... 3-33

Lam, Chow S., PhD
312/567-3515 .......................... 8-9

Lammertse, Daniel P., MD
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303/789-8220 .......................... 2-45

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LaPlante, Mitch, PhD
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415/476-4030 .......................... 4-3

Lathan, Corinna
AnthroTronix, Inc.
301/495-0770 ......................... 3-62

LeJeune, B.J.
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662/325-2001 .......................... 1-7

Lenker, James, PhD
University at Buffalo, The State University of New York,
716/829-5899 .......................... 3-15

Leverenz, Paul
Easter Seals Wisconsin, Inc.
608/225-2394 .......................... 3-50

Levy, Robert M.
Criterion Health, Inc.
812/894-2120 .......................... 3-69

Lezotte, Dennis C., PhD
University of Colorado Denver - Anschutz Medical Campus
303/724-4388 .......................... 2-13

Li, Xiaoyan
312/925-5622 .......................... 8-14

Logue, Rebecca L.
Beckmer Products Inc.
208/489-1590 .......................... 3-59

Lovell, Tom
Aspen Systems, Inc.
508/281-5322, ext. 237 .......................... 3-70

Lucking, Richard G., PhD
TransCen, Inc.
301/424-2002, ext. 230 ............. 1-14, 7-5

Lui, John, PhD
University of Wisconsin-Madison
608/262-2137 .......................... 1-13

Lynn Gerber, N., MD
American Institutes for Research
919/918-2306, 703/993-1940 ......... 6-5

Marino, J. Ralph, MD
Thomas Jefferson University
215/955-6579 .......................... 2-59

Matrone, Kathe, PhD
University of Washington
425/771-7436 .......................... 7-15
May, Michael  
Sendero Group, LLC  
530/757-6800 ........................................ 3-24

McCoy, Kathleen  
University of Delaware  
302/831-6937 ........................................ 3-28

McCue, Michael, PhD  
University of Pittsburgh  
412/383-6589 ........................................ 3-19

McDonald, Craig M., MD  
Regents of the University of California at Davis  
916/734-2923 ........................................ 2-3, 8-24

McGurk, Susan, PhD  
Dartmouth College  
603/271-5747 ........................................ 1-26

Meade, Michelle A., PhD  
Regents of the University of Michigan  
734/936-7205 ........................................ 3-42

Milchus, Karen  
Georgia Institute of Technology  
404/894-0393 ........................................ 3-6, 3-31

Miller, Nancy, PhD  
University of Maryland at Baltimore County  
410/455-3889 ........................................ 5-6

Mitchell, Helena, PhD  
Georgia Institute of Technology  
404/367-1348 ........................................ 3-8

Molton, Ivan R., PhD  
206/543-3602 ........................................ 2-9, 8-12

Moore, Dennis C., EdD  
Wright State University  
937/775-1484 (V/TTY) .................................. 1-12

Morse, Leslie R., DO  
Spaulding Rehabilitation Hospital  
617/573-2913 ........................................ 2-54

Mullen-Gonzales, Michelle  
University of Medicine and Dentistry of New Jersey  
908/889-2513 ........................................ 2-76

Mulroy, Sara, PhD  
Los Amigos Research and Education Institute  
562/401-7161 ........................................ 2-44, 3-25

Munson, Leslie J., PhD  
Portland State University  
503/725-4687 ........................................ 4-35

Nary, Dorothy E.  
785/864-0631 ........................................ 8-16

Nash, Mark S., PhD  
University of Miami  
305/243-3628 ........................................ 2-47, 2-68, 2-69

Nemunaitis, Gregory A., MD  
MetroHealth System  
216/778-5514 ........................................ 2-58

Neumann, Dawn, PhD  
317/329-2188 ........................................ 8-15

Newcomer, Robert, PhD  
University of California at San Francisco  
415/476-4030 ........................................ 4-3

Nishii, Lisa H., PhD  
Cornell University  
607/255-4431 ........................................ 1-29

Nosek, Margaret A., PhD  
Baylor College of Medicine  
713/523-0909 ........................................ 4-38

Novack, Thomas A., PhD  
University of Alabama at Birmingham  
205/934-3283 ........................................ 2-11

O’Neill, John, PhD  
Hunter College of CUNY  
212/772-4736 ........................................ 5-5, 1-11
Odum, Mark X.
HeiTech Services, Inc.
800/346-2742 (V), 301/459-5984 (TTY), 301/459-5900 (V) ...................... 6-15

Oschwald, Mary, PhD
Portland State University
503/725-9602 ........................................ 4-36

Ottenbacher, Kenneth J., PhD
University of Texas Medical Branch
409/747-1637 ........................................ 5-7, 8-39

Parish, Susan, L., PhD
University of North Carolina
781/736-3928 ........................................ 2-79

Patton, Jim, PhD
Rehabilitation Institute of Chicago (RIC)
312/238-3919 ........................................ 3-11

Preston, Paul, PhD
Through the Looking Glass
510/848-1112 ........................................ 4-14, 4-15

Qibing, Pei
Regents of the University of California
310/825-4217 ........................................ 3-27

Ravesloot, Craig, PhD
University of Montana
406/243-2992 ........................................ 4-28

Razzano, Lisa A., PhD, CPRP
Chicago House and Social Service Agency
312/413-0323 ........................................ 1-22

Reichard, Amanda, PhD
University of Kansas
785/864-1618 ........................................ 2-72

Reidly, Timothy
Koronis Biomedical Technologies Corporation
763/515-5355 ........................................ 3-65, 3-73

Reinkensmeyer, David J., PhD
University of California
949/824-5218 ........................................ 3-26

Reisinger, Kim, PhD
San Francisco State University
415/338-6277 ........................................ 3-23

Requejo, Philip S., PhD
Los Amigos Research and Education Institute
562/401-7161 ........................................ 2-44, 3-25

Requejo, Philip S., PhD
University of Southern California
323/442-2903; ........................................ 2-10

Richards, Scott, J., PhD
University of Alabama at Birmingham
205/934-3330 ........................................ 2-42, 2-43

Rimmer, James H., PhD
The Board of Trustees of the University of Illinois
312/413-9651 ........................................ 2-19, 3-10

Rogers, E. Sally, ScD
Boston University
617/353-3549 ........................................ 1-5, 8-31

Rogers, Mark W., PhD
University of Maryland at Baltimore
410/706-1771 ........................................ 8-30

Roth, Elliot J., MD
Rehabilitation Institute of Chicago (RIC)
312/238-4637, 312/238-8045, ........................ 2-5, 2-18

Roush, Daniel
Eastern Kentucky University
859/622-8892 ........................................ 4-24

Rowland, Charity, PhD
Oregon Health and Science University
503/494-7587, 503/494-2263 ................................ 3-47
Rowland, Jennifer L., PhD, PT  
University of Illinois at Chicago  
312/413-1850 ........................................ 3-32

Russinova, Zlatka, PhD  
Boston University  
617/353-3549 ........................................ 8-31

Ryerson, Susan, PhD  
National Rehabilitation Hospital  
202/877-1889 ........................................ 3-30

Rymer, W. Zev, MD, PhD  
Northwestern University  
312/238-3919 ........................................ 3-11, 8-29

Salipur, Zdravko  
502/852-0279 ........................................ 8-17

Salzer, Mark, PhD  
Temple University  
215/204-7879 ........................................ 4-12

Sander, Angelle M., PhD  
Baylor College of Medicine  
713/873-3875 ........................................ 4-13, 8-40

Sanford, Jon  
Georgia Institute of Technology  
404/894-0393 ........................................ 3-6

Sansing, William  
Mississippi State University  
662/325-2001 ........................................ 1-7

Saunders, Muriel D., PhD  
University of Kansas  
785/864-1618 ........................................ 2-72

Schlosser, Ralf W., PhD  
Northeastern University  
617/373-3785 ........................................ 4-26, -12

Schneider, Lawrence W., PhD  
University of Michigan  
734/936-1103 ........................................ 3-13

Sears, Harold H., PhD  
Motion Control, Inc.  
801/326-3434 ........................................ 3-76

Seekins, Tom, PhD  
University of Montana  
406/243-2654 ........................................ 1-8

Seel, Ronald T., PhD  
Shepherd Center, Inc.  
404/387-5625 ........................................ 4-20

Seifert, Sara  
Minnesota HealthSolutions  
612/803-6998 ........................................ 3-66

Seo, Na Jin  
414/229-2906 ........................................ 8-13

Sesto, Mary D., PhD  
University of Wisconsin-Madison  
608/262-6966 ........................................ 1-32

Sevak, Purvi, PhD  
Hunter College of CUNY  
212/772-5188 ........................................ 1-11

Shem, Kazuko, MD  
Santa Clara Valley Medical Center (SCVMC)  
408/885-7007 ........................................ 2-66

Shenouda, Christian N., MD  
713/291-6613 ........................................ 8-23

Sherer, Mark, PhD  
The Institute for Rehabilitation and Research (TIRR)  
713/799-7007 ........................................ 2-38

Slaboda, Jill, PhD  
215/204-0448 ........................................ 8-21

Sloan, Stan, CEO  
Chicago House and Social Service Agency  
312/413-0323 ........................................ 1-22
Smith, Roger O., PhD
University of Wisconsin–Milwaukee
414/229-5625 .................................................. 3-51

Sprigle, Stephen, PhD
Georgia Institute of Technology
404/385-4302 .................................................. 3-7

Starling, Mike
National Public Radio
202/513-2484 .................................................. 3-29

Steinfeld, Aaron, PhD
Carnegie Mellon University
412/268-6346 .................................................. 3-18

Steinfeld, Edward, ArchD
Carnegie Mellon University
412/268-6346 .................................................. 3-15, 3-18

Stergiou, Nicholas
University of Nebraska at Omaha
402/554-3247 .................................................. 2-75

Stone, John, PhD
The Research Foundation of SUNY
on behalf of the University at Buffalo
716/829-6739 .................................................. 6-8

Strauser, David, PhD
University of Illinois at Urbana-Champaign
217/244-3936 .................................................. 1-21

Summers, Jean Anne, PhD
The University of Kansas
785/864-4095 .................................................. 4-23

Sutter, Stephen M.
CreateAbility Concepts, Inc.
317/484-8400 .................................................. 3-60, 3-61, 3-68

Szlachcic, Yaga, MD
Los Amigos Research and Education Institute
562/401-7161 .................................................. 2-44

Tan, Faye C., MD
Baylor College of Medicine
713/873-3875 .................................................. 8-40

Tate, Denise G., PhD
University of Michigan
734/763-0971 .................................................. 2-55, 2-56, 8-32

Taylor, Renee, PhD
University of Illinois at Chicago
312/413-1647 .................................................. 8-26

Thoma, Colleen A.
804/761-7713 .................................................. 8-11

Todis, Bonnie, PhD
Western Oregon University
541/346-0595 .................................................. 4-34

Tsaousides, Theodore, PhD
Mount Sinai School of Medicine
212/241-6547 .................................................. 8-36

Tulsky, David S., PhD
Kessler Foundation
973/243-6849, 973/243-6916 .................................. 2-77

Ulrich, Dale, PhD
University of Michigan
734/615-1904 .................................................. 4-27

Uslan, Mark
American Foundation for the Blind
304/523-8651 .................................................. 3-49

Vanderheiden, Gregg C., PhD
University of Wisconsin-Madison
608/263-5788 .................................................. 3-20, 3-21

Vinopol, Corinne
Institute for Disabilities Research and Training, Inc.
301/942-4326 .................................................. 3-63

Wade, Shari L., PhD
Children’s Hospital Medical Center
513/636-7480 .................................................. 2-6, 4-31
Wagner, Stacia, MSW  
University of Illinois at Urbana-Champaign  
217/244-3936 ............................................. 1-21

Wehman, Paul, PhD  
Virginia Commonwealth University  
804/828-1852 (V), 804/828-2494 (TTY) .............................................. 1-14, 1-19, 8-8

West, Steven L., PhD, CRC  
Virginia Commonwealth University  
804/827-0921 ................................................ 5-8

Westbrook, John, PhD  
SEDL  
512/391-6517 ............................................. 1-18, 6-9

White, Glen W., PhD  
The University of Kansas  
785/864-4095 ............................................. 4-5, 4-6, 4-23

Whiteneck, Gale G., PhD  
Craig Hospital  
303/789-8204 ............................................. 2-14, 2-15

Whitley, Rob PhD  
Dartmouth College  
603/448-0263 ............................................. 8-6

Whyte, John, MD, PhD  
Albert Einstein Healthcare Network  
215/663-6872 ............................................. 2-82

Wilkinson, Wendy  
The Institute for Rehabilitation and Research (TIRR)  
800/949-4232 (V/TTY, in AR, LA, NM, OK, and TX), 713/520-0232 (V), 713/520-5136 (TTY) ............................................. 7-9, 7-10

Williams, Steve, MD  
Boston University Medical Center  
Gaylord Hospital Hospital for Special Care  
617/638-7911 ............................................. 2-52, 2-53

Wilson, Josephine F., DDS, PhD  
Wright State University  
937/775-1484 ............................................. 4-32

Winstein, Carolee J., PhD, PT  
University of Southern California  
323/442-2903; ............................................. 2-10

Wise, Justin, PhD  
Children’s Healthcare of Atlanta, Inc.  
404/785-3284 ............................................. 4-21

Womack, Kyle  
The University of Texas Southwestern Medical Center  
214/648-6409 ............................................. 2-36

Wu, Yeongchi, MD  
Northwestern University  
312/503-5700 ............................................. 3-35

Zebrack, Brad, PhD  
University of Illinois at Urbana-Champaign  
217/244-3936 ............................................. 1-21

Zhou, Ping, PhD  
Rehabilitation Institute of Chicago (RIC)  
312/238-1365 ............................................. 2-70

Zollman, Felise, MD  
Rehabilitation Institute of Chicago (RIC)  
312/238-4637, 312/238-8045, ...................... 2-18
Projects by Program Type
ADA National Network Regional Projects

ADA Network Knowledge Translation Center .............................................................. 6-13
DBTAC - Pacific ADA Center - Region IX ................................................................. 7-13
DBTAC - Southeast ADA Center - Region IV .......................................................... 7-6
DBTAC - Southwest ADA Center - Region VI ......................................................... 7-9
Great Lakes ADA National Network Regional Center - Region V .................... 7-8
Great Plains ADA National Network Regional Center - Region VII ...................... 7-11
Mid-Atlantic ADA National Network Regional Center - Region III ..................... 7-5
New England ADA National Network Regional Center - Region I ....................... 7-3
Northeast ADA National Network Regional Center - Region II ......................... 7-4
Northwest ADA National Network Regional Center - Region X ......................... 7-15
Pacific ADA National Network Regional Center - Region IX ............................... 7-14
Rocky Mountain ADA National Network Regional Center - Region VIII ............ 7-12
Southeast ADA National Network Regional Center - Region IV ......................... 7-7
Southwest ADA National Network Regional Center - Region VI ......................... 7-10

Advanced Rehabilitation Research Training Projects (ARRTs)

Advanced Rehabilitation Research and Disability Policy Training Center .......... 8-37
Advanced Rehabilitation Research Training ............................................................. 8-40
Advanced Rehabilitation Research Training (ARRT) in Pediatric to Adult Transition .......................................................... 8-44
Advanced Rehabilitation Research Training Center on Neurocognitive Rehabilitation .......................................................... 8-35
Advanced Rehabilitation Research Training Center on Neuro-musculoskeletal Rehabilitation .......................................................... 8-34

Advanced Rehabilitation Research Training in Neuromuscular and Neurodevelopmental Disorders ........................................ 8-24
Advanced Rehabilitation Research Training in Neurorehabilitation ....................... 8-25
Advanced Rehabilitation Research Training in Pediatric Mobility ......................... 8-43
Advanced Rehabilitation Research Training Project in Rehabilitation Services Research ........................................ 8-27
Advanced Research Training Program in Neurobehavioral Recovery and Intervention ........................................ 8-41
Advanced Research Training Program in Psychiatric Rehabilitation .................. 8-31
Advanced Training in Translational and Transformational Research to Improve Outcomes for People with Disabilities ...... 8-28
Advanced Training in Translational and Transformational Research to Improve Vocational Outcomes for Persons with Disabilities ........................................ 8-26
Career Advancement for Engineers in the Science of Rehabilitation (CAESOR) .... 8-38
Interdisciplinary Rehabilitation Research Training Program .................................. 8-39
Mt. Sinai Advanced Rehabilitation Research Training ............................................. 8-36
Rehabilitation Sciences for Engineers and Basic Scientists: An Advanced Training Program ........................................ 8-29
The UMHS/AACIL Rehabilitation Research Training Program .......................... 8-32
University of Maryland Advanced Neuromotor Rehabilitation Research Training (UMANRRT) ........................................ 8-30
University of Washington Advanced Rehabilitation Research Training .............. 8-42

Disability and Rehabilitation Research Projects (DRRPs)

A Center on Postsecondary Education for Students with Intellectual Disabilities .... 4-16
Building Knowledge and Capacity in the Rehabilitation and Recovery of African-Americans Suffering from Severe Mental Illness: The Dartmouth-Howard Collaboration ......................................................... 8-6
Carolinas Traumatic Brain Injury Rehabilitation and Research System (CTBIRRS) ........................................... 2-30
Center for International Rehabilitation Research Information & Exchange (CIRRIE-3) ................................................. 6-8
Center for Transition to Employment for Youth with Disabilities .......................................................... 1-14
Center on Effective Delivery of Rehabilitation Technology by Vocational Rehabilitation Agencies ................................. 1-17
Center on Health Outcomes Research and Capacity Building for Underserved Populations with SCI and TBI ......................... 8-7
Center on Knowledge Translation for Technology Transfer ........................................................................ 6-6
Classification and Measurement of Medical Rehabilitation Interventions ........................................... 2-29
Collaborative Spinal Cord Injury Model Systems Centers Program: Improving Spinal Cord Injury Rehabilitation Outcomes ........................................................................ 2-14
Demand-Side Employment Placement Models ..................................................................................... 1-16
Empowerment: Building Research Infrastructure Capacity .................................................................... 8-8
Families with Disabilities through the Life Cycle: Disability Culture Perspectives ............................. 4-15
Health and Health Care Disparities Among Individuals with Disabilities ........................................... 2-25
Health Care Coordination for Individuals with Physical Disabilities: Critical Elements and Consumer Outcomes ........................................... 2-23
Individualized Planning for the First Year Following Acute Rehabilitation Project .................................. 2-33
JFK-Johnson Rehabilitation Institute TBI Model System ........................................................................ 2-26
Johns Hopkins University Burn Injury Rehabilitation Model System (JHU-BIMS) .............................................. 2-21
Mayo Clinic Traumatic Brain Injury Model System .................................................................................. 2-24
Michigan Traumatic Brain Injury Model System (SEMTBIS) .................................................................. 2-22
Midwest Regional Traumatic Brain Injury Model System: Innovative Approaches to Improve Cognition, Function, and Community Living ................................................. 2-18
Model Systems Knowledge Translation Center (MSKTC) ................................................................. 6-5
Model Systems Knowledge Translation Center (MSKTC) ......................................................................... 6-10
National Center for Parents with Disabilities and Their Families ................................................. 4-14
National Data and Statistical Center for the TBI Model Systems ................................................................. 2-16
National Spinal Cord Injury Statistical Center ....................................................................................... 6-4
National Spinal Cord Injury Statistical Center (NSCISC) ......................................................................... 6-3
New York Traumatic Brain Injury Model System (NYTBIMS) ................................................................. 2-28
North Texas Burn Rehabilitation Model System (NTBRMS) ........................................................................ 2-35
North Texas Traumatic Brain Injury Model System (NT-TBIMS) ................................................................. 2-36
Northern California Traumatic Brain Injury Model System ......................................................................... 2-12
Northern New Jersey Traumatic Brain Injury System (NNJTBIS) ................................................................. 2-27
Ohio Regional TBI Model System .............................................................................................................. 2-32
Pediatric Burn Injury Rehabilitation Model System ..................................................................................... 2-37
Research and Technical Assistance Center on Vocational Rehabilitation Program Management ........................................... 1-15
School Transition & re-Entry Program (STEP): Systematic Hospital-to-School Transition for Students with Traumatic Brain Injury ..................................................................................... 4-17
SEDL Center on Knowledge Translation for Employment Research ..................................................... 6-9
SEDL’s Vocational Rehabilitation Service Models for Individuals with Autism Spectrum Disorders ................................... 1-18
TBI Model System Collaborative Study of Amantadine for Post TBI Irritability and Aggression ................. 2-31
<table>
<thead>
<tr>
<th>Projects by Program Type</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology Access in Resource-Limited Environments</td>
<td>3-23</td>
</tr>
<tr>
<td>The Moss Traumatic Brain Injury Model System</td>
<td>2-34</td>
</tr>
<tr>
<td>The Rocky Mountain Regional Brain Injury System</td>
<td>2-15</td>
</tr>
<tr>
<td>The Texas Traumatic Brain Injury Model System of TIRR</td>
<td>2-38</td>
</tr>
<tr>
<td>UCHSC Burn Model System Data</td>
<td>2-13</td>
</tr>
<tr>
<td>UIC Obesity Research Project on Prevalence, Adaptations, and KT in Youth and Young Adults with Disabilities from Diverse Race/Ethnic Backgrounds</td>
<td>2-19</td>
</tr>
<tr>
<td>University of Alabama at Birmingham (UAB) Traumatic Brain Injury Model System (UAB TBIMS)</td>
<td>2-11</td>
</tr>
<tr>
<td>University of Washington Burn Model System</td>
<td>2-40</td>
</tr>
<tr>
<td>University of Washington Traumatic Brain Injury Model System</td>
<td>2-41</td>
</tr>
<tr>
<td>Virginia Commonwealth Traumatic Brain Injury Model System</td>
<td>2-39</td>
</tr>
<tr>
<td>Vocational Rehabilitation Service Models for Individuals with Autism Spectrum Disorders (VCU ASC Career Links)</td>
<td>1-19</td>
</tr>
<tr>
<td>Frazier Rehab and Neuroscience Spinal Cord Injury Model System (FRNSCIMS)</td>
<td>2-51</td>
</tr>
<tr>
<td>Midwest Regional Spinal Cord Injury Care System (MRSCIS)</td>
<td>2-49</td>
</tr>
<tr>
<td>Midwest Regional Spinal Cord Injury Care System (MRSCIS)</td>
<td>2-50</td>
</tr>
<tr>
<td>National Capital Spinal Cord Injury Model System</td>
<td>2-46</td>
</tr>
<tr>
<td>NERSCIC: Improving the Lives of People with SCI Across the Lifespan through Innovative Science and Technology</td>
<td>2-53</td>
</tr>
<tr>
<td>Northeast Ohio Regional Spinal Cord Injury System</td>
<td>2-58</td>
</tr>
<tr>
<td>Northern New Jersey Spinal Cord Injury System</td>
<td>2-57</td>
</tr>
<tr>
<td>Northwest Regional Spinal Cord Injury System</td>
<td>2-57</td>
</tr>
<tr>
<td>Northwest Regional Spinal Cord Injury System</td>
<td>2-63</td>
</tr>
<tr>
<td>Regional Spinal Cord Injury Center of the Delaware Valley</td>
<td>2-59</td>
</tr>
<tr>
<td>South Florida Regional Spinal Cord Injury Model System</td>
<td>2-47</td>
</tr>
<tr>
<td>Southeastern Regional Spinal Cord Injury Model System at Shepherd Center</td>
<td>2-48</td>
</tr>
<tr>
<td>Southern California Spinal Cord Injury Model System at Rancho Los Amigos</td>
<td>2-44</td>
</tr>
<tr>
<td>National Rehabilitation Center</td>
<td>2-44</td>
</tr>
<tr>
<td>Spaulding Harvard Spinal Cord Injury Model System</td>
<td>2-54</td>
</tr>
<tr>
<td>Texas Model Spinal Cord Injury System</td>
<td>2-62</td>
</tr>
<tr>
<td>The New England Regional Spinal Cord Injury Center</td>
<td>2-52</td>
</tr>
<tr>
<td>The Rocky Mountain Regional Spinal Cord Injury System</td>
<td>2-45</td>
</tr>
<tr>
<td>UAB Model Spinal Cord Injury Care System</td>
<td>2-42</td>
</tr>
<tr>
<td>UAB Spinal Cord Injury Model System</td>
<td>2-43</td>
</tr>
<tr>
<td>University of Michigan Spinal Cord Injury Model System</td>
<td>2-55</td>
</tr>
<tr>
<td>University of Michigan Spinal Cord Injury Model System</td>
<td>2-56</td>
</tr>
<tr>
<td>University of Pittsburgh Model Center on Spinal Cord Injury</td>
<td>2-60</td>
</tr>
<tr>
<td>University of Pittsburgh Model Center on Spinal Cord Injury</td>
<td>2-61</td>
</tr>
</tbody>
</table>

Fellowships (Merit)

Comparison of Transition Programs for Students with Intellectual Disability: Are Experiences, Supports, and Outcomes Different for those in Postsecondary Education Programs?                        | 8-11 |
Evaluation of a Training Program to Enhance Clinical Supervision of State Vocational Rehabilitation Supervisors | 8-10 |
Furthering Collaboration Among Disability and Aging Research Networks                        | 8-12 |
Role of Sensation and Sensory Stimulation to Improve Hand Grip in Persons with Stroke                | 8-13 |
The Effectiveness of a 3D Virtual Reality Vocational Problem Solving Skill Training Program to Enhance Employment Opportunities for Persons with TBI: An Exploratory Study | 8-9 |
Fellowships (Distinguished)

Cardiovascular Fitness, Cognition, Mood, and Function in Community-dwelling People with Traumatic Brain Injury (TBI) .......................................................... 8-20
Consequences of Wheelchair Tie-Down and Occupant Restraint System Practices on Wheelchair Passenger Safety in Fixed-Route Transit .......................................................... 8-17
Development of a Physical Activity Monitor System for Manual Wheelchair Users .......................................................... 8-22
Evaluating a Novel Intervention to Reduce Instability in Patients with Stroke .......................................................... 8-21
Examining the Relationship between Anger and Attributions of Hostile Intent after Traumatic Brain Injury .......................................................... 8-15
Is There Really No Place Like Home?: An Exploratory Study of the Impact of Non-Visit able Homes on Wheelchair Users .......................................................... 8-16
Motor Unit Control Property Changes Post-Stroke: A High-Yield Surface EMG Decomposition Analysis .......................................................... 8-14
Omega Fatty Acids in Neurological Recovery .......................................................... 8-23
Sibling Connections to Employment: The Role of Adult Siblings of People with Intellectual and Developmental Disabilities in Supporting the Competitive Employment of Their Brothers and Sisters .......................................................... 8-18

Field Initiation Projects (FIPs)

A National Assessment of the Rates and Correlates of Alcohol and Other Drug Use by College Students with Disabilities ............ 5-8
A New Measure of Subjective Fatigue in Persons with Traumatic Brain Injury ............ 2-65
A Prospective National Study of Sustaining IPS Through Vocational Rehabilitation and Mental Health Collaboration ..................... 1-28
A Randomized Controlled Trial of Two Vocational Models for Individuals with Psychiatric Disabilities and Criminal Justice Involvement .......................................................... 1-27

A Robotic Powered Wheelchair Trainer with Haptic Guidance as Needed .............. 3-26
A Supported Employment Program for People with HIV/AIDS ......................... 1-22
Access Mainstreet: Universal Design Information Tool (UD-IT) .......................... 3-51
Access to Electronic and Personal Health Records ............................................. 3-40
Accommodations and ADA for Post-Secondary Students with Disabilities .......... 4-23
Addressing Self-Management Skills through Electronic Gaming: Meeting the Needs of Underserved Individuals with SCI .......................................................... 3-42
Agricultural Assistive Technology Training ....................................................... 3-50
Ambulation and Secondary Complications: Participants with Chronic Spinal Cord Injury ....................................................... 2-83
Assessing Safety Risk after Traumatic Brain Injury ........................................... 4-20
Auditory and Visual Working Memory in Children with Cerebral Palsy .............. 2-73
Beyond Hearing Aids: Training Resources to Improve the Capacity of VR Professionals Serving Consumers who are Hard of Hearing and Late Deafened ............ 1-20
Cognitive Remediation, Illness Self-Management, and Supported Employment in Severe Mental Illness ....................................................... 1-26
Deaf Interpreter Certification Project: Certifying Intermediary Interpreters Who Are Deaf to Ensure Effective Communication for the Deaf, Hard of Hearing, and Deaf-Blind ..................... 4-18
Deaf Off Drugs and Alcohol: Evaluating a Technology-Assisted E-Therapy Program for SUD Treatment ....................................................... 4-32
Defining Success: Web-Based Transition Training for Students with Traumatic Brain Injury ....................................................... 4-34
Developing a Relevant Instrument to Assess Caregiver Distress and Benefit in Spinal Cord Injury ....................................................... 2-67
Developing College Campuses as Transition Settings for Students with Severe and Multiple Disabilities Aged 18-21 ..................... 4-33
Developing Executive Functioning through Cognitive Remediation for College Students with Psychiatric Disabilities ........ 2-76
Development of a Low-Cost Dilatancy-Based System for Orthotic Fabrication ........ 3-35
Development of a Web-Based Tool for Families Impacted by the Cognitive, Behavioral, and Social Challenges of Traumatic Brain Injury ................. 3-46
Development of an Advanced Prosthetic Microcontroller System ................ 3-33
Development of an Employment Consultation Staff Training Model for Workplace Inclusion ..................... 1-24
Development of an Internet-Based Self-Esteem Intervention for Women with Disabilities ......................... 4-38
Development of Quality Measures for Post-Stroke Rehabilitation .............. 6-11
Do Animations Facilitate Symbol Understanding in Children with Autism? ... 4-26
Electronic Tactile Displays for Braille Text and Graphics ....................... 3-27
Enhancing Outcome-Based Performance Measures for the Public Vocational Rehabilitation Program: Developing Return on Investment Models ........ 1-31
Evaluating the Efficacy of an Occupational Intervention Targeting Young Adult Brain Tumor Survivors .................. 1-21
Evaluation of a Training Program to Enhance Clinical Supervision of State Vocational Rehabilitation Supervisors 1-30
EVIDAAC: A Database of Appraised Evidence in Augmentative and Alternative Communication ................... 6-12

Executive Function and Participation in Daily Life in Children with Down Syndrome ........................................ 1-49
Exercise Treatment of Obesity-Related Secondary Conditions in Adults with Paraplegia ........................................ 2-68
Experimental Research on Pedestrian and Evacuation Behaviors of Individuals with Disabilities; Theory Development Necessary to Characterize Individual-Based Models .......... 3-48
Falls-Based Training to Improve Balance and Mobility Post-Stroke ............. 2-71
Global Access Information Navigator .................................. 3-24
Health Care Disparities in Access and Utilization among Individuals with Disabilities .................................. 5-6
Impact of Prospective Payment and Rehabilitation Outcomes .................. 5-7
Improved Weight Bearing Evaluation of Knee Osteoarthritis .................. 3-43
Improving Cervical and Breast Cancer Screening for Women with Intellectual Disabilities ................................ 2-79
Improving Money Management Skills in Veterans with Psychiatric Disabilities ........ 4-30
Improving New Learning and Memory in TBI: Applying fMRI to Measure Outcome .................................................. 2-78
Improving Work Ability Among Breast Cancer Survivors ....................... 1-32
In-depth Assessment of Wheelchair Ramp Activities and Incidents on Public Transit Buses ............................................. 3-39
Investigating Environmental Factors Affecting Community Integration .......... 4-37
Investigation of Interventions for Sitting Postural Control in Young Children with Moderate to Severe Cerebral Palsy .............. 2-75
Language and Literacy Outcomes of Preschool Children with Traumatic Brain Injury ........................................ 4-21
Life Skills: Transitioning from Homelessness and Isolation to Housing Stability and Community Integration........... 4-25
Making Small Visual Displays Accessible to People with Vision Loss.......................... 3-49
Modular Orthoses Prescription System (MOPS)....................................................... 3-25
Multimodal Access to Information Graphics.............................................................. 3-28
Natural History of Headache Following Mild Traumatic Brain Injury.......................... 2-86
Neuroanatomical Correlates of Positive Psychology Among People with Traumatic Brain Injury: A Biopsychosocial Model .... 2-74
Noninvasive Examination of ALS Using Surface EMG ............................................. 2-70
Organizational Practices to Increase Employment Opportunities for People with Disabilities: The Power of Social Networks ......................................................... 1-29
Over-Ground Gait Training with a Novel Dynamic Body-Weight Support System..... 3-30
Parent-Infant Interaction Project (PIIP)...... 4-35
Participation Interference Patterns: Investigating the Relative Impact of Pain and Environmental Barriers on Participation ................................................................. 4-28
Peer-to-Peer Project: A Peer Support Network for Students with Significant Intellectual and Developmental Disabilities in Higher Education ......................................................... 4-29
Preparations for In-Home Testing of Brain-Computer Interfaces Operating Assistive Technology................................................................. 3-41
Promoting Adoption and Implementation of the Healing Pathways Program to Reduce Depressive Symptoms in Women with Physical Disabilities........................... 2-81
Quality of Life in Traumatic Brain Injury Research and Practice: Development of the TBI-QOL................................................................. 2-77
Randomized Field-Test of the Internet-based Safer and Stronger Program for Women with Disabilities......................................................... 4-36
Researching Accessibility Gaps in Transit Hub Communication Systems and Standards................................................................. 3-44
Sleep Disordered Breathing in Persons with Chronic Tetraplegia: Characterization and Intervention................................................................. 2-69
Sustainable Implementation of Family-Centered Transition Planning for Young Adults with Autism Spectrum Disorders .... 1-25
Systematic Study of the Effectiveness of AAC Intervention to Improve Conversation in Individuals with Degenerative Language Disorders............. 3-47
Telephone and In-Person Cognitive Behavioral Therapy for Depression After Traumatic Brain Injury................................................................. 2-85
TerpTube: An Accessible Online Portfolio for Deaf Mentors and Sign Language Interpreters ................................................................. 4-24
The Captioned Braille Radio Initiative: Providing Emergency Information for Individuals who are Deaf-Blind ................................................................. 3-29
The Development of a Commercial Rehabilitation Device to Regain Arm Function Following Stroke ................................................................. 3-34
The Effect of Resistance to Participant-Supported Reaching on Workspace of the Hand in Severe Chronic Stroke ................................................................. 3-36
The Effects of a Bicycle Training Intervention on Health, Physical Activity, Sleep, and Community Participation in Youth with Down Syndrome and Autism Spectrum Disorders................................................................. 4-27
The Nexus of Employment, Health and Disability: A Study of Health Status and Quality of Life among Medicaid Buy-In Participants ................................................................. 1-23
The TATE Project: Training Assistive Technology in the Environment ................................................................. 3-45
<table>
<thead>
<tr>
<th>Projects by Program Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video Gaming Technology to Promote Health and Fitness Among Adolescents with Disabilities</td>
</tr>
<tr>
<td>Web Therapy to Improve Outcomes After Traumatic Brain Injury in Young Children</td>
</tr>
<tr>
<td>Weight Loss by Individuals with Physical Disabilities</td>
</tr>
<tr>
<td>Workplace Accommodation Wizard: An Assessment and Accommodation Tool for Employers</td>
</tr>
<tr>
<td>Zolpidem and Restoration of Consciousness: An Exploration of the Mechanism of Action</td>
</tr>
<tr>
<td><strong>NIDRR Contracts</strong></td>
</tr>
<tr>
<td>ABLEDATA</td>
</tr>
<tr>
<td>National Rehabilitation Information Center (NARIC)</td>
</tr>
<tr>
<td><strong>Rehabilitation Engineering Research Centers (RERCs)</strong></td>
</tr>
<tr>
<td>Rehabilitation Engineering Research Center for Cognitive Rehabilitation</td>
</tr>
<tr>
<td>Rehabilitation Engineering Research Center for Communication Enhancement (AAC-RERC)</td>
</tr>
<tr>
<td>Rehabilitation Engineering Research Center for Prosthetics and Orthotics</td>
</tr>
<tr>
<td>Rehabilitation Engineering Research Center for Universal Interface and Information Technology Access</td>
</tr>
<tr>
<td>Rehabilitation Engineering Research Center for Universals Interface and Information Technology Access</td>
</tr>
<tr>
<td>Rehabilitation Engineering Research Center for Wheeled Mobility in Everyday Life</td>
</tr>
<tr>
<td>Rehabilitation Engineering Research Center for Wireless Technologies</td>
</tr>
<tr>
<td>Rehabilitation Engineering Research Center on Accessible Public Transportation</td>
</tr>
<tr>
<td>Rehabilitation Engineering Research Center on Hearing Enhancement</td>
</tr>
<tr>
<td>Rehabilitation Engineering Research Center on Recreational Technologies and Exercise Physiology Benefiting Persons with Disabilities (RERC RecTech)</td>
</tr>
<tr>
<td>Rehabilitation Engineering Research Center on Spinal Cord Injury</td>
</tr>
<tr>
<td>Rehabilitation Engineering Research Center on Technologies for Children with Orthopedic Disabilities</td>
</tr>
<tr>
<td>Rehabilitation Engineering Research Center on Telecommunications Access</td>
</tr>
<tr>
<td>Rehabilitation Engineering Research Center on Telerehabilitation</td>
</tr>
<tr>
<td>Rehabilitation Engineering Research Center on Wheelchair Transportation Safety</td>
</tr>
<tr>
<td>Rehabilitation Engineering Research Center on Workplace Accommodations</td>
</tr>
<tr>
<td>Rehabilitation Engineering Research Center on Technologies for Children with Orthopedic Disabilities</td>
</tr>
<tr>
<td>Rehabilitation Engineering Research Center on Technologies for Children with Orthopedic Disabilities</td>
</tr>
<tr>
<td>Rehabilitation Engineering Research Center on Universal Design in the Built Environment</td>
</tr>
<tr>
<td><strong>Rehabilitation Research and Training Centers (RRTCs)</strong></td>
</tr>
<tr>
<td>Cornell RRTC on Employer Practices Related to Employment Outcomes Among Individuals With Disabilities</td>
</tr>
<tr>
<td>Creating Evidence-Based Vocational Rehabilitation (VR) Service Delivery Practices</td>
</tr>
<tr>
<td>Developing Strategies to Foster Community Integration and Participation (CIP) for Individuals with Traumatic Brain Injury....</td>
</tr>
<tr>
<td>ENhancing ACTivity and Participation for Persons with Arthritis (ENACT)</td>
</tr>
</tbody>
</table>
Improved Employment Outcomes for Individuals with Psychiatric Disabilities ..... 1-5
Learning and Working During the Transition to Adulthood .................................. 1-6
Multiple Sclerosis Rehabilitation Research and Training Center ........................................ 2-8
Personal Assistance Services (PAS) in the 21st Century ........................................ 4-3
Rehabilitation Research and Training Center for Community Living and Employment for Individuals with Intellectual and Developmental Disabilities ........................................ 4-9
Rehabilitation Research and Training Center for Pathways to Positive Futures: Supporting Successful Transition for Youth and Young Adults with Serious Mental Health Conditions ........................................ 4-10
Rehabilitation Research and Training Center in Neuromuscular Diseases (RRTC-NMD) ........................................ 2-3
Rehabilitation Research and Training Center on Aging with a Physical Disability: Reducing Secondary Conditions and Enhancing Health and Participation, Including Employment ........................................ 2-9
Rehabilitation Research and Training Center on Aging with Developmental Disabilities: Lifespan Health and Function ........................................ 4-4
Rehabilitation Research and Training Center on Community Living ........................................ 4-6
Rehabilitation Research and Training Center on Disability in Rural Communities ........................................ 1-8
Rehabilitation Research and Training Center on Disability Statistics and Demographics ........................................ 5-5
Rehabilitation Research and Training Center on Enhancing the Functional and Employment Outcomes of Individuals Who Experience a Stroke ........................................ 2-5
Rehabilitation Research and Training Center on Improving Measurement of Medical Rehabilitation Outcomes ........................................ 5-4
Rehabilitation Research and Training Center on Interventions for Children and Youth with TBI ........................................ 2-6
Rehabilitation Research and Training Center on Measurement and Interdependence in Community Living (RRTC/MICL) ........................................ 4-5
Rehabilitation Research and Training Center on Measuring Rehabilitation Outcomes and Effectiveness ........................................ 5-3
Rehabilitation Research and Training Center on Participation and Community Living of Individuals with Psychiatric Disabilities ........................................ 4-12
Rehabilitation Research and Training Center on Secondary Conditions in Individuals with SCI ........................................ 2-7
Rehabilitation Research and Training Center on Secondary Conditions in Spinal Cord Injury ........................................ 2-4
Rehabilitation Research and Training Center on Substance Abuse, Disability, and Employment ........................................ 1-12
Rehabilitation Research and Training Center on Vocational Rehabilitation Research ........................................ 1-3
Rehabilitation Research and Training Center: Individual-Level Characteristics Related to Employment among Individuals with Disabilities ........................................ 1-11
RRTC on Employment Outcomes for Individuals Who Are Blind or Visually Impaired ........................................ 1-7
RRTC on Employment Policy and Measurement ........................................ 1-9
RRTC on Psychiatric Disability and Co-occurring Medical Conditions ........................................ 8-3
University of Illinois at Chicago National Research and Training Center on Psychiatric Disability ........................................ 8-5

Small Business Innovative Research - SBIR Phase I

Automatic Accident Prevention System for Independent Wheelchair Users ........................................ 3-66
Computer and Online Software that Provides ASL Translation and Publishing Capabilities ........................................ 3-63
Development and Evaluation of an Independently Usable Interface to Facebook for Individuals with Intellectual Disabilities ............................................. 3-54
Foot Operated Mouse for the Disability Market ............................................. 3-59
Goal-Oriented Browsing: The Next-Generation Web Accessibility Technology for People with Visual Impairments .......... 3-52
HealthChecker: Development of an Accessible Web-Based Application for Self-Assessment of Personal Health and Wellness by Individuals with Cognitive Disabilities ............................................. 2-88
iUtileyes: A Talking Smartphone and Tablet Application that Helps People Who are Blind or Visually Impaired to Fully Utilize Devices with Visual Flat-Panel Displays ............................................. 3-60
Low-cost Computer Graphics Screen Reader for the Vision Impaired .......... 3-64
MenuChoice: Nutrition Program for Community-Based Group Homes for Persons with Intellectual or Developmental Disabilities ............................................. 2-87
Mobile Communication App for Deaf and Hard of Hearing ..................... 3-57
Mobile Signing Math Dictionaries with Mouth Morphemes for Deaf and Hard of Hearing Students ............................................. 3-58
NEADL: Novel Electronic Aid for Daily Living System for People Who Cannot Use Their Hands ............................................. 3-61
Neurocognitive Training to Improve Executive Function ............................ 3-65
Ubiquitous Web Access for People with Visual Impairments ..................... 3-53
Visual Impact: A Cloud-Based Activity Support System to Facilitate Independence for Individuals with Intellectual Disabilities ............................................. 3-56

Small Business Innovative Research - SBIR Phase II
A Navigation and Object-Location System to Assist Blind and Low-Vision Individuals in Indoor Environments ............................................. 3-68
ADL Access: A Cognitively Accessible Software Application for Augmented Self-Management of Activities of Daily Living ............................................. 4-37
Connectivity to Modern Electronics for the Hearing Disabled ..................... 3-72
 Cooling System for Multiple Sclerosis Patients ............................................. 3-70
Development of a Robust Sensory Feedback System for Persons with Lower-Limb Sensory Deficits ............................................. 3-67
Haptic Feedback Improvements for Prostheses ............................................. 3-75
Improved Hearing Aid Connection to Public Induction Loops .................... 3-73
Indoor Route Following Tool for the Blind ............................................. 3-74
LifeWorks: Development of an a Web-Based Life Management Application for Individuals with Cognitive Disabilities and Caregivers ............................................. 4-40
New Electro-Hydraulic Foot Prosthesis ............................................. 3-76
Variable Position Mid-Wheel Drive System for Power Wheelchairs ............ 3-69
Virtual Environment for Social Information Processing (VESIP) Phase II .. 3-71
Model System and Collaborative Projects
Collaborative Projects

Collaborative Spinal Cord Injury Model Systems Centers Program: Improving Spinal Cord Injury Rehabilitation Outcomes H133A060103 ... 2-14
TBI Model System Collaborative Study of Amantadine for Post TBI Irritability and Aggression H133A080035 .................. 2-31

Knowledge Translation Projects

Model Systems Knowledge Translation Center (MSKTC) H133A110004 .......... 6-5
Model Systems Knowledge Translation Center (MSKTC) H133A060070 .......... 6-10
National Data and Statistical Center for the TBI Model Systems H133A110006 ... 2-16
National Spinal Cord Injury Statistical Center H133A110002 .. 6-4
National Spinal Cord Injury Statistical Center (NSCISC) H133A060039 .... 6-3

Model Brain Injury Systems

Carolinas Traumatic Brain Injury Rehabilitation and Research System (CTBIRRS) H133A070042 .. 2-30
JFK-Johnson Rehabilitation Institute TBI Model System H133A070030 .. 2-26
Mayo Clinic Traumatic Brain Injury Model System H133A070013 .. 2-24
Michigan Traumatic Brain Injury Model System (SEMTBIS) H133A080044 .. 2-22
New York Traumatic Brain Injury Model System (NYTBIMS) H133A070033 .. 2-28
North Texas Traumatic Brain Injury Model System (NT-TBIMS) H133A070027 .. 2-36
Northern California Traumatic Brain Injury Model System of Care H133A070038 .. 2-12
Northern New Jersey Traumatic Brain Injury System (NNJTBIS) H133A070037 .. 2-27
Ohio Regional TBI Model System H133A070029 .. 2-32
The Moss Traumatic Brain Injury Model System H133A070040 .. 2-34

Model Spinal Cord Injury Systems

Frazier Rehab and Neuroscience Spinal Cord Injury Model System (FRNSCIMS) H133N110007 .. 2-51
Midwest Regional Spinal Cord Injury Care System (MRSCIS) H133N060014 .. 2-49
Midwest Regional Spinal Cord Injury Care System (MRSCIS) H133N110014 .. 2-50
National Capital Spinal Cord Injury Model System H133N060028 .. 2-46
NERSCIC: Improving the Lives of People with SCI Across the Lifespan through Innovative Science and Technology H133N110019 .. 2-53
Northeast Ohio Regional Spinal Cord Injury System H133N060017 .. 2-58
Northern New Jersey Spinal Cord Injury System H133N110020 .. 2-57

The Rocky Mountain Regional Brain Injury System (RMRBIS) H133A070022 .. 2-15
The Texas Traumatic Brain Injury Model System of TIRR H133A070043 .. 2-38
University of Alabama at Birmingham (UAB) Traumatic Brain Injury Model System (UAB TBIMS) H133A070039 .. 2-11
University of Washington Traumatic Brain Injury Model System H133A070032 .. 2-41
Virginia Commonwealth Traumatic Brain Injury Model System H133A070036 .. 2-39

Model Burn Injury Systems

Johns Hopkins University Burn Injury Rehabilitation Model System (JHU-BIMS) H133A070045 .. 2-21
North Texas Burn Rehabilitation Model System (NTBRMS) H133A070024 .. 2-35
Pediatric Burn Injury Rehabilitation Model System H133A070026 .. 2-36
UCHSC Burn Model System Data Coordination Center (BMS/DCC) H133A070006 .. 2-13
University of Washington Burn Model System H133A070047 .. 2-40

Model System and Collaborative Projects
Northwest Regional Spinal Cord Injury System H133N060033 ........................................... 2-63
Northwest Regional Spinal Cord Injury System H133N110009 ........................................... 2-64
Regional Spinal Cord Injury Center of the Delaware Valley H133N110021 ......................... 2-59
South Florida Regional Spinal Cord Injury Model System H133N110003 ............................. 2-47
Southeastern Regional Spinal Cord Injury Model System at Shepherd Center
H133N110005 .................................................................................................................. 2-48
Southern California Spinal Cord Injury Model System at Rancho Los Amigos National Rehabilitation Center H133N110018 ............................................................... 2-44
Spaulding Harvard Spinal Cord Injury Model System H133N110010 .................................... 2-54
Texas Model Spinal Cord Injury System H133N060003 ......................................................... 2-62
The New England Regional Spinal Cord Injury Center H133N060024 ............................... 2-52
The Rocky Mountain Regional Spinal Injury System H133N110006 .................................... 2-45
UAB Model Spinal Cord Injury Care System H133N060021 .................................................. 2-42
UAB Model Spinal Cord Injury Care System H133N110008 .................................................. 2-43
University of Michigan Spinal Cord Injury Model System H133N060032 ........................... 2-55
University of Michigan Spinal Cord Injury Model System H133N110002 ........................... 2-56
University of Pittsburgh Model Center on Spinal Cord Injury H133N060019 ..................... 2-60
University of Pittsburgh Model Center on Spinal Cord Injury H133N110011 ..................... 2-61